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# East College

[www.east.asu.edu/ecollege](http://www.east.asu.edu/ecollege)

Glenn W. Irvin, PhD, Dean

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## PURPOSE

East College provides academic foundations for students in all majors while providing popular undergraduate and graduate degree programs. The college serves as the academic home for students who choose the unique social and academic environment of the East campus but do not wish to declare a major immediately. East College offers 11 undergraduate and four graduate degrees.

## ORGANIZATION

East College is organized into eight faculties or departments:

- Applied Biological Sciences
- Applied Psychology
- Business Administration
- Education
- Exercise and Wellness
- Human Health Studies
- Multimedia Writing and Technical Communication
- Nutrition

## GRADUATE PROGRAMS

Graduate degree programs, as shown in the “East College Graduate Degrees and Majors” table, page 128, are offered by the faculty within the college.

## ADMISSION REQUIREMENTS

Applicants to East College graduate degree programs must meet the minimum Division of Graduate Studies academic requirements. Individual programs may require additional supporting materials. Applicants should refer to requirements specified by each graduate degree program.

## COLLEGE FACILITIES

East College is located at the East campus. The easily accessible campus offers students modern mediated classrooms, state-of-the-art computer facilities, electronic access to library resources, and a range of on-campus housing options. Students also have access to Tempe campus resources and research facilities. A shuttle runs regularly between the two campuses.

## ADVISING

Career advising is available on campus and through Career Services at Tempe campus. Academic advising is provided by the department offering the degree program.

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## Applied Biological Sciences

### Master’s Program

[www.east.asu.edu/ecollege/appliedbiologicalsciences](http://www.east.asu.edu/ecollege/appliedbiologicalsciences)

480/727-1444

WANNER Third Floor

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### Ward W. Brady, Chair

**Professors:** Brady, Brock, Mushkatel, Ohmart, Sommerfeld, Stutz

**Associate Professors:** Green, Martin, Miller, Steele, Whysong

**Assistant Professors:** Hu, Marcum

**Lecturer:** Huffman

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The faculty of the Department of Applied Biological Sciences at the East campus offer a program leading to the MS degree in Applied Biological Sciences. Selected faculty in this program also participate in offering the PhD program in Environmental Design and Planning and the PhD program in Plant Biology. See “Doctor of Philosophy,” page 69, for general information on the PhD degree.

The MS in Applied Biological Sciences degree is supported by faculty with backgrounds in ecology, forest and range management, botany, rangeland resources, urban horticulture, wildlife biology, and a wealth of field experiences. Research projects in wildlife inventory, habitat restoration, GIS and remote sensing, and urban horticulture, among others, help support the applied nature of the program.

The MS degree in Applied Biological Sciences is designed to train students who are scientifically competent, aware of the necessity of communicating the importance of sound ecosystem management, and able to work with numerous groups interested in biological resources. Students have the opportunity to study topics such as wildlife inventory and habitat preference, habitat restoration, invasive plant species, Geographic Information Systems (GIS) and remote sensing applications to natural resource management, spatial modeling and the demand on natural resources, indicators of watershed condition, livestock riparian interactions, and influence of urbanization on soil carbon and nitrogen dynamics. All students are required to complete a core of graduate courses, conduct a research project under the

## East College Graduate Degrees and Majors

Major	Degree	Concentration <sup>1</sup>	Administered By
Applied Biological Sciences	MS	GIS/remote sensing, natural resource management, or range ecology	Department of Applied Biological Sciences
Applied Psychology	MS	—	Faculty of Applied Psychology
Curriculum and Instruction	MEd	English as a second language, instructional media in K–12 schools, or professional studies	Faculty of Education
	PhD <sup>2</sup>	Exercise and wellness education	Division of Curriculum and Instruction <sup>2</sup>
Environmental Design and Planning <sup>2</sup>	PhD	Design; history, theory and criticism; or planning	Committee on Environmental Design and Planning
Exercise and Wellness	MS	—	Department of Exercise and Wellness
Nutrition	MS	—	Department of Nutrition
Physical Education	MPE	—	Faculty of Education
Plant Biology <sup>2</sup>	PhD	—	School of Life Sciences (Tempe campus)

<sup>1</sup> If a major offers concentrations, one must be selected unless noted as *optional*.

<sup>2</sup> Doctoral courses for this interdisciplinary program administered by the Tempe campus are offered at the East campus.

direction of a faculty member, and prepare and defend a research thesis.

### MASTER OF SCIENCE

**Admission.** Applicants to the program are expected to meet the minimum requirements for admission to the Division of Graduate Studies. In addition, scores from the Graduate Record Examination or Miller Analogies Test are required. Applicants are expected to have completed 18 semester hours in environmental and biological sciences or closely related courses. Applicants not meeting these requirements may be considered for admission with deficiencies.

Submit the following separate application materials to

DEPARTMENT OF APPLIED BIOLOGICAL SCIENCES  
ARIZONA STATE UNIVERSITY  
7001 E WILLIAMS FIELD ROAD  
MESA AZ 85212

1. a statement of intent (maximum 600 words) explaining
  - (a) the applicant's interest in applied biological sciences,
  - (b) the applicant's academic background, and
  - (c) the applicant's educational objectives;
2. three letters of recommendation from references who are qualified to comment on the applicant's potential in the selected area of study; and
3. a résumé.

**Application Deadlines.** For fall enrollment, application materials are due in the Department of Applied Biological Sciences, and Division of Graduate Studies on March 15.

For spring enrollment, application materials are due in the Department of Applied Biological Sciences, and the Division of Graduate Studies on October 15.

**Selection Procedures and Notifications.** School faculty evaluate the applications and supporting materials and recommend to the Division of Graduate Studies whether the

applicant should be granted regular or provisional admission or if admission should be denied. If admission is provisional, the Division of Graduate Studies specifies in its letter of admission the provisions to be met to gain regular status. The school informs successful applicants of the procedures for enrollment.

**Program of Study.** A minimum of 30 semester hours of approved graduate course work is required. All students are required to complete a nine-semester-hour core curriculum. A minimum grade of "B" (3.00) is required in all core courses. First-year students are expected to complete either ABS 540 Plant Responses to Environmental Stress or ABS 550 Vegetation Dynamics, ABS 551 Advanced Environmental Analysis, and ABS 591 Seminar. Second-year students are required to complete ABS 691 Seminar in the fall semester. All students are also expected to complete a minimum of three semester hours of research and three semester hours of thesis. The remaining hours (15 semester hours) are chosen to support the student's educational objectives.

**Foreign Language Requirements.** None.

**Comprehensive Examination.** None.

**Thesis Requirements.** A thesis is required.

**Final Examination.** A final oral examination covering the thesis and related subject matter is required.

### RESEARCH ACTIVITY

The faculty of the Department of Applied Biological Sciences are engaged in a number of research projects of global, national, regional, or state importance. Scholarship in service to community is the hallmark of a state-supported university and continues to be in East College.

A few examples of this scholarship are a project involved in "The Adaptation of Sonoran Desert Vegetation to Wildfire on the Tonto National Forest"; a "Wildlife Vegetation Inventory for Northern Phoenix"; "Relationships of Temperate Legumes in North America and Eurasia"; "Flora of the

Usery Mountains, Maricopa County”; an extensive program in “Transborder Watershed Resources”; and an investigation into the “Effects of Livestock Use Levels on Riparian Trees on the Verde River.”

**APPLIED BIOLOGICAL SCIENCES (ABS)**

**ABS 402 Vegetation and Wildlife Measurement. (3)**

*spring*

Vegetation inventory, sampling, monitoring, and evaluation. Methods of estimating wildlife populations, activity, and home ranges. Lecture, lab, 1 weekend field trip. Prerequisites: ABS 207, 350, 370.

**ABS 425 Soil Classification and Management. (3)**

*selected semesters*

Principles of soil genesis, morphology, and classification. Presents management and conservation practices. Prerequisite: ABS 225 (or its equivalent).

**ABS 430 Watershed Management. (3)**

*selected semesters*

Hydrologic, physical, biological, and ecological principles applied to watershed management. Impact of ecosystem manipulations on water yield and quality. Lecture, 1 weekend field trip. Prerequisite: ABS 225.

**ABS 433 Riparian and Wetland Ecology. (3)**

*selected semesters*

Functions and components of riparian and wetland ecosystems and the management of these systems. Lecture, field trips. Prerequisite: ABS 370.

**ABS 434 Soil Ecology. (3)**

*selected semesters*

Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. Lecture, lab, field trips. Prerequisites: ABS 225, 226, 370.

**ABS 435 Ecological Modeling. (3)**

*fall*

Simulation modeling as a tool to study ecological processes and human impact on ecosystems and organisms. Lecture, lab. Prerequisites: ABS 350, 370.

**ABS 440 Ecological Restoration Techniques. (3)**

*fall*

Techniques for ecological restoration, riparian and wetland restoration, and monitoring restoration success. Prerequisites: ABS 370, 380.

**ABS 441 Ecological Restoration Practicum. (1)**

*fall*

Field experience in the evaluation and monitoring of implemented ecological restoration projects. Lab, field trips. Fee. Pre- or corequisite: ABS 440.

**ABS 460 Organic Gardening. (2)**

*fall*

Applies principles and practices of organic gardening in the low desert, including environmental impacts of modern food production. 1 hour lecture, 3 hours lab. Fee. Prerequisite: ABS 260.

**ABS 462 Greenhouse/Nursery Management. (4)**

*spring*

Greenhouse structures, environment, and nursery operations. Includes irrigation, nutrition, and other principles relative to production of nursery crops. 1 hour lecture, 3 hours lab. Fee. Prerequisite: ABS 260.

**ABS 463 Golf and Sports Turf Management. (3)**

*fall*

Selection, establishment, and maintenance of turf grasses bred specifically for golf and sports facilities. Cross-listed as PGM 463. Credit is allowed for only ABS 463 or PGM 463. Integrated lecture/lab.

**ABS 465 Senior Enterprise Project. (3)**

*fall and spring*

Selection and completion of an urban horticulture project with faculty advisor approval related to the field of study. Prerequisite: senior standing.

**ABS 470 Mammalogy. (3)**

*fall*

Classification and biology of mammals, emphasizes North America. Pre- or corequisite: ABS 355.

**ABS 471 Ornithology. (3)**

*spring*

Classification and biology of birds, emphasizing North America. Lecture, lab, field trips. Fee. Prerequisite: ABS 355.

**ABS 475 Habitat Management for Small Wildlife. (4)**

*fall*

Habitat management considerations and practices for small game and nongame wildlife species in North America. Lecture, lab, field trips. Fee. Prerequisites: ABS 370, 376, 380.

**ABS 476 Big Game Habitat Management. (3)**

*spring*

Habitat management considerations and practices for big game wildlife species in North America. 2 hours lecture, 3 hours lab. Prerequisites: ABS 370, 376. Pre- or corequisite: ABS 402.

**ABS 480 Ecosystem Management and Planning. (3)**

*selected semesters*

Principles of ecosystem management, with emphasis on economic and policy constraints on the planning process. Risk assessment and management. Lecture, 1 weekend field trip. Prerequisite: senior standing or instructor approval.

**ABS 481 Riparian and Wetland Restoration. (3)**

*fall*

Principles and problems in the restoration of degraded riparian and wetland ecosystems. Construction of wetlands. Prerequisites: ABS 433, 440.

**ABS 482 Ecology and Planning for Restoration. (3)**

*spring*

Ecological principles and resource planning processes applied to the restoration of degraded landscapes. Prerequisites: ABS 225, 372, 440.

**ABS 483 Restoration Planning Practicum. (2)**

*spring*

Field experience in ecological restoration techniques, selection of mitigation techniques, and implementation planning. Lab, extended field trip over spring break. Fee. Pre- or corequisite: ABS 482.

**ABS 485 GIS in Natural Resources. (3)**

*fall*

Principles of Geographic Information Systems (GIS) utilized in natural resource management. Use of computers for spatial analysis of natural resources. Lecture, lab. Prerequisite: ABS 350 (or its equivalent).

**ABS 500 Research Methods. (1–12)**

*selected semesters*

**ABS 540 Plant Responses to Environmental Stresses. (3)**

*selected semesters*

Reaction of plants to environmental stresses: aerial pollutants, fire, herbivores, floods, mechanical treatments, pesticides, and soil amendments. Lecture, 1 weekend field trip. Prerequisite: ABS 370 (or its equivalent).

**ABS 550 Vegetation Dynamics. (3)**

*fall*

Dynamics of vegetation linking physiological, population, and community ecology. Collection and analysis of vegetation data. Lecture, discussion, field trips. Prerequisites: ABS 350 and 370 (or their equivalents).

**ABS 551 Advanced Environmental Analysis. (4)**

*selected semesters*

Advanced statistical procedures and experimental design for the biological sciences. Techniques for analyzing data that do not meet statistical assumptions. Lecture, lab. Prerequisite: ABS 350 (or its equivalent).

**ABS 553 Riparian Ecology. (3)**

*selected semesters*

Review of recent literature, developments, and methods related to riparian ecology. Applications of soil and landscape ecology to riparian systems. Lecture, discussion, field trips. Prerequisite: ABS 370 (or its equivalent).

**ABS 560 Dynamic Spatial Modeling. (3)**

*selected semesters*

Simulation modeling of landscapes, animal populations, and ecological processes in space and time. May use modeling tools on computer clusters. 2 hours lecture, 3 hours lab. Prerequisites: ABS 485; 6 hours in ecological studies.

**ABS 570 Advanced Animal Nutrition. (4)**

*selected semesters*

Metabolic and physiological interactions of nutrients in wild and domesticated animals consuming natural feeds. Lecture, lab. Prerequisites: BIO 188 and CHM 101 (or their equivalents).

**ABS 580 Practicum. (1–12)**

*selected semesters*

**ABS 584 Internship. (1–12)**

*selected semesters*

**ABS 586 Remote Sensing in Environmental Resources. (4)**

*selected semesters*

Principles and application of remote sensing technologies in natural resource management using computerized data from aerial photography and satellite imagery. Lecture, lab. Prerequisite: ABS 485 (or its equivalent).

**ABS 590 Reading and Conference. (1–12)**

*selected semesters*

**ABS 591 Seminar. (1–12)**

*selected semesters*

**ABS 592 Research. (1–12)**

*selected semesters*

**ABS 593 Applied Project. (1–12)**

*selected semesters*

**ABS 594 Conference and Workshop. (1–12)**

*selected semesters*

**ABS 595 Continuing Registration. (1)**

*selected semesters*

**ABS 598 Special Topics. (1–4)**

*selected semesters*

**ABS 599 Thesis. (1–12)**

*selected semesters*

**ABS 691 Seminar. (1–12)**

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

3. three letters of recommendation;
4. a personal statement that includes background, interests, qualifications, and goals; and
5. TOEFL scores for applicants who are not native English speakers.

**Requirements.** The MS degree requires the completion of 32 semester hours with grades of "B" (3.00) or higher. The requirements are shown in the following table:

	PSY 531 Multiple Regression in Psychological Research.....	3
E	PSY 560 Advances in Theoretical Psychology.....	3
E	PSY 561 Methods in Applied Psychology.....	3
E	PSY 562 Advanced Human Factors.....	3
	PSY 594 Conference and Workshop (two semesters).....	2
	Elective: seminar, special topics, etc. ....	6
	Thesis or applied project* .....	12

\* Students writing a thesis may count a maximum of six semester hours of 599 Thesis credit toward the minimum requirements for their degree.

The PSY 594 credits require attending departmental colloquia and special presentations on research, applications, and professional issues. Students have the option of completing a thesis or an applied project to develop and demonstrate professional knowledge and skills.

Students who plan to go on to a doctoral program are encouraged to complete a thesis. Work on the thesis will continue for at least a calendar year under faculty supervision. The first three credits will be devoted to developing an idea and preparing a proposal for approval by a faculty committee. The next three credits will allow for preparing the details of research design and data collection for the thesis (materials, computer programs, experimental text beds, questionnaires, etc.). The final six credits will be devoted to collecting and analyzing data and writing and revising the thesis under the direction of the advisor. Students will defend the thesis in an oral exam.

Students selecting the applied project option will, under the guidance of an advisor, allocate the 12 semester hours to a combination of research, practicum, project activities, and report writing appropriate to the goals of the student and the program and the availability of practicum or internship opportunities. In all cases, the project will culminate in a substantial written report followed by a comprehensive oral examination covering the project and other materials from required courses.

**PSYCHOLOGY (SCIENCE AND MATHEMATICS) (PSY)**

For more PSY courses, see "Course Prefix Index," or access [www.asu.edu/aad/catalogs/courses](http://www.asu.edu/aad/catalogs/courses). The campus designation—E (East), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

**E PSY 438 Human-Computer Interaction. (3)**

*once a year*

Theories, methods, and findings concerning the usability of computer systems and the design of effective user interfaces. Lecture, discussion, projects. Prerequisite: PSY 437.

**E PSY 439 Training and Skill Acquisition. (3)**

*once a year*

Theories, methods, and findings concerning the acquisition of skilled performance and the design of effective training systems. Lecture, discussion, projects. Prerequisite: PSY 437.

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## Applied Psychology

### Master's Program

[www.east.asu.edu/ecollege/appliedpsych](http://www.east.asu.edu/ecollege/appliedpsych)

480/727-1515

SUTTON Third Floor

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**Roger W. Schvaneveldt, Faculty Head**

**Professors:** Cooke, Schvaneveldt

**Assistant Professor:** Gray

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The faculty in the Applied Psychology Program at the East campus offer a graduate program leading to the MS degree in Applied Psychology.

**Admission.** In addition to the general requirements for admission to the Division of Graduate Studies, the Applied Psychology Program requires:

1. an undergraduate degree (not necessarily in psychology) from a regionally accredited educational institution (minimum 3.00 GPA);
2. GRE scores on the verbal and quantitative tests;

**E PSY 440 Industrial/Organizational Psychology. (3)***once a year*

Examines personnel selection, performance assessment, job and workplace design, job satisfaction, organizational behavior, management systems, and industrial safety. Lecture, discussion, projects. Prerequisite: PSY 230 (or an equivalent statistics course).

**E PSY 560 Advances in Theoretical Psychology. (3)***fall*

Covers new empirical and theoretical work in psychology with emphasis on its applicability. May be repeated for credit up to 9 hours. Prerequisites: PSY 323, 324.

**E PSY 561 Methods in Applied Psychology. (3)***fall*

Methods in particular value in applied settings, including usability testing, prototyping, and use of computers in data collection and analysis. May be repeated for credit up to 9 hours. Prerequisites: PSY 290, 330 (or 530).

**E PSY 562 Advanced Human Factors. (3)***fall*

In-depth study of the issues, methods, and findings in industrial and organizational psychology. Prerequisite: PSY 437.

**E PSY 563 Advanced Industrial and Organizational Psychology. (3)***spring*

In-depth study of the issues, methods, and findings in industrial and organizational psychology. Prerequisite: PSY 440.

**E PSY 594 Conference and Workshop. (1-12)***selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

## Education

### Master's Programs

[www.east.asu.edu/ecollege/education](http://www.east.asu.edu/ecollege/education)

480/727-1103

SUTTON 240E

**Bette S. Bergeron, Head, Faculty of Education**

**Professors:** Bergeron, Darst

**Assistant Professors:** Kulinna, Mahoney, Marble, White-Taylor

**Assistant Clinical Professors:** Molina-Walters, Smith

**Senior Lecturers:** Stever, Wenhart

**Lecturers:** Foley, Gomez, Hopper, Orlowicz, Prest

The Master of Education (MEd) program prepares scholarly professionals and educational leaders. A major is available in Curriculum and Instruction with concentrations in English as a second language (ESL), instructional media, and professional studies. The ESL concentration includes the course work needed to fulfill Arizona's requirements for an endorsement in this area. A Master of Physical Education (MPE) is also offered. Students interested in the MPE program should contact the Education program at 480/727-1103.

**Admission.** Candidates must be admitted to the Division of Graduate Studies and to the East campus Education program. Admission does require that candidates have a minimum GPA of 3.00 from previous postsecondary programs. Applicants with grades below minimum levels may be considered for provisional admittance when evidence exists of the candidate's potential for outstanding performance in a master's program. Additional requirements include submitting a résumé and three letters of recommendation. For complete application information, call the Education office at 480/727-1103.

**Program of study.** A minimum of 30 semester hours of course work approved by the student's supervisory committee and the Division of Graduate Studies is required for the MEd degree. Candidates for the MEd degree should contact the Education Office for specific core requirements. *A program of study should be filed as early as possible and not later than upon completion of nine semester hours of graduate course work.*

**Examinations.** All MEd programs require successful completion of a written comprehensive examination or applied project. This requirement must be fulfilled in conjunction with the Education programs at the East campus (i.e., applied project courses cannot be transferred). Written examinations focus on the specialized content of the specific MEd program of study and are administered and evaluated by program faculty. Applied projects are approved by and developed under the guidance of program faculty. If the student should fail the written examination or applied project, the student must seek approval for reexamination or resubmission of the project from the supervisory committee and the Division of Graduate Studies.

### EARLY CHILDHOOD EAST (EAC)

**EAC 494 Special Topics. (1-4)***selected semesters***EAC 594 Conference and Workshop. (1-12)***selected semesters***EAC 598 Special Topics. (1-4)***selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

### EDUCATION EAST (EDC)

**EDC 560 Principles of Instructional Technology. (3)***fall, spring, summer*

Examines effective practices related to instructional technologies, including classroom delivery, student engagement, and evaluation of resources. Prerequisite: approval of the East Education Office.

**EDC 562 Planning and Designing Curriculum with Media. (3)***fall, spring, summer*

Planning and design of curriculum and effective learning experiences supported by technology to maximize student learning. Prerequisite: EDC 560 or department approval.

**EDC 565 Research-Based Phonics for the K-8 Classroom. (3)***fall, spring, summer*

Current research in phonics instruction, including systematic and analytic approaches, and their application to classroom practice. Interactive forum. Prerequisites: EDC 465 (or its equivalent); approval of the East Education Office.

**EDC 568 Developing and Using Video in Instruction. (3)***fall, spring, summer*

Techniques for developing and using video for instruction; methods and materials for teaching video production in schools.

## EAST COLLEGE

### **EDC 584 Student Teaching in the Elementary School. (1–12)**

*selected semesters*

Internship. Fee.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

### **ENGLISH AS A SECOND LANGUAGE (ELL)**

#### **ELL 484 Internship. (1–12)**

*selected semesters*

#### **ELL 494 Special Topics. (1–4)**

*selected semesters*

#### **ELL 501 Multicultural Education. (3)**

*fall, spring, summer*

Examines the multicultural debate as a profound ideological struggle over the values of American culture.

#### **ELL 505 Language Minority Education. (3)**

*fall, spring, summer*

Historical, philosophical, theoretical, pedagogical, and legal foundations of language minority education in the United States. Credit is allowed for only ELL 505 or 405.

#### **ELL 510 Linguistics: First- and Second-Language Acquisition and Use. (3)**

*fall, spring, summer*

Examines current theories of first- and second-language acquisition and use and their application to ELL pedagogical contexts. Credit is allowed for only ELL 510 or 410.

#### **ELL 515 Structured English Immersion (SEI) Methods. (3)**

*fall, spring, summer*

Addresses the role of language and culture in teaching, program types, and specific SEI strategies for teaching English Language Learners (ELLs).

#### **ELL 520 Literacy Methods for English Language Learners (ELLs). (3)**

*fall, spring, summer*

Teaching reading and writing to English Language Learners (ELLs) with emphasis on integrated curriculum and literature-based instruction. Credit is allowed for only ELL 520 or 420.

#### **ELL 530 Community and Parental Involvement in Language Minority Education. (3)**

*fall, spring, summer*

Analyzes home-school collaboration using historical, educational, psychological, ethnic-social diversity, and sociological perspectives.

#### **ELL 535 Computer-assisted Language Learning (CALL) for English Language Learners (ELLs). (3)**

*fall, spring, summer*

Examines current theories and practices surrounding the feasibility and efficacy of employing computer technology in ELL instruction.

#### **ELL 584 Internship. (1–12)**

*selected semesters*

#### **ELL 594 Conference and Workshop. (1–12)**

*selected semesters*

#### **ELL 598 Special Topics. (1–4)**

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

### **INSTRUCTIONAL MEDIA (IMD)**

#### **IMD 494 Special Topics. (1–4)**

*selected semesters*

#### **IMD 564 Multimedia Applications in Instruction. (3)**

*fall, spring, summer*

Utilizes various forms of multimedia and authoring software to create materials and instruction. Integrated lecture/lab. Fee.

#### **IMD 566 Assessment and Evaluation of Media Applications. (3)**

*fall, spring, summer*

Examines a variety of strategies in assessing learning, collecting and evaluating data, and evaluating technology resources for classroom integration.

#### **IMD 572 Media Collection and Development. (3)**

*fall, spring, summer*

Explores the identification, selection, acquisition, and evaluation of a collection of library resources for a specific community of users. Integrated lecture/lab.

#### **IMD 574 Organization and Administration of School Library Media. (3)**

*fall, spring, summer*

Explores the role of the school library media specialist and program as it relates to the educational community. Integrated lecture/lab.

#### **IMD 576 Social and Ethical Issues in Educational Media. (3)**

*fall, spring, summer*

Examines the social, ethical, legal, and human issues surrounding the use of technology in K–12 schools. Integrated lecture/lab. Prerequisite: EDC 560.

#### **IMD 594 Conference and Workshop. (1–12)**

*selected semesters*

#### **IMD 598 Special Topics. (1–4)**

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

### **PHYSICAL EDUCATION EAST (PPE)**

#### **PPE 494 Special Topics. (1–4)**

*selected semesters*

#### **PPE 550 Physical Education for the Elementary School. (3)**

*fall, spring, summer*

Scope and values of physical in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. Integrated lecture/lab. Fee. Prerequisite: field experience or instructor approval.

#### **PPE 555 Physical Education in the Secondary School. (3)**

*fall and spring*

Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. Integrated lecture/lab. Fee. Credit is allowed for only PPE 555 or 355. Prerequisite: field experience or instructor approval.

#### **PPE 560 Adapted and Inclusive Physical Education. (3)**

*fall, spring, summer*

Teaching individuals with disabilities physical skills and activities. Integrated lecture/lab. Credit is allowed for only PPE 560 or 360.

#### **PPE 565 Teaching Physical Activity Concepts. (3)**

*fall, spring, summer*

Teaching physical activity concepts in PE settings. Analyzes and critiques state and national physical education standards. Integrated lecture/lab. Credit is allowed for only PPE 565 or 365. Prerequisites: ENG 101, 102; EXW 300 (or its equivalent).

#### **PPE 570 Research on Teacher Education in Physical Education. (3)**

*fall, spring, summer*

Discusses current research on teacher education across fields, with an emphasis on physical education pedagogy. Integrated lecture/lab. Credit is allowed for only PPE 570 or 370. Prerequisite: EXW 300 (or its equivalent).

#### **PPE 575 Coaching Methods for Youth Sports. (3)**

*fall, spring, summer*

Scope and values of coaching K–12. Methods, materials, and practice in coaching philosophy. Best practices and activities for grades K–12. Integrated lecture/lab. Credit is allowed for only PPE 575 or 375.

#### **PPE 584 Internship. (1–12)**

*selected semesters*

Topics may include the following:

- Student Teaching in Physical Education. (6–12)

*fall and spring*

Practice of teaching. Relationship of practice and theory in teaching physical education. Internship. Fee. Prerequisites: PPE 350, 355. Corequisite: PPE 480.

#### **PPE 585 Research on Teaching in Physical Education. (3)**

*fall, spring, summer*

Contemporary research and theory on teaching across fields, with an emphasis on physical education pedagogy; provides a practical research experience. Integrated lecture/lab. Prerequisite: EXW 300 (or its equivalent).

**PPE 594 Conference and Workshop.** (1–12)  
*selected semesters*

**PPE 598 Special Topics.** (1–4)  
*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

**SECONDARY EDUCATION EAST (SDE)**

**SDE 484 Internship.** (1–12)  
*selected semesters*

**SDE 494 Special Topics.** (1–4)  
*selected semesters*

**SDE 584 Internship.** (1–12)  
*selected semesters*

**SDE 594 Conference and Workshop.** (1–12)  
*selected semesters*

**SDE 598 Special Topics.** (1–4)  
*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

**SPECIAL EDUCATION EAST (SPC)**

**SPC 580 Practicum.** (1–12)  
*selected semesters*

**SPC 584 Internship.** (1–12)  
*selected semesters*

**SPC 594 Conference and Workshop.** (1–12)  
*selected semesters*

Topics may include the following:

- Inclusionary Practices

**SPC 598 Special Topics.** (1–4)  
*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see “Omnibus Courses,” page 56.

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**Elementary Education**

**Postbaccalaureate Program**

[www.east.asu.edu/ecollege/elementaryed](http://www.east.asu.edu/ecollege/elementaryed)

480/727-1103

SUTTON 240E

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**Bette S. Bergeron, Head, Faculty of Education**

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The East campus Education faculty offer a postbaccalaureate program leading to certification in Elementary Education (K–8). In this “TEACH ME” program, students also have the option of completing a Master of Education degree in Curriculum and Instruction with a concentration in professional studies, once all requirements of state certification have been met.

TEACH ME is designed to provide students with a fast-track path to initial certification in elementary education, focused field experiences, and the professional knowledge to build a deep understanding of quality instructional practices. The program consists of three foundation courses that are offered in an online hybrid format, eight pedagogical methods courses that are aligned with directed field experiences, and a full semester of student teaching.

The program allows students to use up to 15 semester hours of their initial certification course work toward a master’s degree.

**Admission.** Students must seek admission to the East campus Education program and the Division of Graduate Studies for acceptance into this program. Candidates must have a minimum GPA of 3.00 from previous postsecondary programs. Applicants with grades below minimum levels may be considered for provisional admittance when evidence exists of the candidate’s potential for outstanding performance in a master’s program. For more information, call the East campus Education office at 480/727-1103.

**Program of Study.** The certification phase of the TEACH ME program consists of two distinct blocks of classes: foundational and pedagogical course work (which includes student teaching). All foundation courses must be completed before taking classes in pedagogy. All pedagogy courses must be taken with a field experience practicum. Once all requirements for certification are successfully met, eligible students can complete the MEd with 15 additional semester hours of graduate course work.

A total of 45 hours is required for Arizona certification in elementary education. The program plan of study for the certification course work follows.

**Foundations**

EDC 480 Theory of Mathematics and Science Instruction .....	3
EDP 313 Childhood and Adolescence.....	3
SPE 311 Orientation to Education of Exceptional Children.....	3
Total .....	9

**Pedagogy**

BLE 520 ESL for Children* .....	3
EDC 465 Literacy Instruction in the K–8 Classroom .....	3
EDC 474 Field Experience .....	0–1
EDC 484 Student Teaching in the Elementary School .....	10–12
EDC 485 Science Instruction in the K–8 Classroom.....	3
EDC 495 Mathematics Instruction in the K–8 Classroom.....	3
EDC 560 Principles of Instructional Technology* .....	3
EDC 565 Research-Based Phonics for the K–8 Classroom*.....	3
EED 538 Teaching Social Studies with Literature* .....	3
SPC 594 CW: Inclusionary Practices*.....	3
Total .....	34–37

\* 500-level courses can be applied to the MEd program.

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## Exercise and Wellness

### Master's Program

[www.east.asu.edu/ecollege/wellness](http://www.east.asu.edu/ecollege/wellness)

480/727-1945

EAW 109

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William J. Stone, Chair

**Professors:** Burkett, Stone

**Associate Professors:** Phillips, Swan

**Assistant Professors:** Adams, Tudor-Locke

**Senior Lecturer:** Woodruff

**Lecturer:** Sebren

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The faculty of Exercise and Wellness at the East campus offer a graduate program leading to the MS degree in Exercise and Wellness. Faculty also participate in an interdisciplinary PhD program in Curriculum and Instruction with a concentration in exercise and wellness. For more information, see "Division of Curriculum and Instruction," page 146.

### MASTER OF SCIENCE

All applicants for the MS degree program in Exercise and Wellness are required to submit scores from the Graduate Record Examination (GRE). Admission decisions are based upon previous academic training and performance, GRE scores, recommendations, and the availability and compatibility of research interests with a potential mentor. International applicants whose native language is not English must also submit a Test of English as a Foreign Language score. Applications are reviewed by faculty only once a year. Priority is given to applications completed by January 1. The program requires a minimum of 30 semester hours, including from 12 to 15 semester hours of research course work (EXW 500, 501, 591, 599), and from 15 to 18 semester hours of EXW graduate concentration courses. Note that students writing a thesis may count a maximum of six semester hours of 599 Thesis credit toward the minimum requirements for their degree; for more information, see "Thesis or Equivalent Requirements," page 67. Course work is selected by the student in consultation with an advisor and supervisory committee.

**Deficiencies.** Applicant transcripts are evaluated to assure competency in the following areas: health behavior change (health psychology), use of computers, basic nutrition, basic wellness, exercise prescription, and exercise testing. Competency in areas considered to be prerequisite to each of the listed competencies are also evaluated. Deficiencies are noted at the time of admission and may be satisfied by com-

pleting undergraduate or graduate courses or by a competency examination.

**Foreign Language Requirements.** None.

**Thesis Requirements.** A thesis is required.

**Final Examination.** A final oral examination in defense of the thesis is required.

### RESEARCH ACTIVITY

Research in Exercise and Wellness is enhanced by the existence of research laboratories. Extensive research is also conducted in the field (work site, community, school). The research of Exercise and Wellness faculty and graduate students focuses on the fitness, health, and wellness benefits of healthy lifestyles, such as regular physical activity, sound nutrition, and effective stress management. The focus is also on physical activity and disease prevention. All groups in the developmental spectrum (children to senior adults) are studied. Among the areas of current interest to faculty and graduate students are physical activity and fitness program effectiveness (strength, cardiovascular fitness, flexibility, and body composition), obesity, women's health issues, motivation to adhere to healthy lifestyles, physical activity and fitness assessment, and environmental health and wellness issues.

### EXERCISE AND WELLNESS (EXW)

#### EXW 420 Exercise Testing. (3)

*fall*

Theoretical basis and practical application of pre-exercise screening, exercise testing, estimates of energy expenditure, and interpretation of results. Lecture, lab. Fee. Prerequisites: EXW 315; current CPR certification.

#### EXW 425 Exercise Prescription. (3)

*fall*

Theoretical basis for and application of general principles of exercise prescription to various ages, fitness levels, and health states. Prerequisites: EXW 320, 330. Pre- or corequisite: EXW 420.

#### EXW 442 Physical Activity in Health and Disease. (3)

*spring*

Examines the role of physical activity and fitness in the development of morbidity and mortality throughout the human life span. Prerequisite: EXW 315.

#### EXW 444 Epidemiology. (3)

*fall*

Introduces epidemiological concepts and research literature, including physical activity, nutrition, tobacco, alcohol, injury prevention, and safe sex. Prerequisites: EXW 300, 310, 320. Pre- or corequisites: EXW 325, 350.

#### EXW 450 Cultural and Social Issues in Exercise and Wellness. (3)

*spring*

Examines contemporary sociocultural issues and social determinants of health and physical activity. Focuses on health disparities, obesity, and social stressors. Prerequisite: EXW 300.

#### EXW 460 Resistance Training Application and Theory. (3)

*fall*

Fosters critical thinking as it applies to resistance training theory. Pre- or corequisite: EXW 315.

#### EXW 500 Research Methods. (3)

*fall*

Introduces the basic aspects of research, including problem selection, literature review, instrumentation, data handling, methodology, and writing the report.

**EXW 501 Research Statistics. (3)**

*spring*

Statistical procedures; sampling techniques, hypothesis testing, and experimental designs as they relate to research publications.

**EXW 505 Applied Exercise and Wellness Laboratory Techniques. (3)**

*spring*

Investigative techniques used in the applied exercise testing/prescription laboratory. Emphasizes cardiorespiratory assessment, energy balance, body composition, and electrocardiography. Integrated lecture/lab. Fee.

**EXW 534 Sports and Fitness Conditioning. (3)**

*fall*

Bases of sports and fitness conditioning, including aerobic and anaerobic power, strength, flexibility, and analysis of conditioning components for sports and fitness.

**EXW 536 Physiological Aspects of Physical Activity and Chronic Disease. (3)**

*fall*

Role of physiological mechanisms associated with acute and long-term physical activity and its influence on chronic disease and wellness.

**EXW 538 Obesity, Exercise, and Health. (3)**

*spring*

Critically examines scientific and medical evidence concerning obesity, exercise, and health across the life span.

**EXW 540 Psychosocial Issues in Exercise and Wellness: Stress, Coping, and Resilience. (3)**

*fall*

Critically explores the impact of psychological and social factors on human wellness. Lecture, seminar, group discussion.

**EXW 542 Health Promotion. (3)**

*spring*

Theory and research concerning fitness and wellness programs in nutrition, physical activity, smoking cessation, and stress management.

**EXW 544 Fitness/Wellness Management. (3)**

*spring*

Development of the fitness/wellness industry. Planning, organizing, promoting, and managing fitness/wellness programs.

**EXW 575 Teaching Lifetime Fitness. (3)**

*spring*

Organizing and implementing physical fitness programs in the schools with emphasis on individual problem solving.

**EXW 591 Seminar. (1–12)**

*selected semesters*

**EXW 599 Thesis. (1–12)**

*selected semesters*

**EXW 635 Aging and Physical Activity. (3)**

*spring*

Examines and discusses the theoretical and applied health-related research on physical activity and aging.

**EXW 640 Analysis of Variance for Exercise and Wellness. (3)**

*fall*

Analysis of variance methods with an emphasis on research measures of human performance. Prerequisite: graduate introduction to statistics.

**EXW 642 Exercise Epidemiology. (3)**

*spring*

Physical activity, exercise, and physical fitness and the development of chronic disease.

**EXW 643 Correlation/Regression/Multivariate Statistics. (3)**

*spring*

Graduate-level statistics course for PhD/master's students who will be doing research in the area of exercise and wellness. Prerequisite: graduate ANOVA course.

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

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## Multimedia Writing and Technical Communication

### Certificate Program

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East College offers a postbaccalaureate certificate in Multimedia Writing and Technical Communication. For more information, call 480/727-1515, or access [www.east.asu.edu/ecollege/multimedia](http://www.east.asu.edu/ecollege/multimedia) on the Web.

### MULTIMEDIA WRITING AND TECHNICAL COMMUNICATION (TWC)

**TWC 401 Principles of Technical Communication. (3)**

*fall and spring*

Basic information design principles to produce effective written, oral, and electronic technical communication. Understanding of rhetorical and audience analysis. Pre- or corequisite: TWC 301.

**TWC 403 Writing for Professional Publication. (3)**

*selected semesters*

Analyzes the market and examines the publication process, including the roles of the author, editor, and reviewer. Pre- or corequisite: TWC 401.

**TWC 411 Principles of Visual Communication. (3)**

*fall and spring*

Basic principles of visual communication in print and electronic media. Understanding graphic and document design, including typography and color. Pre- or corequisite: TWC 401.

**TWC 421 Principles of Writing with Technology. (3)**

*fall and spring*

Understanding historical and social impact of technology on writing, with emphasis on multimedia design, computer-mediated communication, and hypertext. Pre- or corequisite: TWC 401.

**TWC 431 Principles of Technical Editing. (3)**

*fall and spring*

Basic principles of technical editing (for print and electronic media), including copyediting, reviews, standards, style, and project management. Pre- or corequisite: TWC 401.

**TWC 443 Proposal Writing. (3)**

*once a year*

Develops persuasive strategies and themes for researching and writing professional proposals. Pre- or corequisite: TWC 401.

**TWC 444 Manual and Instructional Writing. (3)**

*once a year*

Design and development of a user manual, writing instructions, improving graphics and page design, and usability testing. Pre- or corequisite: TWC 401.

**TWC 445 Computer Documentation. (3)**

*once a year*

Introduces writing documentation for the computer industry. Pre- or corequisite: TWC 401.

**TWC 446 Technical and Scientific Reports. (3)**

*once a year*

Introduces strategies, formats, and techniques of presenting information to technical and scientific audiences. Pre- or corequisite: TWC 401.

**TWC 447 Business Reports. (3)**

*once a year*

Introduces strategies, formats, and techniques of presenting information to business and other workplace audiences. Pre- or corequisite: TWC 401.

**TWC 451 Copyright and Intellectual Property in the Electronic Age. (3)**

*fall*

Explores issues related to copyright and intellectual property laws, with emphasis on electronic environment. Credit is allowed for only TWC 451 or 551.

## EAST COLLEGE

### **TWC 452 Information in the Digital Age. (3)**

*spring*

Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. Credit is allowed for only TWC 452 or 552.

### **TWC 453 Information and Communications Technology in American History. (3)**

*selected semesters*

Explores the historical development of information and related technologies in the United States from colonial times to the present. Credit is allowed for only TWC 453 or 553. Lecture, Internet.

### **TWC 454 Information Technology and Culture. (3)**

*fall, spring, selected summers*

Explores the historical impact and intersection of communications technology and culture in America. Credit is allowed for only TWC 454 or 554. Lecture, Internet.

### **TWC 484 Internship. (3)**

*fall and spring*

Applies classroom work in a supervised workplace environment. Pre- or corequisite: TWC 411 or 421 or 431.

### **TWC 490 Capstone. (3)**

*fall and spring*

Development of a professional portfolio, creation of a "culminating document," and synthesis of undergraduate experience. Prerequisite: instructor approval.

### **TWC 501 Principles of Technical Communication. (3)**

*fall and spring*

Basic information design principles to produce effective written, oral, and electronic technical communication. Understanding of rhetorical and audience analysis. Pre- or corequisite: graduate standing.

### **TWC 503 Writing for Professional Publication. (3)**

*selected semesters*

Analyzes the market and examines the publication process, including the roles of the author, editor, and reviewer. Pre- or corequisite: TWC 501.

### **TWC 511 Principles of Visual Communication. (3)**

*fall and spring*

Basic principles of visual communication in print and electronic media. Understanding graphic and document design, including typography and color. Pre- or corequisite: TWC 501.

### **TWC 521 Principles of Writing with Technology. (3)**

*fall and spring*

Understanding historical and social impact of technology on writing, with emphasis on multimedia design, computer-mediated communication, and hypertext. Pre- or corequisite: TWC 501.

### **TWC 531 Principles of Technical Editing. (3)**

*fall and spring*

Basic principles of technical editing for print and electronic media, including copyediting, reviews, standards, style, and project management. Pre- or corequisite: TWC 501.

### **TWC 543 Proposal Writing. (3)**

*once a year*

Develops persuasive strategies and themes for researching and writing professional proposals. Pre- or corequisite: TWC 501.

### **TWC 544 Manual and Instructional Writing. (3)**

*once a year*

Design and development of a user manual, writing instructions, improving graphics and page design, and usability testing. Pre- or corequisite: TWC 501.

### **TWC 545 Computer Documentation. (3)**

*once a year*

Introduces writing documentation for the computer industry. Pre- or corequisite: TWC 501.

### **TWC 546 Technical and Scientific Reports. (3)**

*once a year*

Introduces strategies, formats, and techniques of presenting information to technical and scientific audiences. Pre- or corequisite: TWC 501.

### **TWC 547 Business Reports. (3)**

*once a year*

Introduces strategies, formats, and techniques of presenting information to business and other workplace audiences. Pre- or corequisite: TWC 501.

### **TWC 551 Copyright and Intellectual Property in the Electronic Age. (3)**

*fall*

Explores issues related to copyright and intellectual property laws, with emphasis on electronic environment. Credit is allowed for only TWC 551 or 451.

### **TWC 552 Information in the Digital Age. (3)**

*spring*

Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. Credit is allowed for only TWC 552 or 452.

### **TWC 553 Information and Communications Technology in American History. (3)**

*selected semesters*

Explores the historical development of information and related technologies in the United States from colonial times to the present. Credit is allowed for only TWC 453 or 553. Lecture, Internet.

### **TWC 554 Information Technology and Culture. (3)**

*fall, spring, selected summers*

Explores the historical impact and intersection of communications technology and culture in America. Credit is allowed for only TWC 554 or 454. Lecture, Internet.

### **TWC 584 Internship. (3)**

*fall and spring*

Applies classroom work in a supervised workplace environment. Pre- or corequisites: TWC 511, 521, 531.

### **TWC 598 Special Topics. (1-4)**

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.

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## Nutrition

### Master's Program

[www.east.asu.edu/ecollege/nutrition](http://www.east.asu.edu/ecollege/nutrition)

480/727-1728

HSC 1386

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Linda A. Vaughan, Chair

**Professors:** Johnston, Vaughan

**Associate Professor:** Hampl

**Assistant Professors:** Hutchins, Winham, Woolf

**Lecturers:** Dixon, Hall, Shepard

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The faculty in the Department of Nutrition, at the East campus, offer a graduate program leading to a MS degree in Nutrition. The department also offers a Dietetic Internship program, limited to current MS in Nutrition students, which is accredited by the

COMMISSION ON ACCREDITATION FOR  
DIETETICS EDUCATION OF THE AMERICAN  
DIETETIC ASSOCIATION  
120 SOUTH RIVERSIDE PLAZA SUITE 2000  
CHICAGO IL 60606-6995

The commission can be reached by phone at 312/899-0040, ext. 5400.

**Admission.** Applications for admission and graduate assistantships are accepted until February 1 preceding the fall semester to which the applicant is seeking admission. In addition to meeting Division of Graduate Studies requirements, students must submit an official record of their scores on the Graduate Record Examination, three letters of recommendation, a résumé of employment and academic experiences, and the completed departmental Supplementary Information Form. Students wishing to be considered for graduate assistantships must also complete the Division of Graduate Studies and departmental forms. The prerequisites for graduate work in Nutrition are as follows: anatomy and physiology with laboratory, biochemistry with laboratory, general chemistry with laboratory, general nutrition, introductory statistics, microbiology with laboratory, and organic chemistry with laboratory. For admission procedures for the optional Dietetic Internship, see “Dietetic Internship,” on this page.

**Program of Study.** The program of study consists of a minimum of 30 semester hours. Required courses are NTR 500 and 501, Research Methods in Nutrition I and II (or equivalent courses, with advisor approval), three to six semester hours of 500-level statistics courses approved by an advisor, six semester hours of thesis/research credit, and six semester hours of nutrition seminars selected from NTR 531, 532, and/or 598. Students completing the Dietetic Internship must also complete six semester hours of NTR 580 Dietetics Practicum; only three semester hours of NTR 580 may be applied toward the MS degree. Additional courses may be selected upon consultation with an advisor.

**Foreign Language Requirements.** None.

**Thesis Requirements.** A thesis is required.

**Final Examination.** A final oral examination in defense of the thesis is required.

## RESEARCH ACTIVITY

The faculty in the Department of Nutrition are engaged in a broad range of research activities. Undergraduate students are encouraged to collaborate with faculty and graduate students in the research process. Department faculty are well recognized for their research in the areas of Vitamin C and phytochemical metabolism, nutrition and exercise, the nutrient intake and status of children and young adults, and the nutritional status of free-living and homebound elderly. Nutrition faculty conduct controlled metabolic feeding studies, analyze national food and nutrient data sets, and assess the nutritional status of children and adults. Interdisciplinary research is conducted in conjunction with agribusiness, anthropology, exercise and wellness, immunology, nursing, and other faculty. For more information, access the Department of Nutrition Web site at [www.east.asu.edu/ecollege/nutrition](http://www.east.asu.edu/ecollege/nutrition).

**Dietetic Internship.** Admission to the Dietetic Internship is limited to the following students with regular or unconditional admission to the Department of Nutrition’s graduate program: (1) graduate students who are currently in good academic standing in the MS degree program in Nutrition at ASU and who have completed at least six graduate semester

hours from the ASU Department of Nutrition; and (2) students who have already completed the MS degree in Nutrition from ASU in the past and meet all other admission requirements. Admission to the Dietetic Internship also requires submission of an official Verification Statement documenting successful completion of a Didactic Program in Dietetics (DPD). If DPD requirements have not been met at the time application to the Dietetic Internship is made, students must submit an Intent to Complete form and all DPD courses must be completed before entering the internship. Students must provide documentation that a minimum of 150 hours of clinical experience has been completed within the past five years. Students must complete both the MS degree requirements and the Internship practicum requirements to satisfy the Dietetic Internship requirements and establish eligibility to sit for the Registration Examination for Dietitians.

## NUTRITION (NTR)

### NTR 440 Advanced Human Nutrition I. (3)

*fall*

Metabolic reactions and interrelationships of vitamins, minerals, and water. Prerequisites: BIO 201; NTR 241. Corequisite: BIO 202.

### NTR 441 Advanced Human Nutrition II. (3)

*spring*

Metabolic reactions and interrelationships of carbohydrate, lipid, and protein. Prerequisites: BCH 361 and BIO 202 and NTR 241 (or their equivalents).

### NTR 442 Experimental Foods. (3)

*selected semesters*

Food product development techniques, food evaluation and testing, and investigation of current research into food composition. 2 hours lecture, 3 hours lab. Prerequisites: CHM 231; NTR 142.

### NTR 444 Medical Nutrition Therapy. (3)

*spring and summer*

Principles of medical nutrition therapy for prevention and treatment of disease and promotion of health. Prerequisites: BIO 201 and 202 and NTR 341 (or their equivalents). CHM 231 strongly recommended.

### NTR 445 Management of Food Service Systems. (3)

*fall and spring*

Standardized methods of quantity food preparation, operation of institutional equipment, institutional menu planning, quantity food experiences. Integrated lecture/lab. Fee. Prerequisites: NTR 142 and 344 (or their equivalents).

### NTR 446 Human Nutrition Assessment Lecture/Laboratory. (3)

*fall and spring*

Clinical and biochemical evaluation of nutritional status. 2 hours lecture, 3 hours lab. Fee. Prerequisites: BCH 361, 367; NTR 440 (or 441).

### NTR 448 Community Nutrition. (3)

*fall and spring*

Food-related behaviors; organization and delivery of nutrition services; program design, implementation, and evaluation strategies; nutrition assessment of populations. Prerequisite: NTR 241 (or its equivalent).

### NTR 450 Nutrition in the Life Cycle I. (3)

*fall*

Emphasizes nutritional needs and problems during pregnancy, lactation, infancy, and childhood. Prerequisite: NTR 100 or 241 (or its equivalent).

### NTR 451 Nutrition in the Life Cycle II. (3)

*spring*

Nutritional needs and problems of adults, particularly the elderly. Prerequisite: NTR 100 or 241 (or its equivalent).

### NTR 500 Research Methods in Nutrition I. (3)

*fall*

Experimental design; overview of data collection techniques; laboratory analyses; statistical methods; development of thesis proposal. Integrated lecture/lab. Fee. Prerequisites: 1 course each in advanced nutrition, biochemistry, and statistics.

**NTR 501 Research Methods in Nutrition II. (3)**

*spring*

Reviews survey, focus group, and epidemiologic research; develops questionnaires; analyzes large data sets. Prerequisite: NTR 500. Pre- or corequisite: graduate-level statistics course.

**NTR 521 Nutrition and Immunology. (3)**

*selected semesters*

Critical review of current research on nutrient metabolism, immune function. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 523 Vegetarian Nutrition. (3)**

*selected semesters*

Health benefits, nutritional characteristics, potential risks of vegetarian diets. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 525 Complementary Nutrition. (3)**

*selected semesters*

Critical review of functional foods, phytochemicals, nutrient supplements in health promotion. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 527 Energy Balance and Weight Management. (3)**

*selected semesters*

Reviews energy regulation, eating disorders, obesity, weight control methodologies. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 529 Pediatric Nutrition. (3)**

*selected semesters*

Critical review of pediatric disease states and current nutritional therapies. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 531 Recent Developments in Nutrition. (1)**

*fall and spring*

Selected topics addressing current issues in nutrition research. Prerequisites: 1 course each in advanced nutrition and biochemistry.

**NTR 532 Current Research in Nutrition. (3)**

*selected semesters*

Vitamins and minerals. Prerequisites: a course each in advanced nutrition and biochemistry.

**NTR 540 Advanced Micronutrient Metabolism. (3)**

*fall*

Metabolism of vitamins and minerals, primarily as applied to humans, with research literature emphasized. Prerequisites: 1 course each in basic nutrition and biochemistry.

**NTR 541 Advanced Macronutrient Metabolism. (3)**

*spring*

Metabolism of protein, fat, and carbohydrate, primarily as applied to humans, with research literature emphasized. Prerequisites: 1 course each in basic nutrition and biochemistry.

**NTR 542 Advanced Food Product Development. (3)**

*selected semesters*

Food product development techniques, food evaluation and testing, and investigation of current research into food composition. 2 hours lecture, 3 hours lab. Fee. Prerequisites: CHM 231 and NTR 142 (or their equivalents).

**NTR 544 Therapeutic Nutrition. (3)**

*spring and summer*

Current theories of the nutritional prevention or treatment of various diseases. Prerequisites: 1 course each in basic nutrition, introduction to diet therapy, and physiology.

**NTR 545 Management of Institutional Food Service Systems. (3)**

*fall and spring*

Standardizes methods of quantity food preparation, operation of institutional equipment, institutional menu planning, quantity food experiences. May require field trips. Integrated lecture/lab. Fee. Prerequisites: NTR 142 and 344 (or their equivalents).

**NTR 546 Assessment Techniques in Nutrition. (3)**

*fall and spring*

Clinical and biochemical evaluation of nutritional status. 2 hours lecture, 3 hours lab. Fee. Prerequisites: 1 course each in advanced nutrition, biochemistry, and physiology.

**NTR 548 Nutrition Program Development. (3)**

*fall and spring*

Planning, development, implementation, and evaluation of community nutrition programs, including the process of grant applications. Prerequisites: 1 course each in basic nutrition and sociology.

**NTR 550 Advanced Maternal and Child Nutrition. (3)**

*fall*

In-depth review of metabolic characteristics and nutritional needs of the pregnant woman, lactating woman, infant, and child. Prerequisites: 1 course each in basic nutrition, biochemistry, and physiology.

**NTR 551 Advanced Geriatric Nutrition. (3)**

*spring*

In-depth review of metabolic characteristics and nutritional requirements of the elderly. Prerequisites: 1 course each in basic nutrition, biochemistry, and physiology.

**NTR 580 Dietetics Practicum. (3–9)**

*fall, spring, summer*

Structured practical experience in the Dietetic Internship, supervised by practitioners with whom the student works closely. Practicum. Fee. Prerequisite: acceptance into the Dietetic Internship.

**NTR 591 Seminar. (1–12)**

*selected semesters*

Topics may include the following:

- Recent Developments in Food and Nutrition. (1)

**NTR 592 Research. (1–12)**

*fall, spring, summer*

**NTR 593 Applied Project. (1–12)**

*selected semesters*

**NTR 594 Conference and Workshop. (1–12)**

*selected semesters*

**NTR 598 Special Topics. (3)**

*fall and spring*

In-depth review of recent research in areas, including nutrition and exercise, nutrition and immunology, energy balance, vegetarianism, nutritional pathophysiology. Prerequisites: 1 course each in advanced nutrition, biochemistry, and physiology.

**NTR 792 Research. (1–15)**

*selected semesters*

**NTR 799 Dissertation. (1–15)**

*selected semesters*

**Omnibus Courses.** For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 56.