

## Department of Geology

Jonathan Fink  
Chair  
(PS F686) 602/965-5081

**REGENTS' PROFESSORS**  
BUSECK, GREELEY, MOORE

**PROFESSORS**  
BURT, CHRISTENSEN, FINK,  
HOLLOWAY, KNAUTH, LARIMER,  
STUMP, WILLIAMS

**ASSOCIATE PROFESSORS**  
PEACOCK, REYNOLDS, TYBURCZY

**ASSISTANT PROFESSORS**  
ARROWSMITH, GRIMM, O'DAY

**PROFESSORS EMERITI**  
KRINSLEY, LUNDIN, PÉWÉ, RAGAN

### GEOLOGY—B.S.

The B.S. in Geology requires 39 semester hours including the following core courses or their equivalents:

GLG 101	Introduction to Geology I (Physical) <i>S1/S2</i> <sup>1</sup> .....	3
GLG 102	Introduction to Geology II (Historical) <i>S2</i> <sup>2</sup> .....	3
GLG 103	Introduction to Geology I— Laboratory <i>S1/S2</i> <sup>1</sup> .....	1
GLG 104	Introduction to Geology II— Laboratory <i>S2</i> <sup>2</sup> .....	1
GLG 310	Structural Geology .....	3
GLG 321	Mineralogy .....	3
GLG 322	Mineralogy Laboratory.....	2
GLG 400	Geology Colloquium .....	1
GLG 450	Geology Field Camp .....	6

<sup>1</sup> Both GLG 101 and 103 must be taken to secure S1 or S2 credit.

<sup>2</sup> Both GLG 102 and 104 must be taken to secure S1 or S2 credit.

In addition, three of the following six branch courses must be taken:

GLG 335	Principles of Paleontology ....	2
GLG 418	Geophysics .....	3
GLG 424	Petrology-Petrography .....	4
GLG 435	Sedimentology.....	3
GLG 470	Hydrogeology.....	3
GLG 481	Geochemistry .....	3

Supporting courses required in related fields are the following:

CHM 113, 116	General Chemistry <i>S1/S2</i> .....	8
MAT 270	Calculus with Analytic Geometry I <i>NI</i> .....	4
MAT 271	Calculus with Analytic Geometry II .....	4
MAT 272	Calculus with Analytic Geometry III.....	4
	or MAT 274 Elementary Differential Equations (3)	
PHY 121	University Physics I: Mechanics <i>S1/S2</i> <sup>1</sup> .....	3
PHY 122	University Physics Laboratory I <i>S1/S2</i> <sup>1</sup> .....	1
PHY 131	University Physics II: Electricity and Magnetism <i>S1/S2</i> <sup>2</sup> .....	3
PHY 132	University Physics Laboratory II <i>S1/S2</i> <sup>2</sup> .....	1

<sup>1</sup> Both PHY 121 and 122 must be taken to secure S1 or S2 credit.

<sup>2</sup> Both PHY 131 and 132 must be taken to secure S1 or S2 credit.

MAT 290 Calculus I (5) and MAT 291 Calculus II (5) may be substituted for MAT 270, 271, and 272.

To complete the total required hours, other upper-division courses in geology (excluding GLG 300, 302, and 304) or courses in related fields listed as approved by the department may be taken. See "Degree Requirements," page 107.

### MINOR IN GEOLOGY

A minor in Geology is awarded to students who complete a minimum of 23 hours of Geology courses. Required courses totaling 17 semester hours are as follows:

GLG 101	Introduction to Geology I (Physical) <i>S1/S2</i> <sup>1</sup> .....	3
GLG 102	Introduction to Geology II (Historical) <i>S2</i> <sup>2</sup> .....	3
GLG 103	Introduction to Geology I— Laboratory <i>S1/S2</i> <sup>1</sup> .....	1
GLG 104	Introduction to Geology II— Laboratory <i>S2</i> <sup>2</sup> .....	1
GLG 310	Structural Geology .....	3
GLG 321	Mineralogy .....	3
GLG 322	Mineralogy Laboratory.....	2
GLG 400	Geology Colloquium .....	1

<sup>1</sup> Both GLG 101 and 103 must be taken to secure S1 or S2 credit.

<sup>2</sup> Both GLG 102 and 104 must be taken to secure S1 or S2 credit.

The remaining six semester hours may be chosen among other upper-division geology courses, except GLG 300 and 400, after consultation with a departmental advisor.

### GRADUATE PROGRAMS

The Department of Geology offers programs leading to the M.S. and Ph.D. degrees. Consult the *Graduate Catalog* for requirements.

### GEOLOGY

**GLG 101 Introduction to Geology I (Physical).** (3) F, S, SS  
Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Possible weekend field trips. *General Studies: S1/S2 (if credit also earned in GLG 103).*

**102 Introduction to Geology II (Historical).** (3) S

Basic principles of applied geology and the use of these principles in the interpretation of geologic history. Possible weekend field trips. Prerequisite: GLG 101. *General Studies: S2 (if credit also earned in GLG 104).*

**103 Introduction to Geology I—Laboratory.** (1) F, S, SS

Three hours lab, some field trips. Corequisite: GLG 101. *General Studies: S1/S2 (if credit also earned in GLG 101).*

**104 Introduction to Geology II—Laboratory.** (1) S

Laboratory techniques involving map interpretation, cross sections, and fossils. 3 hours lab, possible field trips. Prerequisite: GLG 103 or equivalent. Corequisite: GLG 102. *General Studies: S2 (if credit also earned in GLG 102).*

**105 Introduction to Planetary Science.** (4) S  
Solar system objects and their geologic evolution, surfaces, interiors, and atmospheres; weekly laboratory for data analysis and experiments; weekend field trip. Lecture, lab.

**110 Environmental Geology.** (3) F

Geological studies as they apply to interactions between humans and earth. Includes geological processes and hazards, resources, and global change. *General Studies: S2 (if credit also earned in GLG 111), G.*

**111 Environmental Geology Laboratory.** (1) F

Basic geological processes and concepts. Emphasis on geology-related environmental problems concerning Arizona. Case histories and field studies. Lab. Corequisite: GLG 110. *General Studies: S2 (if credit also earned in GLG 110).*

**300 Geology of Arizona.** (3) A

Basic and historical geology, fossils, mining, energy resources, environmental problems, landscape development, and meteorites, cast in examples from Arizona. Majors who have taken GLG 101 for credit may not enroll.

**302 Man and Geologic Environment.** (3) N  
Geologic hazards, problems of waste disposal and land-use planning, and environmental problems related to solid earth.

**304 Geology of the Grand Canyon.** (2) N  
Review of the discovery, history, origin, and geology of the Grand Canyon of the Colorado River in Arizona. Six-day field trip down the river (first 6 days after commencement in May) required at student's expense. Field research and term paper on trip also required.

**305 Geology of the Earth, Moon, and Planets.** (3) S  
Geological studies of the planets and satellites through the analysis of spacecraft data and field studies. Weekend field trips. Prerequisites: GLG 101 and 105 and 300 or equivalents.

**310 Structural Geology.** (3) S  
Geologic structures and the mechanical processes involved in their formation. 2 hours lecture, 3 hours lab. Possible field trips. Prerequisites: GLG 101; MAT 270 or 290.

**321 Mineralogy.** (3) F  
Crystallography, crystal chemistry, and crystal physics as applied to minerals; determinative methods; origin and occurrence. Possible field trips. Prerequisite: MAT 270 or 290. Pre- or corequisite: CHM 116. Corequisite: GLG 322.

**322 Mineralogy Laboratory.** (2) F  
Hand specimen identification, polarizing microscopy, and optical techniques. 6 hours lab. Corequisite: GLG 321.

**335 Principles of Paleontology.** (2) F  
Emphasis on preservation, growth, species concept, and evolution as demonstrated by the fossil record. Prerequisites: GLG 102 and MAT 270 (or 290) or instructor approval.

**336 Invertebrate Paleontology.** (3) N  
Biology, skeletal morphology, and systematics of fossil invertebrates. One or two projects emphasizing population analysis and techniques in paleontology. Lecture, 6 hours lab, possible field trips. Prerequisite: GLG 102 or instructor approval. Pre- or corequisite for Geology majors: GLG 335.

**362 Geomorphology.** (3) N  
Land forms and processes which create and modify them. Laboratory and field study of physiographic features. 2 hours lecture, 3 hours lab, some field trips during lab, possible weekend field trips. Pre- or corequisites: GLG 101, 310, 424.

**400 Geology Colloquium.** (1) F, S  
Presentation of recent research by faculty and guests. Written assignments required. 1 semester hour required for Geology majors; may be repeated for a total of 2 semester hours. Prerequisite: 2 courses in the department or instructor approval.

**405 Geology of the Moon.** (3) N  
Current theories of the origin and evolution of the moon through photogeological analyses and consideration of geochemical and geophysical constraints. Possible weekend field trip. Prerequisite: GLG 105 or 305 or instructor approval.

**406 Geology of Mars.** (3) N  
Geological evolution of Mars through analyses of spacecraft data, theoretical modelling, and study of terrestrial analogs; emphasis on current work. Possible weekend field trip. Prerequisite: GLG 105 or 305 or instructor approval.

**412 Geotectonics.** (3) F  
Origin of continents and ocean basins. Evolution of the crust in time. Drifting, sea floor spreading, and other large-scale movements of the earth's crust. Upper mantle processes. Emphasis on current work. Prerequisite: GLG 310.

**416 Field Geophysics.** (3) S  
Methods of applied geophysical exploration; seismic refraction, gravity, electrical resistivity, geomagnetics. Includes survey planning, data acquisition, processing, analysis, and interpretation. Lecture, field exercises. Prerequisite: one course in geology or instructor approval.

**418 Geophysics.** (3) F  
Solid earth geophysics; geomagnetism, gravity, seismology, heat flow, emphasizing crust and upper mantle. 2 hours lecture, 3 hours lab, field trips during lab, possible weekend field trips. Prerequisites: GLG 101 and MAT 272 (or 291) and PHY 131 or instructor approval.

**419 Thermal-Mechanical Processes in the Earth.** (3) F  
Emphasis on applied mathematical techniques, heat conduction problems in geology, thermal convection, stresses in the lithosphere, and viscoelastic processes in the Earth. Prerequisite: PHY 131.

**420 Volcanology.** (3) A  
Distribution of past and present volcanism, types of volcanic activity, mechanism of eruption, form and structure of volcanoes, and geochemistry of volcanic activity. Possible weekend field trips. Prerequisite: GLG 424.

**424 Petrology-Petrography.** (4) S  
Theoretical and laboratory study of the origin and classification of igneous and metamorphic rocks. Hand specimen and thin-section study of rocks. 3 hours lecture, 3 hours lab. Possible weekend field trips. Prerequisites: GLG 321, 322.

**435 Sedimentology.** (3) S  
Origin, transport, deposition, and diagenesis of sediments and sedimentary rocks. Physical analysis, hand specimen examination, and interpretation of rocks and sediments. 2 hours lecture, 3 hours lab, possible weekend field trips. Prerequisites: GLG 102, 321, 322.

**436 Principles of Stratigraphy.** (3) N  
Principles of interpreting lithostratigraphic, magnetostratigraphic, biostratigraphic, seismostratigraphic, and chronostratigraphic units; correlation and facies relationships in stratified rocks. Applied stratigraphy project(s). Lecture, possible field trips. Prerequisites: GLG 102; instructor approval.

**441 Ore Deposits.** (3) N  
Origin, occurrence, structure, and mineralogy of ore deposits. Possible weekend field trips. Prerequisite: GLG 424 or instructor approval.

**450 Geology Field Camp.** (6) SS  
Geological mapping techniques on aerial photos and topographic maps. Field based with excursions. Prerequisites: GLG 310, 321.

**455 Advanced Field Geology.** (3-4) F, S  
Geologic mapping in igneous, sedimentary, and metamorphic terrains of the Basin and Range province of Arizona. Weekend field trips. May be repeated for credit. Prerequisite: GLG 450 or instructor approval.

**456 Cordilleran Regional Geology.** (3) F  
Systematic coverage through space and time of the geological development of western North America, emphasizing the western United States. Prerequisite: senior major or graduate student in Geology or instructor approval.

**462 Environmental Geology of Cold Regions.** (3) N  
Geological and engineering importance of seasonal and perennially frozen ground (permafrost). Properties, distribution, and the origin of ice in the ground and its application to engineering and land utilization problems. Possible weekend field trips. Prerequisites: GLG 101 and 435 and PHY 111 and 113 or instructor approval.

**470 Hydrogeology.** (3) S  
Geology of groundwater occurrence, aquifer and well hydraulics, water chemistry and quality, contaminant transport, remediation. Emphasis on quantitative methods. Prerequisites: GLG 101 or 103; MAT 270; PHY 121.

**481 Geochemistry.** (3) F  
Origin and distribution of the chemical elements. Geochemical cycles operating in the earth's atmosphere, hydrosphere, and lithosphere. Cross-listed as CHM 481. Prerequisite: CHM 341 or 441 or GLG 321.

**485 Meteorites and Cosmochemistry.** (3) N  
Chemistry of meteorites and their relationship to the origin of the earth, solar system, and universe. Cross-listed as CHM 485.

**490 Topics in Geology.** (1-3) F, S, SS  
Special topics in a range of fields in geology. May be repeated for credit. Prerequisite: instructor approval.

**500 Geology Colloquium.** (1) F, S  
Presentation of recent research by faculty and invited guests. 1 semester required for all geology graduate students. May be repeated for total of 2 semesters. Research paper required. Prerequisite: instructor approval.

**501 Geology of Arizona.** (3) A  
Basic and historical geology, fossils, mining, energy resources, environmental problems, landscape development, and meteorites, cast in examples from Arizona. Research paper required.

**504 Geology of the Grand Canyon.** (2) S  
Review of the discovery, history, origin, and geology of the Grand Canyon of the Colorado River in Arizona. 6-day field trip down the river (first 6 days after commencement in May) re-

quired at student's expense. Field research and term paper on trip also required.

**510 Advanced Structural Geology.** (3) N  
Mechanics of rock deformation, emphasizing relationship between field observation, theory, and experiment. Stress, strain, simple constitutive relationships, failure criteria, and the basis of continuum methods. Possible field trips. Prerequisites: GLG 310 and 424 or instructor approval.

**520 Advanced Physical Volcanology.** (2–3) A  
Selected volcanologic topics, including explosive eruption processes, lava flow mechanics, and intrusive mechanisms. Field trips possible. Prerequisite: GLG 420 or instructor approval.

**524 Advanced Igneous Petrology.** (3) N  
Theoretical and practical aspects of the genesis of igneous rocks. Study of selected sites. Modern laboratory techniques. 2 hours lecture, 3 hours lab, possible weekend field trips. Prerequisite: GLG 424.

**525 Advanced Metamorphic Petrology.** (3) N  
Theoretical and laboratory study of metamorphic rocks. Processes of contact and regional metamorphism. Advanced methods and instrumentations. 2 hours lecture, 3 hours lab, possible weekend field trips. Prerequisite: GLG 424.

**561 Glacial Geology.** (3) N  
Properties, distribution, and origin of glacial deposits, including principles of their stratigraphy and correlation. Environmental geology problems in glaciated regions. 2 hours lecture, 3 hours lab, some field trips during lab, possible weekend field trips. Prerequisite: GLG 362.

**562 Quaternary Geology.** (3) N  
Geology of the Quaternary Period in both glaciated and unglaciated areas. Stratigraphy, correlation, and environmental application of Quaternary deposits. Special reference to the Southwest. 2 hours lecture, 3 hours lab, some field trips during lab, possible weekend field trips. Prerequisite: GLG 362 or instructor approval.

**581 Isotope Geochemistry.** (3) N  
Geochemistry and cosmochemistry of stable and radioactive isotopes; geochronology; isotope equilibria. Prerequisite: instructor approval.

**582 Physical Geochemistry.** (3) N  
Application of thermodynamic and kinetic principles to geochemical processes. Prerequisite: CHM 341 or 441 or GLG 321.

**583 Phase Equilibria and Geochemical Systems.** (3) N  
Natural reactions at high temperatures and pressures; silicate, sulfide, and oxide equilibria. Cross-listed as CHM 583. Prerequisites: GLG 582; instructor approval.

**591 Seminar.** (1–3) F, S, SS  
Topics in a range of fields in geology. May be repeated for credit. Prerequisite: instructor approval.

**598 Special Topics.** (1–3) F, S, SS  
Special topics in geology. May be repeated for credit. Prerequisite: instructor approval.

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## Department of History

Retha M. Warnicke  
Chair  
(SS 204) 602/965–5778

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### PROFESSORS

BATALDEN, BURG, DAVIS, FUCHS,  
GIFFIN, GRATTON, IVERSON,  
KLEINFELD, LAVRIN, LUCKINGHAM,  
MackINNON, ROTHSCHILD, RUIZ,  
STOWE, TAMBS, TILLMAN,  
TRENNERT, WARNICKE

### ASSOCIATE PROFESSORS

ADELSON, DELLHEIM, ESCOBAR,  
FULLINWIDER, HURTADO,  
KAHN, ROSALES, RUSH,  
SIMPSON, L. SMITH,  
R. SMITH, SOERTEL, STONER,  
VANDERMEER, WARREN-FINDLEY

### ASSISTANT PROFESSORS

CARROLL, GRAY, GULLETT,  
HENDRICKS, LONGLEY,  
McKEE, THORNTON

### SENIOR INSTRUCTIONAL PROFESSIONAL

LUEY

### PROFESSORS EMERITI

BARLOW, DANNENFELDT, HUBBARD,  
KARNES, KEARNEY, PAULSEN,  
PHILLIPS, WEINER,  
WOOTTEN, YOUNG

### HISTORY—B.A.

The B.A. in History consists of 45 semester hours, of which 30 must be in history and 15 in related fields to be approved by the advisor in consultation with the student. Courses in related fields may also be used to satisfy general college requirements. HIS 300 Historical Inquiry (3) is required and is a prerequisite for HIS 498 Pro-Seminar. HIS 498 Pro-Seminar (3) is required, except for honors students, who may substitute HIS 493 Honors Thesis (3). At least 18 hours in history courses and nine hours in the related fields must be in upper-division courses. Students are required to take at least six hours in each of two different subject areas and at least three hours in a third subject area all within the discipline of history.

These subject areas include U.S., European, British, Latin American, and Asian history. A minimum GPA of 2.25 in the 30 hours of history courses is required. See “Degree Requirements,” page 107.

### HISTORY—B.S.

The B.S. in History consists of 36 semester hours in history (including HIS 381 and 382) and 18 hours in closely related fields and quantitative studies, as approved by the program directors in consultation with the student. HIS 381 Quantification in History (3) and HIS 382 Historical Statistics (3) are required for all degree candidates and should be completed, in sequence, by the end of the junior year. Courses in related fields may also be used to satisfy general college requirements. At least 27 hours in history courses and nine hours in the related fields must be in the upper division. At least six hours in history must be taken in each of two of the following areas: U.S., Latin American, British, Asian, and European history. A minimum GPA of 2.25 in the 42 hours of history courses is required. Students must earn a minimum grade of “C” in HIS 381, 382, and their prerequisite, MAT 117. See “Degree Requirements,” page 107.

**Asian Studies Emphasis.** Students majoring in History may elect to pursue an Asian studies emphasis combining courses from the major with selected outside courses of wholly Asian content. See “Asian Studies,” pages 110–111, for more information.

**Latin American Studies Emphasis.** Students majoring in History may elect to pursue a Latin American studies emphasis combining courses from the major with selected outside courses of wholly Latin American content. See “Latin American Studies,” page 111, for more information.

### MINOR IN HISTORY

The History minor consists of 18 semester hours of course work, at least 12 hours of which are in the upper division.

## SECONDARY EDUCATION— B.A.E.

**History.** The major teaching field consists of 42 semester hours, of which at least 30 must be in history courses. At least 18 of the history hours must be in upper-division courses. At least three semester hours must be taken in U.S. history. The remaining history and related area courses must be selected in consultation with an advisor from the Department of History. A minimum GPA of 2.25 in history courses is required for admission to practice teaching and for graduation. HIS 495 Methods of Teaching History (3) may not be counted as part of the 42-hour requirement for the academic specialization.

The minor teaching field consists of 24 semester hours in history courses, of which at least nine must be in upper-division courses. The program must include at least three hours in U.S. history.

**Social Studies.** See page 188.

## GRADUATE PROGRAMS

The Department of History offers programs leading to the M.A. and Ph.D. degrees. Consult the *Graduate Catalog* for requirements.

### HISTORY

#### **HIS 100 Western Civilization.** (3) F, S

Traces origin and development of Western societies and institutions from the ancient world through the Middle Ages. *General Studies:* SB, H.

#### **101 Western Civilization.** (3) F, S

Traces origin and development of Western societies and institutions from the Renaissance and Reformation through Age of Enlightenment. *General Studies:* SB, H.

#### **102 Western Civilization.** (3) F, S

Traces origin and development of Western societies and institutions from the French Revolution to the present. *General Studies:* SB, G/H.

#### **103 The United States.** (3) F, S

Growth of the Republic from colonial times through the Civil War period. *General Studies:* SB, H.

#### **104 The United States.** (3) F, S

Growth of the Republic from the Civil War period to the present day. *General Studies:* SB, H.

#### **107 Introduction to Japan.** (3) A

Historical survey of the people, culture, politics, and economy of Japan, supplemented by audiovisual presentations. Intended for nonmajors. *General Studies:* SB, G/H.

#### **230 American Social History.** (3) F, S

American society from the colonial period to the present. Ethnicity, race, age, and sex as factors in historical experience. Lecture, discussion. *General Studies:* L1, H.

#### **240 Introduction to Southeast Asia.** (3) F

An interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. Cross-listed as ASB 240/GCU 240/POS 240/REL 240. *General Studies:* G.

#### **270 Judaism in American History.** (3) N

A chronological analysis of Jews and Judaism in American history and letters. *General Studies:* SB, H.

#### **271 European Jewish History.** (3) N

European Jewish experience from the Crusades to the emancipation of the Jews in the 18th and early 19th centuries.

#### **273 American Military History.** (3) F

A study of the role of the military in American life during war and peace from colonial times to the present day. 3 hours lecture/conference. *General Studies:* SB, H.

#### **294 Selected Topics in History.** (3) N

A full description of topics for any semester is available in the Department of History office. May be repeated for credit.

#### **300 Historical Inquiry.** (3) F, S

Historical methods and critical inquiry related to particular events and processes. Topics vary. Required course for majors. Prerequisite for HIS 498. Discussion, seminar, lecture. Prerequisite: ENG 102. *General Studies:* L1/SB, H.

#### **303 American Cultural History.** (3) F, S

Culture in a broad connotation, including ideas, ideals, the arts, and social and economic standards from the nation's colonial background and early national period. Cross-listed as AMS 320. *General Studies:* SB, H.

#### **304 American Cultural History.** (3) F, S

Culture in a broad connotation, including ideas, ideals, the arts, and social and economic standards from the age of industrialism and modern America. Cross-listed as AMS 321. *General Studies:* SB, H.

#### **305 Asian Civilizations.** (3) F, S

The civilizations of China, Japan, and India to mid-17th century. *General Studies:* SB, G/H.

#### **306 Asian Civilizations.** (3) F, S

The civilizations of China, Japan, and India from the mid-17th century to present. May also include Southeast Asia. *General Studies:* SB, G/H.

#### **308 Modern Southeast Asia.** (3) S

Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. Lecture, discussion.

#### **309 History of Chinese Science.** (3) S

Explores development of traditional Chinese science in the context of Chinese thought and society and in comparison with developments elsewhere. Lecture, discussion. Cross-listed as HPS 325.

#### **311 Asian American Experiences: A Historical Perspective.** (3) N

A survey of the history of Asian Americans in the United States since the mid-19th century. Lecture, discussion. *General Studies:* C.

#### **312 Interpreting China's Classics.** (3) F

Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. Cross-listed as HUM 312.

#### **320 Ancient Greece.** (3) A

History and civilization of the Greek world from the Bronze Age to the Roman conquest of the Hellenistic kingdoms. *General Studies:* SB, H.

#### **321 Rome.** (3) A

History and civilization of Rome from the beginning of the Republic to the end of the Empire. *General Studies:* SB, H.

#### **322 The Middle Ages.** (3) A

Political, socioeconomic, and cultural developments of Western Europe during the Early Middle Ages. Prerequisite: HIS 100 or instructor approval. *General Studies:* SB, H.

#### **323 The Middle Ages.** (3) A

Political, socioeconomic, and cultural developments of Western Europe during the High Middle Ages. Prerequisite: HIS 100 or instructor equivalent. *General Studies:* SB, H.

#### **324 Renaissance.** (3) F

Antecedents and development of the Renaissance in Italy and its spread to the rest of Europe. *General Studies:* L2/SB, H.

#### **325 Reformation.** (3) S

The Protestant and Catholic Reformation in the 16th century. *General Studies:* L2/SB, H.

#### **326 Early Modern Europe.** (3) A

Social, economic, cultural, and political changes in 17th-century Europe. *General Studies:* SB, H.

#### **327 Early Modern Europe.** (3) A

Social, economic, cultural, and political changes in 18th-century Europe. *General Studies:* SB, H.

#### **329 19th-Century Europe.** (3) A

Political, social, economic, and intellectual currents in Europe from Napoleon to 1866. *General Studies:* SB, H.

#### **330 19th-Century Europe.** (3) A

Political, social, economic, and intellectual currents in Europe from 1866–1918. *General Studies:* SB, H.

#### **331 20th-Century Europe.** (3) N

Europe in its world setting since World War I, emphasizing major political and social issues. 1914–1945. *General Studies:* SB, G/H.

#### **332 20th-Century Europe.** (3) N

Europe in its world setting since World War II, emphasizing major political and social issues from 1945 to the present. *General Studies:* SB, G/H.

#### **333 Women and Society in Europe.** (3) N

Women's role, status, and achievements in Europe, 1750–1950. Changes in everyday life, sex roles, family patterns, work, and culture. *General Studies:* L2/HU/SB, H.

#### **335 Family, Class, and Society in Modern Europe.** (3) N

Family life, sex roles, work, crime, population changes, and their relationship to political, economic, and social changes. Prerequisite: upper-division standing or instructor approval. *General Studies:* L2/SB, H.

#### **351 England.** (3) F, S

Political, economic, and social development of the English people to the 17th century. *General Studies:* SB, H.

#### **352 England.** (3) F, S

Political, economic, and social development of the English people from 17th century to the present. *General Studies:* SB, H.

- 357 19th-Century West.** (3) F  
Social, political, and economic development of trans-Mississippi West beginning with Louisiana Purchase and ending in 1900. *General Studies: SB, H.*
- 358 The West in the 20th Century.** (3) S  
Role of the western states in American history since 1890 with emphasis on politics, the environment, industry and labor, and the changing position of ethnic minorities. *General Studies: SB, H.*
- 362 American Indian History.** (3) F  
Examination of federal Indian policy and cultural, economic, political, and social continuity and change of American Indian communities. *General Studies: SB, C/H.*
- 363 African-American History I.** (3) A  
The African American in American history, thought, and culture from slavery to 1865. *General Studies: SB, C/H.*
- 364 African-American History II.** (3) A  
The African American in American history, thought, and culture from 1865 to the present. *General Studies: SB, C/H.*
- 365 Islamic Civilization.** (3) A  
An interdisciplinary survey of the art, history, and religion of Islamic civilization. *General Studies: HU, H.*
- 366 The Modern Middle East.** (3) S  
Impact of the Western world upon Middle Eastern governments, religion, and society in the 19th and 20th centuries; problems of modernization and the role of the Middle East in world affairs. *General Studies: SB, G/H.*
- 370 Women in U.S. History, 1600–1880.** (3) F  
Examination of American women of diverse racial, religious, ethnic groups, and classes; focus is on changing definitions of women's roles. *General Studies: SB, C/H.*
- 371 Women in U.S. History, 1880–1980.** (3) S  
Examination of American women of diverse racial, religious, ethnic groups, and classes; focus is on changing definitions of women's roles. *General Studies: SB, C/H.*
- 380 History of the Mexican-American.** (3) A  
Role of the Mexican-American in U. S. history. *General Studies: SB, H.*
- 381 Quantification in History.** (3) F  
Quantitative techniques, including political analysis, new economic theory, demography, and social history. Research methods in social science, including design, data collection, and computer skills. Prerequisite: MAT 117.
- 382 Historical Statistics.** (3) S  
Historical data analysis, including sampling distributions, tests of hypotheses, t-tests to multiple regression, and nonparametric techniques. Prerequisite: HIS 381. *General Studies: N2.*
- 383 Latin America.** (3) A  
Ancient civilization, explorers and conquerors, and colonial institutions. *General Studies: SB, H.*
- 384 Latin America.** (3) A  
Nationalistic development of the independent republics since 1825. *General Studies: SB, H.*
- 394 Selected Topics in History.** (3) N  
A full description of topics for any semester is available in the Department of History office. May be repeated for credit.
- 401 American Colonial History.** (3) A  
Political, economic, social, and cultural history of the colonial era. Concentrates on English colonies, with some consideration of Spanish, French, and other colonial regions in North America. *General Studies: SB, H.*
- 403 Revolution and Constitution.** (3) N  
The causes, course, and consequences of the American Revolution culminating in the ratification of the Constitution. Prerequisite: HIS 103 or instructor approval.
- 404 The Early Republic, 1789–1850.** (3) A  
Political, social, economic, and cultural development of the United States from the Revolution to 1850. Prerequisite: HIS 103 or instructor approval. *General Studies: L2/SB, H.*
- 406 Civil War and Reconstruction.** (3) A  
Explores the causes, conduct, and consequences of the American Civil War, emphasizing politics and policy. Prerequisite: HIS 103 or instructor approval. *General Studies: L2/SB, H.*
- 407 The Emergence of Modern America.** (3) A  
The triumph of modern political, social, and economic structures and values, 1870–1918; role of region, religion, race, and ethnicity. *General Studies: SB, H.*
- 409 Recent American History.** (3) A  
The United States from 1913–1932, including Wilsonian diplomacy and the First World War, the 1920s, the origins of the Great Depression, Hoover administration. Prerequisite: HIS 104 or equivalent. *General Studies: SB, H.*
- 410 Recent American History.** (3) A  
The United States from 1932–1945, including the New Deal, society during the Depression, Second World War. Prerequisite: HIS 104 or equivalent. *General Studies: SB, H.*
- 411 Contemporary America.** (3) A  
The United States from 1945 to the present. *General Studies: SB, H.*
- 414 The Modern American Economy.** (3) A  
Origins of 19th-century slavery and industrialization; 20th-century crisis and regulation; political economy of an advanced capitalist democracy. Prerequisite: ECN 111 or 112 or HIS 103 or 104. *General Studies: SB, H.*
- 415 American Diplomatic History.** (3) A  
American relations with foreign powers, 1776–1898. Prerequisite: HIS 103 or instructor approval. *General Studies: SB, H.*
- 416 American Diplomatic History.** (3) A  
American relations with foreign powers from 1898 to the present. Prerequisite: HIS 104 or instructor approval. *General Studies: SB, G/H.*
- 417 Constitutional History of the United States.** (3) N  
Origin and development of the American constitutional system from Colonial origins through Reconstruction. Prerequisite: HIS 103 or instructor approval. *General Studies: SB, H.*
- 418 Constitutional History of the United States.** (3) N  
Origin and development of the American constitutional system, from Reconstruction to the present. Prerequisite: HIS 104 or instructor approval. *General Studies: SB, H.*
- 419 American Urban History.** (3) A  
The history of the city in American life from colonial times to the late 19th century. *General Studies: SB, H.*
- 420 American Urban History.** (3) A  
The history of the city in American life from the 19th century to the present. *General Studies: SB, H.*
- 421 History of American Labor.** (3) A  
American workers, from the colonial period to the present, including farmers, slaves, housewives, the skilled and unskilled, unionized and nonunionized. Prerequisite: HIS 103 or 104 or MGT 301. *General Studies: SB, H.*
- 422 Rebellious Women.** (3) A  
Examination of the roles of rebellious women in history through the study of autobiography, biography, and theory. *General Studies: L2/SB, C/H.*
- 424 The Hispanic Southwest.** (3) N  
Development of the Southwest in the Spanish and Mexican periods to 1848. *General Studies: SB, H.*
- 425 The American Southwest.** (3) N  
Development of the Southwest from 1848 to the present. *General Studies: L2/SB, H.*
- 426 Indian History of the Southwest.** (3) S  
Comprehensive review of historical events from prehistoric peoples, the Spanish and Mexican periods, and the American period after 1846 to the present. Prerequisite: upper-division standing or instructor approval. *General Studies: SB, C/H.*
- 428 Arizona.** (3) A  
Emergence of the state from early times to the present. Prerequisite: upper-division standing or instructor approval. *General Studies: SB, H.*
- 430 20th-Century Chicano History.** (3) A  
Historical development of the Chicano community in the 20th century. *General Studies: SB, H.*
- 431 The French Revolution and the Napoleonic Era.** (3) N  
Conditions in France before 1789, the Revolutionary decade from 1789 to 1799, the organization of France under Napoleon, and the impact of changes in France on European society. Prerequisite: upper-division standing or instructor approval. *General Studies: SB, H.*
- 433 Modern France.** (3) A  
Social, political, economic, and cultural transformations of French society, 1815–present. Impact of industrialization, war and revolution on people's lives. Prerequisite: upper-division standing or instructor approval. *General Studies: SB, G/H.*
- 434 Hitler: Man and Legend.** (3) N  
A biographical approach to the German Third Reich emphasizing nature of Nazi regime, World War II, and historiography. *General Studies: SB, H.*
- 435 Modern Germany.** (3) A  
Germany since 1840. *General Studies: SB, G/H.*

- 437 Eastern Europe and the Balkans.** (3) A Peoples and countries of eastern and south-eastern Europe in the 19th and 20th centuries from 1800 to 1914, emphasizing the Hapsburg and Ottoman Empires. *General Studies: SB, H.*
- 438 Eastern Europe and the Balkans.** (3) A Peoples and countries of eastern and south-eastern Europe in the 19th and 20th centuries, emphasizing the successor states from 1914 to the present. *General Studies: SB, G/H.*
- 441 Imperial Russia.** (3) A Development of Russian political, economic, social, religious, and intellectual institutions and traditions from the end of the 17th century to the collapse of the tsarist autocracy in 1917. *General Studies: SB, H.*
- 442 The Soviet Union.** (3) A An examination of Soviet and post-Soviet politics, economic development, and foreign relations from the 1917 Revolution to the present. *General Studies: SB, G/H.*
- 443 Russia and the United States.** (3) A Official and unofficial relations between Russia and the United States, from the late 18th century to the present, emphasizing period following the Bolshevik Revolution. *General Studies: SB, G/H.*
- 445 Tudor England.** (3) A Political, social, economic, and cultural developments in 16th-century England. *General Studies: SB, H.*
- 446 Stuart England.** (3) A Political, social, economic, and cultural developments in 17th-century England. *General Studies: SB, H.*
- 449 Modern Britain.** (3) A Factors contributing to Britain's position as the world's leading power in the 19th century and its decline from that position in the 20th century. *General Studies: SB, G/H.*
- 450 British Constitutional History.** (3) A Historical development of the constitutional system of Great Britain from the Middle Ages to the present, emphasizing the growth of democracy. *General Studies: SB, H.*
- 451 The British Empire.** (3) A British imperialism and colonialism in Africa, the Americas, Asia, and the South Pacific. Prerequisite: upper-division standing or instructor approval. *General Studies: SB, H.*
- 452 Economic History of Europe.** (3) N Impact of industrialism upon the political, social, and cultural life of Europe from the Renaissance to the 19th century. *General Studies: SB, H.*
- 453 Economic History of Europe.** (3) N Impact of industrialism upon the political, social, and cultural life of Europe in the 19th and 20th centuries. *General Studies: SB, G/H.*
- 455 Intellectual History of Modern Europe.** (3) A Major developments in European thought from Karl Marx to the present. Prerequisite: upper-division standing or instructor approval. *General Studies: HU, H.*
- 456 History of Spain.** (3) N Cultural, economic, political, and social development of Spain from earliest days to 1700. *General Studies: HU/SB, H.*
- 457 History of Spain.** (3) N Cultural, economic, political, and social development of Spain from 1700 to the present. *General Studies: HU/SB, G/H.*
- 460 Spanish South America.** (3) N Political, economic, and social development of the Spanish-speaking nations of South America since independence. 19th-century developments. *General Studies: SB, H.*
- 461 Spanish South America.** (3) N Political, economic, and social development of the Spanish-speaking nations of South America. 20th-century developments. *General Studies: SB, H.*
- 463 Intellectual and Cultural History of Latin America.** (3) N Main currents of thought, the outstanding thinkers, and their impact on 19th- and 20th-century Latin America. Cultural and institutional basis of Latin American life. *General Studies: SB, H.*
- 464 The United States and Latin America.** (3) N The Latin American struggle for diplomatic recognition, attempts at political union, participation in international organizations since 1810, and relations between the United States and Latin America. *General Studies: SB, G/H.*
- 466 Mexico.** (3) A Political, economic, social, and cultural developments from earliest times to 1810. *General Studies: SB, H.*
- 467 Mexico.** (3) A Political, economic, social, and cultural developments from 1810 to the present. *General Studies: SB, H.*
- 468 Brazil.** (3) N Discovery, conquest, and settlement by the Portuguese; achievement of independence; rise and fall of the empire; problems and growth of the republic to the present. *General Studies: SB, H.*
- 469 Chinese Thought and Way.** (3) N China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. *General Studies: SB, H.*
- 470 Chinese Thought and Way.** (3) N Evolution of Confucian Tao (Way), its synthesis of Taoism and Buddhism, and 20th-century reactions to that Tao. *General Studies: SB, G/H.*
- 471 The United States and Japan.** (3) A Cultural, political, and economic relations in the 19th and 20th centuries. Emphasis on post-World War II period. *General Studies: SB, G/H.*
- 473 China.** (3) A Political, economic, social, and cultural history of the Chinese people from early times to the late 17th century. *General Studies: SB, H.*
- 474 China.** (3) A Political, economic, social, and cultural history of the Chinese people from mid-17th century to the present. *General Studies: SB, G/H.*
- 475 The American Experience in Vietnam, 1945–1975.** (3) N Intersection of American and Asian histories in Vietnam, viewed from as many sides as possible. *General Studies: SB, G/H.*
- 477 Japan.** (3) A Political, economic, social, and cultural history of the Japanese people from early times to the 19th century. *General Studies: SB, H.*
- 478 Japan.** (3) A Political, economic, social, and cultural history of the Japanese people from 19th century to the present. *General Studies: SB, G/H.*
- 481 The People's Republic of China.** (3) N Analysis of major political, social, economic, and intellectual trends in China since the founding of the People's Republic in 1949. *General Studies: SB, G/H.*
- 495 Methods of Teaching History.** (3) S Methods in instruction, organization, and presentation of the subject matter of history and closely allied fields.
- 498 History Pro-Seminar.** (3) F, S Required course for majors on topic selected by instructor; writing-intensive course related to the development of research skills and writing tools used by historians. Prerequisite: HIS 300.
- 502 Public History Methodology.** (3) F Introduction to historical research methodologies, techniques, and strategies used by public historians. Readings, short papers, and guest speakers. Required for students in the public history concentration.
- 512 Historians of Early Europe.** (3) N A study of the history of European historical writing from the Greeks to the 18th century.
- 513 Historians of Modern Europe.** (3) N A study of 19th- and 20th-century European historical writing.
- 514 Historians of the United States.** (3) N A study of the history of American historical writing from the early colonial days to the 20th century.
- 515 Studies in Historiography.** (3) F, S Methods and theories of writers of history. May be repeated for credit.
- 525 Historical Resource Management.** (3) F Identification, documentation, and interpretation of historic period buildings, sites, and districts. Emphasis on interdisciplinary efforts among historians, architects, and anthropologists.
- 526 Historians and Preservation.** (3) S Preparation of historians for public and private historic preservation programs. Prerequisite: HIS 525 or instructor approval.
- 527 Historical Administration.** (3) F Preparation of historians in administration of archives, historical sites, historical museums, historical societies, and historical offices in government agencies.
- 530 American Business History.** (3) F Origins, evolution, and present form of various major U.S. industries. Required for public history business option.
- 532 Community History.** (3) N Techniques and methods of community history emphasizing local resources. Required for community history option. Seminar.
- 551 Comparative Histories of War and Revolution.** (3) A A comparative field course of the themes of war and revolution.
- 552 Comparative History of Family and Community.** (3) N A comparative course with a focus on family, including minority and ethnic groups, in society.
- 553 Comparative History of State and Institutions.** (3) N A comparative course that explores the changing nature of central institutions and government.

**554 Comparative Historical Population Studies: Ethnicity, Economy, and Migration.** (3) N

A comparative course that explores the impact of social, cultural, or economic changes in the population.

**555 Comparative Historical Topics.** (3) N  
This course analyzes a variety of specific social, political, cultural, and intellectual topics.

**591 Seminar.** (3) N

Topics may be selected from the following areas:

- (a) British History
- (b) East Asian History
- (c) English History
- (d) European History
- (e) Latin American History
- (f) U.S. History

May be repeated for credit.

**SCHOLARLY PUBLISHING****PUB 501 Introduction to Scholarly Publishing.** (3) F

An introduction to the purpose, organization, and operation of scholarly publishing, including its history, societal role, and current issues. Lecture, discussion. Prerequisite: graduate standing.

**502 Scholarly Editing.** (3) F

Publishing procedures, proofreading, and manuscript editing of scholarly books, textbooks and scholarly journals. Lecture, discussion. Prerequisite: admission to scholarly publishing certificate program. Pre- or corequisite: PUB 501.

**503 Advanced Scholarly Editing.** (3) S

Advanced manuscript editing, acquisitions, developmental editing, and indexing of scholarly books, textbooks, and scholarly journals. Lecture, discussion. Prerequisites: PUB 501, 502.

**510 Research in Scholarly Publishing.** (3) S

Individual or group research projects on issues in scholarly publishing, including legal, economic, design, technological, and related topics. Directed research, discussion. Prerequisites: PUB 501; admission to scholarly publishing certificate program.

**584 Scholarly Publishing Internship.** (1–6)

A Structured, supervised, practical experience with a scholarly publisher or other appropriate publishing enterprise. Internship. Prerequisites: PUB 501; 9 hours in scholarly publishing core; instructor approval.

**598 Special Topics in Scholarly Publishing.**

(1) S  
One-week short courses covering special topics in scholarly publishing, to be taught by visiting publishing professionals. Lecture, discussion. Prerequisites: PUB 501; admission to scholarly publishing certificate program.

**Omnibus Courses:** See pages 44–45 for omnibus courses that may be offered.

**Interdisciplinary Humanities Program**

**Charles J. Dellheim**  
*Director*  
**(LL B605) 602/965–6747**

**ANTHROPOLOGY**

Affiliated Faculty: E. Brandt, Winkelman

**ARCHITECTURE**

Affiliated Faculty: Biln, Boyle,  
B. Brandt, Cook, Kroloff

**ART**

Affiliated Faculty: Codell,  
Schleif, Serwint

**COMMUNICATION**

Affiliated Faculty: Nakayama

**COMPUTER SCIENCE AND ENGINEERING**

Affiliated Faculty: Findler

**ENGLISH**

Core Faculty: Vanden Heuvel;  
Affiliated Faculty: Bjork, J. Brink,  
Castle, Horan, Sensibar

**HISTORY**

Affiliated Faculty: Fuchs, Gray,  
Iverson, Rush, Simpson, Stowe,  
Tillman, Warnicke

**HUMANITIES**

Core Faculty: Baker, Dellheim,  
López-Lázaro, Privateer, Wright;  
Professor Emeritus: Doebler

**JUSTICE STUDIES**

Affiliated Faculty: Kelly

**LANGUAGES AND LITERATURES**

Core Faculty: Foster; Affiliated Faculty:  
Losse, Vitullo, Volek, Williams

**PHILOSOPHY**

Affiliated Faculty: White

**PLANNING AND LANDSCAPE ARCHITECTURE**

Affiliated Faculty: Fish

**POLITICAL SCIENCE**

Affiliated Faculty: McDonough

**RELIGIOUS STUDIES**

Affiliated Faculty: Foard, Gereboff

**UNIVERSITY HONORS COLLEGE**

Affiliated Faculty: Coudert

**HUMANITIES—B.A.**

The major in Humanities is interdisciplinary and may be intercollegiate. In consultation with an advisor, the student takes a minimum of 44 semester

hours of interdisciplinary humanities courses from two components: (1) an interdisciplinary core of 23 to 26 hours and (2) an area of concentration of 21 hours.

Depending on the concentration chosen, under certain circumstances students may opt to take up to 29 hours in the interdisciplinary core and 15 hours in the area of concentration.

**Interdisciplinary Core (23–26)**

*Issues, Methods, and Theory* (6 minimum)

HUM 200	Encountering the Humanities <i>HU</i> .....	3
HUM 498	PS: Theory and Culture .....	3
Elective.....	.....	3

*Local and Global Cultures* (11)

HUM 301, 302	Humanities in the Western World <i>L1/HU, H</i> .....	8
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One approved upper-division course on the cultures and traditions of Latin America, Asia, or Africa.....3

*Ethnicity, Gender, and Culture* (3)

*Art and Society* (3)

**Area of Concentration (21)**

Required courses from list obtained from advisor .....21

Courses must be selected from an approved list or be approved in advance by the undergraduate advisor.

The humanities are those learned bodies of knowledge that are used to express ideas, to understand the meaning of words, and to explore the values and beliefs that underlie our culture and the cultures of others. As defined by the U.S. Congress, the humanities include archaeology, comparative religion, ethics, history, jurisprudence, literature, linguistics, philosophy, the history and criticism of the arts, and those aspects of the social sciences that employ a philosophical or historical rather than quantitative approach to knowledge.

The core courses are to be selected from architecture, art history, dance, English, history, languages and literatures, music, philosophy, religious studies, theatre, and other approved disciplines. These courses may be credited toward the General Studies requirement.

**HUMANITIES—MINOR**

Twenty semester hours are required for the minor.

**Required Courses (11)**

HUM 110	Contemporary Issues in the Humanities	HU.....	3
HUM 301	Humanities in the Western World	L1/HU, H .....	4
HUM 302	Humanities in the Western World	L1/HU, H .....	4

**Elective Courses (9)**

Approved upper-division HUM courses ..21

**GRADUATE PROGRAM**

The program also offers the Master of Arts degree in Humanities through the Graduate Committee on Humanities. Consult the *Graduate Catalog* for requirements.

**HUMANITIES****HUM 110 Contemporary Issues in Humanities.** (3) F, S

Responses of literature, art history, history, philosophy, religion, and other disciplines to common problems affecting modern American life. *General Studies: HU.*

**194 Special Topics in the Humanities.** (3) N Open to all students. Topics include

- American Fine Arts
- Comparative Fine and Performing Arts
- Cultures of Ethnic Minorities
- Non-Western Cultures
- Western Historical or Contemporary Cultures

**200 Encountering the Humanities.** (3) S

Introduction to the languages, methods, and objectives of the study of the interdisciplinary humanities. Intersections of ideas, values, and cultural institutions. Lecture, studio, workshop. Prerequisite: Humanities major. *General Studies: HU.*

**294 Special Topics in the Humanities.** (3) N Open to all students. Topics include

- American Fine Arts
- Comparative Fine and Performing Arts
- Cultures of Ethnic Minorities
- Non-Western Cultures
- Western Historical or Contemporary Cultures

**301 Humanities in the Western World.** (4) F Interrelation of arts and ideas in Western Civilization, Hellenic through medieval. 3 hours lecture, 1 discussion meeting per week. *General Studies: L1/HU, H.*

**302 Humanities in the Western World.** (4) S Interrelation of arts and ideas in Western Civilization, Renaissance to the present. 3 hours lecture, 1 discussion meeting per week. *General Studies: L1/HU, H.*

**310 Japanese Cities and Cultures to 1800.**

(3) S Relations among ideas and literary, visual, and performing arts of the ancient aristocracy, medieval samurai, and early modern townspeople. Cross-listed as REL 355.

**312 Interpreting China's Classics.** (3) F Study of select Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. Cross-listed as HIS 312.

**320 Hispanic Cultures: Europe and the Americas.** (3) F

Examination of European expansion into the Americas from 15th to 20th centuries with focus on cultural contact, conflict, and compromises.

**340 Contemporary American Film and Popular Culture.** (3) F

Study of American film, television, and popular music of past three decades as cultural documents.

**394 Special Topics in the Humanities.** (3) N

- Open to all students. Topics include
- American Fine Arts
  - Comparative Fine and Performing Arts
  - Cultures of Ethnic Minorities
  - Non-Western Cultures
  - Western Historical or Contemporary Cultures

**413 Comedy: Meaning and Form.** (3) S

Nature and characteristics of comedy in the literary, fine, and performing arts. Prerequisites: HUM 301 and 302 or equivalents. *General Studies: HU.*

**414 Tragedy: Meaning and Form.** (3) A

Nature and characteristics of literary and artistic expressions called tragic. Prerequisites: HUM 301 and 302 or equivalents. *General Studies: HU.*

**420 Interpreting Latin America.** (3) S

Introduction to protocols and methodologies for cultural interpretation of Latin America, with emphasis on four principal cities as cultural space.

**440 Los Angeles and Cultural Theory.** (3) S Analysis of representations of Los Angeles in literary, film, and musical texts and broader implications for contemporary American society.

**450 Technology and Culture.** (3) S

Explores sociocultural, ideological, postmodern implications of technology and the role technology plays in social constructions as well as the spaces it creates. Seminar discussion.

**460 Postmodern Culture and Interpretation.** (3) F

Currents and interpretations of postmodern culture; international, comparative perspective on the culture and traditions of contemporary "Europes" and "Americas." Seminar discussion.

**462 Psychoanalysis and Culture.** (3) F

Introduction to intellectual history of psychoanalytic movement of twentieth century and its contribution to humanities disciplines.

**465 Narrative in the Human Sciences.** (3) F

Theories of narrative and narrativity in the Humanities, concentrating on the problems of specific disciplines and interdisciplinary solutions.

**494 Special Topics in the Humanities.** (3) N

- Open to all students. Topics include
- American Fine Arts
  - Comparative Fine and Performing Arts
  - Cultures of Ethnic Minorities
  - Non-Western Cultures
  - Western Historical or Contemporary Cultures

**498 Pro-Seminar in the Humanities.** (3) A

Methodologies and comparative theories for the study of relationships between various aspects of culture, the history of ideas, and the arts. For students with a major in humanities with upper-division standing. May be repeated for a total of 6 semester hours, when topics vary.

**511 Structures of Knowledge.** (3) F

Theories and examples of structures of knowledge, including such topics as metaphor, semiotics, and knowledge of the "other."

**512 Writing Cultures.** (3) S

Theories and methods of representing Western and non-Western cultures in literature, history, ethnography, and pictorial media.

**513 Interpretation of Cultures.** (3) A

Methodologies and comparative theories for the study of relationships between various aspects of culture, the history of ideas, and the arts. May be repeated for a total of 6 semester hours, when topics vary.

**549 Contemporary Critical Theory.** (3) F

An advanced survey of major schools of 20th-century literary and critical theory. Lecture, discussion. Cross-listed as ENG 502.

**591 Seminar.** (3) A

- Topics include
- Comedy: Meaning and Form
  - Theory and Culture
  - Tragedy: Meaning and Form

**598 Special Topics in the Humanities.** (3) N

- Open to all students. Topics include
- American Fine Arts
  - Comparative Fine and Performing Arts
  - Cultures of Ethnic Minorities
  - Non-Western Cultures
  - Western Historical or Contemporary Cultures



## Department of Languages and Literatures

**Pier Raimondo Baldini**  
*Chair*  
(LL B404) 602/965-6281

### REGENTS' PROFESSORS

D. FOSTER, KELLER

### PROFESSORS

ALARCON, ALEXANDER, BALDINI,  
COUCH, CROFT, CURRAN,  
EKMANIS, FLYS, HORWATH, LOSSE,  
VALDIVIESO, VOLEK, WETSEL,  
WIXTED, T. WONG

### ASSOCIATE PROFESSORS

BALLON-AGUIRRE, CARVER,  
COTA-CARDENAS, GUNTERMANN,  
W. HENDRICKSON, LAFFORD,  
REIMAN, SENNER, WILLIAMS

### ASSISTANT PROFESSORS

BOLIVAR, BURTON, CANDELA,  
GALINDO, GARCIA-FERNANDEZ,  
GRUZINSKA, HERNANDEZ-G.,  
JULIEN, MARSHALL, OSSIPOV,  
SANCHEZ, SUWARNO, TIPTON,  
URIOSTE, VITULLO

### INSTRUCTORS

BERNIER, FERRARRA, GOODMAN,  
HABERMAN, KORET, LARSON,  
MORGAN, TU

### LECTURERS

FOARD, S. HENDRICKSON,  
McMILLIAN

### PROFESSORS EMERITI

ACEVEDO, CARLSON, GROBE,  
KNOWLTON, LAETZ, LANDEIRA,  
LOWE, LUENOW, MARTINEZ, RADKE,  
SCHUBACK, SHEPPARD, VIRGILLO,  
VON DER HEYDT, WILSON,  
WIRTZ, WOLLAM

### BACHELOR OF ARTS DEGREE

The department offers majors in Asian Languages (Chinese/Japanese), French, German, Italian, Russian, and Spanish. Each major consists of 45 semester hours, of which 30 must be in one language and 15 in a second language or in closely related fields to be approved by the advisor in consultation with the student. Of the 30 hours re-

quired for the major, a minimum of 24 hours must be taken at the 300 or 400 level and must include at least nine hours at the 400 level. Specific required courses for each major area are listed below and in a brochure available in the department. See "Degree Requirements," page 107.

### MAJORS

#### Asian Languages (Chinese/Japanese)

Students majoring in Asian Languages (Chinese/Japanese) may select a course of study that focuses on either language.

**Chinese.** The major requires 45 semester hours. At least nine semester hours must be at the 400 level. In addition to the courses shown below, the student must meet with an advisor and choose at least six semester hours of Japanese language or literature courses (JPN), and appropriate courses in art, humanities, social and behavioral science, and business courses.

#### Recommended Courses (6)

CHI 101, 102	Elementary Chinese...	10
CHI 201, 202	Intermediate Chinese G .....	10
CHI 205	Chinese Calligraphy .....	1

#### Required Courses (18)

CHI 313, 314	Advanced Chinese G .....	6
CHI 321	Chinese Literature HU.....	3
CHI 322	Chinese Literature HU, G.....	3
	or FLA 420 Foreign Literature in Translation HU, G (6)	
CHI 413, 414	Introduction to Classical Chinese HU..	6

#### Electives (6)

CHI 309, 310	Chinese Conversation G.....	4
CHI 311, 312	Chinese Conversation G.....	4
CHI 494	Special Topics* .....	1-4
CHI 499	Independent Study*.....	1-3

\*See the *Schedule of Classes* for course titles.

**Japanese.** The major requires 45 semester hours. At least nine semester hours must be taken from JPN 321, 414 and FLA 421. No more than eight semester hours may be selected from JPN 309, 310, 311, 312. In addition to the

courses shown below, the student must meet with an advisor and choose at least 6 semester hours of Chinese language or literature courses (CHI), and appropriate courses in art, humanities, social and behavioral science, and business courses.

#### Recommended Courses (6)

JPN 101, 102	Elementary Japanese.....	10
JPN 201, 202	Intermediate Japanese G.....	10
JPN 206	Calligraphy .....	1

#### Required Courses (15)

FLA 421	Japanese Literature in Translation* L2/HU, G.....	3
JPN 313, 314	Advanced Japanese G.....	6
JPN 321	Japanese Literature* L2/HU, G.....	3
JPN 414	Introduction to Classical Japanese HU.....	3

\*May be repeated for credit.

#### Electives (6)

JPN 309, 310	Intermediate Japanese Conversation G.....	4
JPN 311, 312	Intermediate Japanese Conversation G.....	4
JPN 494	Special Topics* .....	1-4
JPN 499	Independent Study*.....	1-3

\*May be repeated for credit.

### French

Required courses are described below.

#### Required Courses (18)

FRE 200-level courses.....	6	
FRE 311	French Conversation G.....	3
FRE 312	French Composition G .....	3
FRE 321	French Literature L2/HU, H ..	3
FRE 322	French Literature L2/HU.....	3

Select twelve semester hours from the following list including at least nine semester hours from the 400 level:

FRE 315	French Phonetics .....	3
FRE 319	Business Correspondence and Communication G .....	3
FRE 411	Advanced Spoken French G.....	3
FRE 412	Advanced Written French G.....	3
FRE 415	French Civilization I HU.....	3
FRE 416	French Civilization II HU, G .....	3
FRE 422	Applied French Linguistics HU, H .....	3
FRE 423	French Syntax.....	3

FRE	441	French Literature of the 17th Century <i>HU</i> .....	3
FRE	442	French Literature of the 17th Century <i>HU, H</i> .....	3
FRE	445	French Literature of the 18th Century <i>L2/HU</i> .....	3
FRE	451	French Poetry of the 19th Century.....	3
FRE	452	French Novel of the 19th Century <i>HU</i> .....	3
FRE	453	Theater of the 19th Century...3	
FRE	461	Preatomic Literature <i>HU</i> .....	3
FRE	462	Postatomic Literature <i>HU</i> .....	3
FRE	471	The Literature of Francophone Africa and the Caribbean <i>L2/HU</i> .....	3
FRE	472	Franco-Canadian Civilization .....	3
FRE	494	Special Topics .....	1-4
FRE	499	Independent Study.....	1-3

In addition to the courses shown above, the student must meet with an advisor and choose at least 15 semester hours of courses from appropriate social and behavioral science, humanities, business courses, and other language courses.

### German

Required courses are described below.

#### Required Courses (18)

		German 200-level courses .....	6
GER	311	German Conversation <i>G</i> .....	3
		or GER 312 German Conversation <i>G</i> (3)	
GER	313	German Composition <i>G</i> .....	3
GER	411, 412	Advanced Grammar and Conversation <i>G</i> ....	6
GER	421	German Literature <i>HU</i> .....	3
GER	422	German Literature <i>L2/HU</i> ....	3

Six semester hours are required from the following courses:

GER	415, 416	German Civilization <i>HU, H</i> .....	6
GER	445	German Literature: Enlightenment to Classicism.....	3
GER	451	German Literature: Biedermeier to Naturalism ....	3
GER	494	Special Topics .....	1-4

#### Electives (6)

GER	303, 304	Scientific German.....	6
GER	314	Introduction to German Literature .....	3
GER	319	Business Correspondence and Communication <i>G</i> .....	3
GER	394	Special Topics .....	1-4
GER	494	Special Topics .....	1-4

In addition to the courses shown above, the student must meet with an advisor and choose at least 15 semester hours of courses from appropriate social and behavioral science, humanities,

business courses, and other language courses.

### Italian

Required courses are described below.

#### Required Courses (15)

ITA	200-level courses.....	6	
ITA	311, 312	Italian Composition and Conversation <i>G</i> ....	6
ITA	325	Introduction to Italian Literature <i>HU</i> .....	3

Fifteen semester hours are required from the following list including at least nine semester hours from the 400 level:

ITA	314	Advanced Italian <i>G</i> .....	3
ITA	415	Italian Civilization <i>L2/HU, G</i> .....	3
ITA	430	Italian Literature of the Middle Ages <i>HU</i> .....	3
ITA	441	Dante: <i>Divina Commedia L2/HU</i> .....	3
ITA	443	Italian Literature of the Renaissance <i>HU, H</i> .....	3
ITA	446	Italian Literature of the 18th and 19th Century <i>HU</i> ....	3
ITA	449	20th-Century Italian Literature <i>HU, G</i> .....	3
ITA	494	Special Topics .....	1-4
ITA	499	Independent Study.....	1-3

In addition to the courses shown above, the student must meet with an advisor and choose at least 15 semester hours of courses from appropriate social and behavioral science, humanities, business courses, and other language courses.

### Russian

Required courses are described below.

#### Required Courses (15)

RUS	211, 212	Basic Russian Conversation <i>G</i> .....	6
RUS	311, 312	Russian Composition and Conversation <i>G</i> ....	6
RUS	411	Advanced Composition and Conversation I <i>G</i> .....	3
		or RUS 412 Advanced Composition and Conversation II <i>G</i> (3)	

Fifteen semester hours are required from the following list including at least six semester hours from the 400 level:

RUS	303, 304	Scientific Russian.....	6
RUS	321	Survey of Russian Literature <i>L2/HU, H</i> .....	2
RUS	322	Survey of Russian Literature <i>L2/HU</i> .....	2
RUS	323	Survey of Literature of the Soviet Era <i>L2/HU, G</i> .....	3
RUS	411	Advanced Composition and Conversation I <i>G</i> .....	3

RUS	412	Advanced Composition and Conversation II <i>G</i> .....	3
RUS	417	Applied Russian Phonetics I .2	
RUS	418	Applied Russian Phonetics II.....	2
RUS	420	Russian Poetry <i>L2/HU</i> .....	3
RUS	421	Pushkin <i>L2/HU</i> .....	3
RUS	423	Dostoyevsky <i>L2/HU</i> .....	3
RUS	424	Tolstoy <i>L2/HU</i> .....	3
RUS	425	Chekhov <i>L2/HU</i> .....	3
RUS	426	Literatures of the Nationalities of the Former Soviet Union <i>L2/HU, G</i> .....	3
RUS	430	Russian Short Story <i>L2/HU</i> ...	3
RUS	440	History of the Russian Language .....	3
RUS	441	Survey of Russian Culture <i>HU, G/H</i> .....	3
RUS	494	Special Topics .....	1-4
RUS	499	Independent Study.....	1-3

In addition to the courses shown above, the student must meet with an advisor and choose at least 15 semester hours of courses from appropriate social and behavioral science, humanities, business courses, and other language courses.

### Spanish

Required courses are described below.

#### Required Courses (15)

SPA	313	Spanish Conversation and Composition <i>G</i> .....	3
		or SPA 315 Spanish Conversation and Composition for Bilinguals (3)	
SPA	314	Spanish Conversation and Composition <i>G</i> .....	3
		or SPA 316 Spanish Conversation and Composition for Bilinguals (3)	
SPA	325	Introduction to Hispanic Literature <i>HU</i> .....	3
SPA	412	Advanced Conversation and Composition <i>G</i> .....	3
SPA	425	Spanish Literature <i>HU</i> .....	3

Six semester hours from the following three courses:

SPA	426	Spanish Literature <i>HU</i> .....	3
SPA	427	Spanish-American Literature <i>L2</i> .....	3
SPA	428	Spanish-American Literature .....	3

Select three semester hours from the following three courses:

SPA	471	Civilization of the Spanish Southwest <i>HU</i> .....	3
SPA	472	Spanish-American Civilization <i>HU, G/H</i> .....	3
SPA	473	Spanish Civilization <i>HU/SB, G</i> .....	3

<b>Electives (6)</b>	
SPA courses.....	6

**Related Fields**

POR 101 Elementary Portuguese.....	5
POR 201 Intermediate Portuguese G ....	5

In addition to the courses shown above, the student must meet with an advisor and choose at least six semester hours of courses from appropriate social and behavioral science, humanities, business courses, and other language courses.

**MINORS**

Each minor in Asian Languages (Chinese/Japanese), French, German, Italian, Russian, and Spanish consists of 18 hours, of which 12 hours must be in the upper division. Specific required courses for each area are listed below and in a brochure in the department.

**Chinese**

The minor in Chinese requires 18 semester hours of course work, including 12 semester hours of upper-division courses. Chinese 313 and 314 Advanced Chinese (6) are required. Consult with an advisor for other courses.

**German**

The minor in German requires 18 semester hours, including 12 upper-division semester hours. GER 311 or 312 German Conversation (3), GER 313 German Composition (3), one 400-level German course, and any other upper-division course in German are required. Consultation with an advisor in German is recommended.

**Italian**

The minor in Italian requires 18 semester hours of course work, including 12 semester hours of upper-division courses. ITA 311 or 312 Italian Composition and Conversation (3), ITA 325 Introduction to Italian Literature (3), and at least one 400-level ITA course are required. Students are encouraged to meet with a department advisor.

**Japanese**

The minor in Japanese requires 18 semester hours of course work, including 12 semester hours of upper-division courses. Japanese 313 and 314 Advanced Japanese (6) are required. Consult with an advisor for other courses.

**CERTIFICATES AND EMPHASES**

**Asian Studies Emphasis.** Foreign language students majoring in Asian Languages (Chinese/Japanese) may elect to pursue an Asian Studies emphasis combining courses from the major with selected outside courses of wholly Asian content. See “Asian Studies,” pages 110–111, for more information.

**Latin American Studies Emphasis.** Foreign language students majoring in Spanish may elect to pursue a Latin American Studies emphasis combining courses from the major with selected outside courses of wholly Latin American content. See “Latin American Studies,” page 111, for more information.

**Mexican American Studies Emphasis.** The emphasis in Mexican American studies consists of 45 semester hours, of which 30 hours must be in Spanish (to include SPA 421, 464, and 471) and 15 hours in Mexican American content courses as related fields. Fulfillment of requirements is recognized on the transcript as a major in Spanish—Mexican American studies emphasis.

**Russian and East European Studies.** Any undergraduate major can earn a Certificate in Russian and East European Studies by successfully completing one of the options mentioned in the section on “Russian and East European Studies,” pages 111–112.

**Southeast Asian Studies Emphasis.** To earn a certificate in Southeast Asian Studies, a student must complete a minimum of 40 semester hours of course work related to Southeast Asia, including two years (20 semester hours) of a Southeast Asian language. See “Southeast Asian Studies,” page 112, for more information.

**SECONDARY EDUCATION—  
B.A.E.**

**Chinese, French, German, Japanese, Russian, and Spanish.** Each of the major teaching fields in Chinese, French, German, Japanese, Russian, and Spanish consists of 45 semester hours, of which 30 must be in one lan-

guage and 15 in a second language or in closely related fields to be approved by the advisor in consultation with the student. Of the 30 hours required for the academic specialization, a minimum of 24 hours must be taken at the 300 or 400 level and must include at least nine hours at the 400 level. Specific required courses for each major area are listed in curriculum check sheets of the individual language areas and are available in the department.

The minor teaching field consists of a minimum of 24 semester hours in one foreign language, of which at least 18 hours must be taken at the 300 or 400 level. See individual language area curriculum check sheets for required courses in each minor area.

**GRADUATE PROGRAMS**

The Department of Languages and Literatures offers programs leading to the Master of Arts degree in French, German, and Spanish and the Doctor of Philosophy degree in Spanish. Consult the *Graduate Catalog* for requirements.

**FOREIGN LANGUAGES FOR  
INTERNATIONAL PROFESSIONS**

The sequence of two semesters, listed under numbers 107 and 207 in two languages (French and Spanish), integrates an accelerated study, a functional approach to course design, and preparation for international professions (e.g., business, diplomacy, international political economy). It is parallel to the traditional sequence of 101 through 202 and also satisfies the college’s foreign language requirement. The sequence differs from traditional basic language programs in that all aspects of the language—vocabulary, grammar, and skill development—are practiced within the context of authentic communication for social and professional purposes in the target culture. Classes meet eight hours weekly, for eight semester hours in each of two semesters.

Students who have had success in learning one foreign language are encouraged to join this program in a second language. Students should contact the Department of Languages and Literatures before registration.

## CERTIFICATE PROGRAM IN TRANSLATION

The Certificate Program in Translation is designed to provide the advanced training required for professional translation in both public and private sectors, preparation for the rigorous examinations required by national and international agencies, and training as an ancillary skill for professional fields, such as international business, public health and medicine, and law, in accordance with guidelines recommended by the American Translators' Association. The certificate is a nondegree program consisting of 15 semester hours of course work and two hours of in-service practicum primarily into the receptor language of English from the source languages of French and Spanish. It may be taken simultaneously with course work leading to an undergraduate or graduate degree, as a related area sequence, or as the sole program of study for members of the community who meet the admission requirements of the certificate program but who are not enrolled in a degree program. A complete brochure is available at the Department of Languages and Literatures, LL B404.

**Admission Requirements.** Since entrance to professional translation is through work, cultural experience, and examination, the two entrance requirements to this certificate program are (1) written proficiency examination in the source and the receptor languages at the level of completion of the fourth year or most advanced composition course in French or Spanish, which at ASU are FRE 412 and SPA 412 and (2) either an academic year at a university in a French-speaking or Spanish-speaking country, an extensive work experience using French or Spanish, or demonstrated bilingual facility, both written and oral, in English and either French or Spanish.

**Certificate Requirements.** The certificate program consists of the following required courses:

FLA 400	Linguistics <i>SB</i> .....	3
FLA 401	Translation Theory and Practice .....	3

Also required are nine hours of applied translation electives in specialized areas:

FLA 481	Technical and Scientific Translation.....	3
FLA 482	Business and Financial Translation.....	3
FLA 483	Medical and Legal Translation.....	3
FLA 485	Problems of Literary Translation.....	3

Also required are two hours of in-service practicum (FLA 484).

## FOREIGN LANGUAGE REQUIREMENT

The College of Liberal Arts and Sciences requires knowledge of one foreign language equivalent to the completion of two years' study at the college level. This normally includes a sequence of courses numbered 101 and 102 and 201 and 202 *or* 107 and 207. For important exceptions in Greek, Latin, and Portuguese, see the statement at the head of respective course descriptions.

## FOREIGN LANGUAGE PLACEMENT

Students who transfer from other postsecondary institutions with foreign language credits below the 202 level are placed in a course at the level directly above the work completed.

Students who have completed their secondary education at a school in which the language of instruction was not English are considered to have satisfied the foreign language requirement. Certification of this status is made at the time of admission to ASU. Questions should be addressed to the foreign credentials evaluator at Undergraduate Admissions.

The foreign language requirement can be met in languages not taught at ASU either by transferring credit from another institution or by passing a proficiency examination. When possible, the Department of Languages and Literatures recommends to the college an appropriate source for such examinations and proctors them. Grading is done by the institution that provides the examination, and the student pays any costs incurred. The examination can be used only to demonstrate proficiency; it does not produce semester hours of credit.

Students desiring placement above the 101-level course in French, German, or Spanish should take the place-

ment exam for that language in the Computer Language Laboratory, LL A33.

Ordinarily, no placement or proficiency examination is administered to students who wish to continue studying languages for which high school credits have been earned. Students should be guided by the following principles of equivalency: (1) One unit (one academic year) of high school-level study is considered, for placement purposes only, to equal one semester of study of the same language at the university level. Thus, students with one year of high school study would enroll in the second semester course (102); students with two years of high school study, in the third semester course (201), and so on. (2) Students who feel that their high school language preparation was inadequate may choose to place themselves on a lower level, but not lower than 111 with two or three years of high school study and 201 with four years of high school study.

Students with prior knowledge of a language may meet the college foreign language requirement in any one of the following ways:

1. by satisfactory results in a non-repeatable college-approved proficiency examination;
2. by achieving a grade of at least "C" in the last course of the required sequence; or
3. by achieving a grade of at least "C" in a course at the next higher level.

Students are expected to follow the progressive sequence of 100, 200, and 300. Once a grade of "C" or better is earned in a 300-level class in a language, students may not earn lower-division credit in that language.

First-year foreign language courses taught by the Department of Languages and Literatures are not open to students who have spent one or more years in a country where that language is the predominant language. Individual language areas may have different policies. Students with questions about this policy should check with the appropriate language coordinator in the department.

If college transfers are uncertain about course equivalencies, they should contact the Department of Languages and Literatures.

## LANGUAGE LABORATORY REQUIREMENT

All students enrolled in 101, 102, 201, and 202 language courses are expected to spend a minimum of one hour per week in the language laboratory or in other assigned audiolingual tape exercises in addition to the regular class periods.

## FOREIGN LANGUAGES

### FLA 150 Introduction to East Asian Culture. (3) S

An introduction to the cultures of China, Japan, and Korea. *General Studies: HU, G.*

### 323 Survey of Literature of the Soviet Era in Translation. (3) F, S

Survey main literary movements, prominent authors, most significant works of prose, poetry, and drama of the Soviet period, 1917–1991. *General Studies: HU.*

### 400 Linguistics. (3) S

Surveys major theories of current linguistic study and explores their application to specific issues of English, the Romance Languages, and language teaching. Open to sophomores and juniors with instructor approval. *General Studies: SB.*

### 401 Translation Theory and Practice. (3) N

Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. Prerequisite: 4th-year composition or instructor approval in respective language area.

### 415 Bilingualism and Languages in Contact. (3) F

Analysis of linguistic aspects of bilingualism, e.g., pidgins and creoles, code-switching, and other contact phenomena; simultaneous/sequential bilingual language acquisition. Prerequisite: FLA 400 or equivalent or instructor approval. *General Studies: SB.*

### 420 Foreign Literature in Translation. (3) F, S

Topics may be chosen from the following:

- (a) Brazilian
- (b) Chinese
- (c) French
- (d) German
- (e) Greek
- (f) Italian
- (g) Latin
- (h) Portuguese
- (i) Russian
- (j) Soviet
- (k) Spanish
- (l) Spanish-American

Not for language majors (except in Asian languages and Russian); open to language majors as a related-area course. Graduate students by permission. *General Studies: HU, G.*

### 421 Japanese Literature in Translation. (3) F, S

Readings selected by theme or genre or period from various works of Japanese literature in English translation. May be repeated as

topic changes. Graduate students by permission. Prerequisite: a course that satisfies the L1 general studies requirement. *General Studies: L2/HU, G.*

### 425 Cultural Heritage. (3) F, SS

Aspects of political, intellectual, social, and artistic development of a foreign culture. Not for language majors except as a related-area course. Graduate students by permission.

### 480 Methods of Teaching Foreign Languages. (3) F

Teaching foreign languages and literatures at secondary and college levels. This course does not meet the Liberal Arts and Sciences general studies requirement for humanities and fine arts. Required for admission to SED 478. Prerequisite: 12 hours of upper-division courses in 1 foreign language.

### 481 Technical and Scientific Translation. (3) N

Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. Prerequisite: FLA 401.

### 482 Business and Financial Translation. (3) N

Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. Prerequisite: FLA 401.

### 483 Medical and Legal Translation. (3) N

Resources and strategies for translation of professional texts in subjects such as medicine, nursing, public health, criminal justice, and international law. May be repeated for a total of 6 semester hours. Prerequisite: FLA 401.

### 485 Problems of Literary Translation. (3) N

Theory and practice with emphasis on application through individual translation projects. May be repeated for a total of 6 semester hours. Prerequisite: FLA 401 or instructor approval in the respective language area.

### 515 Second Language Acquisition. (3) S

Description and analysis of second language acquisition and learning simultaneously or sequentially in natural and artificial settings. Prerequisite: FLA 400 or equivalent or instructor approval.

### 525 Trends and Issues in Foreign Language Teaching. (3) N

Advanced methods seminar, designed for experienced teachers.

## CHINESE

### CHI 101 Elementary Chinese. (5) F

Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills. Standard dialect. 5 class hours.

### 102 Elementary Chinese. (5) S

See CHI 101. Prerequisite: CHI 101 or equivalent.

### 107 Chinese for International Professions I. (10) F

Accelerated program alternative to CHI 101, 102 sequence. Functional approach to needs of international professions. 10 class hours.

### 201 Intermediate Chinese. (5) F

Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. 5 class hours. Prerequisite: CHI 102 or equivalent. *General Studies: G.*

### 202 Intermediate Chinese. (5) S

See CHI 201. Prerequisite: CHI 201 or equivalent. *General Studies: G.*

### 205 Chinese Calligraphy. (1) F, S

An introduction to styles and techniques of Chinese writing. Knowledge of Chinese or Japanese is not required.

### 207 Chinese for International Professions II. (10) S

Continuation of CHI 107, alternative to CHI 201, 202 sequence. Expansion of communicative proficiency in specific areas of international professions. 10 class hours. Prerequisite: CHI 107 or instructor approval. *General Studies: G.*

### 309 Chinese Conversation. (2) F

Aural/oral drills using contemporary stories, articles, and essays. For students with lower-level proficiency. Prerequisite: CHI 202. *General Studies: G.*

### 310 Chinese Conversation. (2) S

See CHI 309. Prerequisite: CHI 202. *General Studies: G.*

### 311 Chinese Conversation. (2) F

Intensive aural/oral practice in Modern Chinese. For students who have lived in China or a Chinese-speaking environment. Discussion, drill. Prerequisite: CHI 202. *General Studies: G.*

### 312 Chinese Conversation. (2) S

*Effective through fall 1996.* See CHI 309. Prerequisite: CHI 202. *General Studies: G.*

### 312 Chinese Conversation. (2) S

*Effective starting spring 1997.* See CHI 311. Discussion, drill. Prerequisite: CHI 202. *General Studies: G.*

### 313 Advanced Chinese. (3) F

The modern language in general or specific areas depending on the student's needs or interests. 3 hours lecture, arranged lab. Prerequisite: CHI 202 or equivalent. *General Studies: G.*

### 314 Advanced Chinese. (3) S

Continuation of CHI 313. Prerequisite: CHI 313. *General Studies: G.*

### 321 Chinese Literature. (3) F

Masterworks of the tradition from the 6th century B.C.E. through the 13th century. Readings, lectures, and examinations are in English. *General Studies: HU.*

### 322 Chinese Literature. (3) S

*Effective through fall 1996.* Selected representative works of the various genres and periods. Prerequisite: CHI 202 or instructor approval. *General Studies: HU, G.*

### 322 Chinese Literature. (3) S

*Effective starting spring 1997.* Masterpieces from the later tradition and its transition to modern times. Readings, lectures, and examinations are in English. *General Studies: HU, G.*

**413 Introduction to Classical Chinese.** (3) F Reading in various genres of pre-20th century literature (wen-yen), with analysis of the structure of the classical writings. Prerequisite: CHI 314 or instructor approval. *General Studies:* HU.

**414 Introduction to Classical Chinese.** (3) S Continuation of CHI 413. Prerequisite: CHI 413. *General Studies:* HU.

**500 Bibliography and Research Methods.** (3) N Introduction to research materials on China in Chinese, Japanese, and Western languages. Overview of research methods. Lecture, discussion.

**514 Advanced Classical Chinese.** (3) N Close readings in selected premodern texts, with focus on special grammatical features, and increased vocabulary. Lecture, discussion.

**520 Teaching of Chinese as a Second Language.** (3) N Theory and practice of teaching Chinese, including presentation, interaction, and evaluation, with consideration given to cultural factors. Lecture, discussion.

**535 Advanced Readings.** (3) N Readings in primary and secondary sources in history, art, religious studies, economics, or other fields. Lecture, discussion.

**543 Chinese Language and Linguistics.** (3) F Analysis and discussion, within the framework of linguistic theory, of selected problems in Chinese phonetics, morphology, and syntax. Lecture, discussion.

**585 Problems of Translation.** (3) N Theories and practice of translation: strategies for handling a variety of Chinese texts. Lecture, discussion.

**591 Seminar.** (3) N Topics in literary, linguistic, or cultural studies.

## FRENCH

**FRE 101 Elementary French.** (4) F, S, SS Intensive aural/oral drill in class and laboratory; basic grammar supplemented by simple prose readings. 4 hours lecture, 1 hour lab. Not open to students with credit in FRE 111.

**102 Elementary French.** (4) F, S, SS See FRE 101. Prerequisite: FRE 101 or equivalent.

**107 French for International Professions I.** (8) F Accelerated alternative to FRE 101, 102. Functional approach. Emphasis on speaking, understanding, writing, and reading for communicative competence for international professions.

**111 Fundamentals of French.** (4) F, S Primarily for students with two years of high school French who need review to enter second year study. Not open to students with credit in FRE 101 or 102. 4 hours lecture, 1 hour lab.

**201 Intermediate French I.** (4) F, S, SS Grammar review, with emphasis on development of skills of speaking, reading, writing, and listening comprehension. Four hours lecture; 1 hour lab. Prerequisite: FRE 102 or 111 or equivalent. *General Studies:* G.

**202 Intermediate French II.** (4) F, S, SS Continuation of grammar review with emphasis on development of skills in speaking, reading, writing, and listening comprehension. 4 hours lecture, 1 hour lab. Prerequisite: FRE 201 or equivalent. *General Studies:* G.

**205 Readings in French Literature.** (3) F, S, SS Designed to teach reading with facility and comprehension. Vocabulary building and textual analysis of literary genres are major elements. Prerequisite: FRE 202 or equivalent. *General Studies:* G.

**207 French for International Professions II.** (8) S Continuation of FRE 107, alternative to FRE 201, 202 sequence. Expansion of communicative proficiency in specific areas of international professions. Prerequisite: FRE 107 or instructor approval. *General Studies:* G.

**311 French Conversation.** (3) F, S Further practice in speaking French, emphasizing current usage and promoting facility in the expression of ideas. Prerequisite: 8 hours of 200-level French or equivalent. *General Studies:* G.

**312 French Composition.** (3) F, S Further practice in writing French, emphasizing current usage and promoting facility in the expression of ideas. Prerequisite: 8 hours of 200-level French or equivalent. *General Studies:* G.

**315 French Phonetics.** (3) F Practice and theory of French pronunciation. Emphasis is on standard French, although an overview of regional varieties is offered. Lecture and lab. Prerequisite: FRE 311 or equivalent.

**319 Business Correspondence and Communication.** (3) S Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. Prerequisite: FRE 312 or instructor approval. *General Studies:* G.

**321 French Literature.** (3) F, S Representative masterpieces and significant movements of French literature of the middle ages through the 18th century. Prerequisite: FRE 205 or equivalent. *General Studies:* L2/HU, H.

**322 French Literature.** (3) F, S Literature of the 19th and 20th centuries. Prerequisite: FRE 205 or equivalent. *General Studies:* L2/HU.

**411 Advanced Spoken French.** (3) F, S Improvement of spoken French. Prerequisites: 9 hours of 300-level French, including FRE 311 or equivalents. *General Studies:* G.

**412 Advanced Written French.** (3) F, S Improvement of composition skills. Prerequisites: 9 hours of 300-level French, including FRE 312 or equivalents. *General Studies:* G.

**415 French Civilization I.** (3) F Political, intellectual, social, economic, and artistic development of France from its origins to the end of the 17th century. Prerequisite: 6 hours of upper-division French. *General Studies:* HU.

**416 French Civilization II.** (3) S Political, intellectual, social, economic, and artistic development of France from the 18th century to present. Prerequisite: 6 hours of upper-division French. *General Studies:* HU, G.

**421 Structure of French.** (3) F Phonology, morphology, syntax, semantics, and varieties of French. Prerequisites: FRE 311 and 312 or instructor approval.

**422 Applied French Linguistics.** (3) S Application of linguistic theory and second language acquisition theory to teaching of French. Prerequisite: ASB 480 or ENG 213 or FLA 400.

**423 French Syntax.** (3) F The analysis of French syntactic structure by contemporary theoretical models. Prerequisite: ASB 480 or ENG 213 or FLA 400.

**424 French Phonology.** (3) S Introduction to phonological theory and its application to French. Prerequisites: FRE 311 and 312 or instructor approval.

**441 French Literature of the 17th Century.** (3) N From 1600 to 1660. Prerequisite: 9 hours of 300-level French, including FRE 321, or instructor approval. *General Studies:* HU.

**442 French Literature of the 17th Century.** (3) N From 1660 to 1700. Prerequisite: 9 hours of 300-level French, including FRE 321, or instructor approval. *General Studies:* HU, H.

**445 French Literature of the 18th Century.** (3) N Contributions of the philosophers and the development of the novel and drama. Prerequisite: 9 hours of 300-level French, including FRE 321, or instructor approval. *General Studies:* L2/HU.

**451 French Poetry of the 19th Century.** (3) N From Romanticism to Parnassian poetry to Symbolism. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval.

**452 French Novel of the 19th Century.** (3) N From Constant, Hugo, Balzac, Stendhal, and Sand to Flaubert and Zola, with emphasis on major literary movements. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval. *General Studies:* HU.

**453 Theater of the 19th Century.** (3) N From Romantic drama to the Symbolist Theater. Representative plays of Hugo, Musset, Vigny, Dumas, Becque, Rostand, Feydeau, and Mirbeau. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval.

**461 Preatomic Literature.** (3) F Representative authors from Proust and Malraux to Sartre from 1900 to 1945. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval. *General Studies:* HU.

**462 Postatomic Literature.** (3) S Representative authors including Camus, Duras, and Robbe-Grillet from 1945 to present. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval. *General Studies:* HU.

**471 The Literature of Francophone Africa and the Caribbean.** (3) N Selected prose, poetry, and drama of black authors from Africa and the Caribbean. Prerequisite: 9 hours of 300-level French, including FRE 322, or instructor approval. *General Studies:* L2/HU.

**472 Franco-Canadian Civilization.** (3) S  
A study of the civilization of Quebec in particular through its history, language, literature, music, and customs. Prerequisite: 9 hours of 300-level French or instructor approval. Cross-listed as FRE 598.

**500 Bibliography and Research Methods.** (3) F  
Required of all graduate students.

**510 Explication de Textes.** (3) N  
Detailed analysis of literary texts.

**515 Intellectual Currents in France, from the Middle Ages to the 18th Century.** (3) N  
Significant social, aesthetic, philosophic, and scientific ideas as presented by major writers of fiction and nonfiction.

**516 Intellectual Currents in France, from the 19th Century to the 20th Century.** (3) N  
See FRE 515.

**521 History of the French Language.** (3) N  
Principal phonological, morphological, and semantic developments of French from Latin to present, with emphasis on old and middle French. Some familiarity with Latin is recommended.

**531 Medieval French Literature.** (3) F  
Readings in the epics, early drama, roman courtois, and other representative literary genres of the Middle Ages.

**535 French Literature of the 16th Century.** (3) S  
Readings in French Renaissance literature with special attention to the humanist movement and to Rabelais, Montaigne, and the Pleiade.

**591 Seminar.** (3) N  
Topics may be selected from the following:  
(a) Advanced Problems in French Literature  
(b) Balzac  
(c) Corneille, Molière, and Racine  
(d) Diderot, Voltaire, and Rousseau  
(e) Flaubert  
(f) French Existentialist Literature  
(j) French Literary Criticism  
(h) Proust  
(i) Realism and Naturalism  
(j) Romanticism  
(k) Stendhal and Zola

## GERMAN

**GER 101 Elementary German.** (4) F, S, SS  
Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. 4 hours lecture, 1 hour lab. Not open to students with credit in GER 111.

**102 Elementary German.** (4) F, S, SS  
See GER 101. Prerequisite: GER 101 or equivalent.

**111 Fundamentals of German.** (4) F, S  
Primarily for students with two years of high school German who need review to enter second-year study. 4 hours lecture, 1 hour lab. Not open to students with credit in GER 101 or 102.

**201 Intermediate German.** (4) F, S, SS  
Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing.

4 hours lecture, 1 hour lab. Prerequisite: GER 102 or 111 or equivalent. *General Studies: G.*

**202 Intermediate German.** (4) F, S, SS  
See GER 201. Prerequisite: GER 201 or equivalent. *General Studies: G.*

**303 Scientific German.** (3) N  
Acquisition of a specialized vocabulary through the reading of German scientific publications. Prerequisite: GER 202 or equivalent.

**304 Scientific German.** (3) N  
See GER 303. Prerequisite: GER 202 or equivalent.

**311 German Conversation.** (3) F  
Expansion of idiom through oral practice dealing with contemporary articles, essays, and stories. 3 semester hours limit for majors. Prerequisite: GER 202 or equivalent. *General Studies: G.*

**312 German Conversation.** (3) S  
See GER 311. Prerequisite: GER 202 or equivalent. *General Studies: G.*

**313 German Composition.** (3) S  
Intensive practice in writing, emphasizing style, and grammar. Prerequisite: GER 202 or equivalent. *General Studies: G.*

**314 Introduction to German Literature.** (3) F  
Beginning study of German poetry, drama, the novel, and the *Novelle*. Prerequisite: GER 202 or equivalent.

**319 Business Correspondence and Communication.** (3) N  
Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. Prerequisite: GER 313 or instructor approval. *General Studies: G.*

**411 Advanced Grammar and Conversation.** (3) F  
Improvement of diction and idiom through intensive oral review. Prerequisite: GER 311 or 312 or equivalent. *General Studies: G.*

**412 Advanced Grammar and Composition.** (3) S  
Improvement of writing ability. Prerequisite: GER 313 or equivalent. *General Studies: G.*

**415 German Civilization.** (3) S  
Aspects of political, social, and cultural life of the German-speaking world from the beginning through 1600. Prerequisite: any 300-level course in German or instructor approval. *General Studies: HU, H.*

**416 German Civilization.** (3) F  
From 1600 through 1945. Prerequisite: any 300-level course in German or instructor approval. *General Studies: HU, H.*

**421 German Literature.** (3) F  
From the beginning to classicism. Prerequisite: 6 hours of 300-level German. *General Studies: HU.*

**422 German Literature.** (3) S  
From Romanticism to the present. Prerequisite: 6 hours of 300-level German. *General Studies: L2/HU.*

**445 German Literature: Enlightenment to Classicism.** (3) N  
Major works of the literary epochs in the century. Prerequisite: GER 421 or instructor approval.

**451 German Literature: Biedermeier to Naturalism.** (3) N  
Representative works of prose and poetry from 1820 to 1890. Prerequisite: GER 422 or instructor approval.

**461 Contemporary German Literature.** (3) S, SS  
German writers since 1945. Prerequisite: GER 422 or instructor approval.

**500 Bibliography and Research Methods.** (3) N  
Required of all graduate students.

**511 German Stylistics.** (3) N  
Art of writing literary German, comparative stylistics.

**521 History of German Language.** (3) N  
Linguistic development of German from the earliest records to the present.

**523 German Drama.** (3) N  
Drama of the 19th and 20th centuries.

**525 German Novel.** (3) N  
Special studies in the German novel.

**527 The *Novelle*.** (3) N  
Special studies in the German short story.

**531 Middle High German Language and Literature.** (3) N  
Reading and discussion of specimens of the Middle High German epics, romances, and other literary genres.

**551 Romanticism.** (3) N  
Treatment of early and late Romanticism.

**555 Modern German Literature.** (3) N  
Major works from the period of Expressionism to 1945.

**591 Seminar.** (3) N  
Special topics are concerned with a figure, theme, or work in German literature or Germanic studies. Topics may be selected from the following:  
(a) Faust  
(b) Germanic Studies  
(c) Goethe  
(d) Grass and Boll  
(e) Hesse  
(f) Kafka  
(g) Kleist  
(h) Schiller

## GREEK

*To satisfy the foreign language requirement students must take GRK 301 and 302.*

**GRK 101 Elementary Greek.** (4) F  
For beginning students only.

**201 Intermediate Greek.** (4) S  
Continuation of GRK 101. Prerequisite: GRK 101 or instructor approval.

**301 Greek Literature.** (3) F,  
Readings in the masterpieces of ancient Greek literature; advanced grammar. Authors read are changed each year in accordance with needs of the class. May be repeated for credit. Prerequisite: GRK 201 or instructor approval. *General Studies: HU.*

**302 Greek Literature.** (3) S  
See GRK 301. Prerequisite: GRK 201 or instructor approval. *General Studies: HU.*

## HEBREW

**HEB 101 Elementary Modern Hebrew.** (4) F Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. 4 hours lecture, 1 hour lab.

**102 Elementary Modern Hebrew.** (4) S Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. 4 hours lecture, 1 hour lab. Prerequisite: HEB 101 or equivalent.

**201 Intermediate Modern Hebrew.** (4) F Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. 4 hours lecture, 1 hour lab. Prerequisite: HEB 102 or equivalent.

**202 Intermediate Modern Hebrew.** (4) S Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. 4 hours lecture, 1 hour lab. Prerequisite: HEB 201 or equivalent.

**313 Advanced Modern Hebrew.** (4) F Continued development of ability to communicate orally and in writing. Reading of selected literary works. Prerequisite: HEB 202 or equivalent.

**314 Advanced Modern Hebrew.** (4) S Continued development of ability to communicate orally and in writing. Reading of selected literary works. Prerequisite: HEB 313 or equivalent.

## INDONESIAN

**IDN 101 Elementary Indonesian I.** (5) F Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. 4 hours lecture, 1 hour lab.

**102 Elementary Indonesian II.** (5) S Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. 4 hours lecture, 1 hour lab. Prerequisite: IDN 101 or equivalent.

**201 Intermediate Indonesian I.** (5) F Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. 4 lectures, 1 hour lab. Prerequisite: IDN 102 or equivalent. *General Studies: G.*

**202 Intermediate Indonesian II.** (5) S Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. 4 lectures, 1 hour lab. Prerequisite: IDN 201 or equivalent. *General Studies: G.*

## ITALIAN

**ITA 101 Elementary Italian.** (4) F, S Aural/oral drill in class and laboratory, and basic grammar supplemented by simple prose readings. 4 hours lecture, 1 hour lab.

**102 Elementary Italian.** (4) F, S See ITA 101. Prerequisite: ITA 101 or equivalent.

**201 Intermediate Italian.** (4) F, S Intensive review of the fundamentals of Italian grammatical structure to increase the student's ability in composition, translation, and

idiomatic expression. 4 hours lecture, 1 hour lab. Prerequisite: ITA 102 or equivalent. *General Studies: G.*

**202 Intermediate Italian.** (4) F, S See ITA 201. Prerequisite: ITA 201 or equivalent. *General Studies: G.*

**311 Italian Composition and Conversation.** (3) F, S Development of writing ability and oral expression. Prerequisite: ITA 202 or equivalent. *General Studies: G.*

**312 Italian Composition and Conversation.** (3) F, S See ITA 311. Prerequisite: ITA 202 or equivalent. *General Studies: G.*

**314 Advanced Italian.** (3) N An advanced grammar and composition course with readings of selected literary works. Prerequisite: ITA 202 or instructor approval. *General Studies: G.*

**325 Introduction to Italian Literature.** (3) F Italian literature through the interpretation of representative works in drama, poetry, and novel. Prerequisite: ITA 202 or instructor approval. *General Studies: HU.*

**415 Italian Civilization.** (3) N A general survey of the history, literature, art, and music, emphasizing Italy's cultural contribution to Western civilization. Prerequisites: ITA 311, 312 (or 314). *General Studies: L2/HU, G.*

**430 Italian Literature of the Middle Ages.** (3) N Emphasis on "Stil Novo," Dante's minor works, Petrarch, and Boccaccio. Prerequisite: ITA 325 or instructor approval. *General Studies: HU.*

**441 Dante: *Divina Commedia*.** (3) N Critical reading of the three *Cantiche* (*Inferno*, *Purgatorio*, and *Paradiso*). Prerequisite: ITA 325. *General Studies: L2/HU.*

**443 Italian Literature of the Renaissance.** (3) N Emphasis on Lorenzo de' Medici, Poliziano Castiglione, Machiavelli, Ariosto, and Tasso. Prerequisite: ITA 325 or instructor approval. *General Studies: HU, H.*

**446 Italian Literature of the 18th and 19th Century.** (3) N Goldoni, Parini, Alfieri, the poetry of Foscolo and Leopardi, and the sociohistorical novels of Foscolo, Manzoni, and Verga. Prerequisite: ITA 325 or instructor approval. *General Studies: HU.*

**449 20th-Century Italian Literature.** (3) N Major works, figures, and movements of contemporary Italian literature. Prerequisite: ITA 325. *General Studies: HU, G.*

## JAPANESE

**JPN 101 Elementary Japanese.** (5) F Communication skills and basic skills in grammar, reading, and writing, including hiragana, katakana, and about 75 kanji. 5 hours/week.

**102 Elementary Japanese.** (5) S *Effective through fall 1996.* See JPN 101. Prerequisite: JPN 101 or equivalent.

**102 Elementary Japanese.** (5) S *Effective starting spring 1997.* Continuation of JPN 101. Additional 99 kanji. Continued development of communication

skills in speaking, listening, reading, writing, and culture. Prerequisite: JPN 101 or equivalent.

**107 Japanese for International Professions I.** (10) F Accelerated program alternative to JPN 101, 102 sequence. Functional approach to needs of international professions. 10 class hours a week.

**201 Intermediate Japanese.** (5) F Continued development of communication skills. Increased emphasis on reading and writing. Review of fundamentals of structure to increase student's abilities in composition and translation. 5 class hours a week. Prerequisite: JPN 102 or equivalent. *General Studies: G.*

**202 Intermediate Japanese.** (5) S *Effective through fall 1996.* See JPN 201. Prerequisite: JPN 201 or equivalent. *General Studies: G.*

**202 Intermediate Japanese.** (5) S *Effective starting spring 1997.* Continuation of JPN 201. Prerequisite: JPN 201 or equivalent. *General Studies: G.*

**206 Calligraphy.** (1) N Introduction to the practice of calligraphy in Japan, with emphasis on the derivation of Japanese kana syllabaries from Chinese characters. Prerequisite: CHI 205 or JPN 101.

**207 Japanese for International Professions II.** (10) S Continuation of JPN 107, alternative to JPN 201, 202 sequence. Expansion of communicative proficiency in specific areas of international professions. 10 class hours a week. Prerequisite: JPN 107 or instructor approval. *General Studies: G.*

**309 Intermediate Japanese Conversation.** (2) F Practice in current usage in expression of ideas. Recommended especially for those who have not had the opportunity to practice Japanese in Japan. Prerequisite: JPN 202. *General Studies: G.*

**310 Intermediate Japanese Conversation.** (2) S Continuation of JPN 309. Prerequisite: JPN 309. *General Studies: G.*

**311 Japanese Conversation and Composition.** (3) F Intensive aural/oral practice leading toward conversational fluency. Practice in writing Japanese, emphasizing current usage. Prerequisite: JPN 202. *General Studies: G.*

**312 Japanese Conversation and Composition.** (3) S See JPN 311. Prerequisite: JPN 202. *General Studies: G.*

**313 Advanced Japanese.** (3) F Continued development of ability to communicate orally and in writing. Exposure to the variety of Japanese written styles. Prerequisite: JPN 202 or equivalent. *General Studies: G.*

**314 Advanced Japanese.** (3) S See JPN 313. Prerequisite: JPN 313 or instructor approval. *General Studies: G.*

**321 Japanese Literature.** (3) N Readings in representative masterpieces of modern Japanese literature. Authors read change each year in accordance with the needs of the class. May be repeated for credit. Prerequisite: JPN 313 or instructor approval. *General Studies: L2/HU, G.*



**414 Introduction to Classical Japanese.** (3) S

Readings from various genres of pre-20th-century literature, with analysis of the structure of the classical language. Prerequisite: JPN 313 or instructor approval. *General Studies: HU.*

**435 Advanced Readings.** (3) N

Readings in history, art, religious studies, economics, or other fields. Lecture, discussion. Prerequisite: JPN 314 or equivalent.

**485 Problems of Translation.** (3) N

Theories and practice of translation: strategies for handling a variety of Japanese texts. Lecture, discussion. Prerequisite: JPN 314 or equivalent.

**500 Bibliography and Research Methods.**

(3) N

Introduction to research materials on Japan both in Japanese and in Western languages. Overview of research methods. Lecture, discussion.

**514 Advanced Premodern Japanese.** (3) N

Close readings of selected premodern texts, with focus on grammatical and stylistic features. Lecture, discussion. Prerequisite: JPN 414 or equivalent.

**520 Teaching of Japanese as a Second Language.** (3) N

Theory and practice of teaching Japanese, including presentation, interaction, and evaluation, with consideration given to cultural factors. Lecture, discussion.

**535 Advanced Readings.** (3) N

Readings in primary and secondary sources in history, art, religious studies, literature, or other fields. Lecture, discussion. Prerequisite: JPN 414 or equivalent.

**543 Japanese Language and Linguistics.**

(3) N

Analysis and discussion of linguistic theories applied to Japanese phonology, morphology, and syntax, including psychological, sociological, and historical aspects.

**585 Advanced Problems of Translation.** (3)

N

Theories and practice of translation; strategies for handling a variety of Japanese texts. Lecture, discussion. Prerequisite: JPN 435 or equivalent.

**591 Seminar.** (3) N

Topics in literary, linguistic, or cultural studies.

## LATIN

*Students entering LAT 202 directly from LAT 102 must complete LAT 201 to satisfy the College of Liberal Arts and Sciences language requirements.*

**LAT 101 Elementary Latin.** (4) F, S

For beginning students only.

**102 Elementary Latin.** (4) F, S

See LAT 101. Prerequisite: LAT 101 or equivalent.

**201 Intermediate Latin.** (4) F

Selected Latin literature, both classical and postclassical; Virgil's *Aeneid*; advanced grammar. Prerequisite: LAT 102 or instructor approval. *General Studies: HU.*

**202 Intermediate Latin.** (4) S

See LAT 201. Prerequisite: LAT 102 or instructor approval. *General Studies: HU.*

**421 Roman Literature.** (3) F

Readings in the Latin masterpieces. Authors read change each year in accordance with needs of the class. May be repeated for credit. Prerequisite: LAT 202 or instructor approval.

**422 Roman Literature.** (3) S

See LAT 421. Prerequisite: LAT 202 or instructor approval.

## PORTUGUESE

*To satisfy the foreign language requirement students must take POR 314 or a higher-numbered POR course.*

**POR 101 Elementary Portuguese.** (5) F

Basic grammar with intensive drills in class and laboratory directed toward conversational fluency. 5 hours lecture, 1 hour lab. Prerequisite: 1 year of Spanish or French or Italian or instructor approval.

**201 Intermediate Portuguese.** (5) S

Continuation of POR 101. Intensive drill of fundamentals in class and laboratory directed toward conversational fluency. 5 hours lecture, 1 hour lab. Prerequisite: POR 101 or instructor approval. *General Studies: G.*

**313 Portuguese Composition and Conversation.** (3) F

Designed to develop skill in written Portuguese and corrected oral expression. Must be taken in sequence. Prerequisite: POR 201 or instructor approval. *General Studies: G.*

**314 Portuguese Composition and Conversation.** (3) S

Continuation of POR 313. Prerequisite: POR 313 or instructor approval. *General Studies: G.*

**321 Luso-Brazilian Literature.** (3) N

Representative masterpieces of Portuguese and Brazilian literature from the beginning to the present. Prerequisite: POR 313 or instructor approval. *General Studies: HU.*

**472 Luso-Brazilian Civilization.** (3) N

Lectures, readings, and discussion of important aspects of Luso-Brazilian civilization. Topics from music, art, folklore, literature, history, and politics. Prerequisite: POR 313 or instructor approval. *General Studies: HU, G.*

## RUSSIAN

**RUS 101 Elementary Russian.** (4) F, S, SS

Structural grammar and basic vocabulary. Introduction and reinforcement of aural/oral reading and writing skills. 4 hours lecture, 1 hour lab.

**102 Elementary Russian.** (4) S, SS

See RUS 101. Prerequisite: RUS 101 or equivalent.

**201 Intermediate Russian.** (4) F, SS

Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. 4 hours lecture, 1 hour lab. Prerequisite: RUS 102 or equivalent. *General Studies: G.*

**202 Intermediate Russian.** (4) S, SS

See RUS 201. Prerequisite: RUS 201 or equivalent. *General Studies: G.*

**211 Basic Russian Conversation.** (3) F

Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201, and 202. Required of Russian majors. Prerequisite: RUS 102. *General Studies: G.*

**212 Basic Russian Conversation.** (3) S

See RUS 211. Prerequisite: RUS 102. *General Studies: G.*

**303 Scientific Russian.** (3) F

Acquisition of scientific vocabulary through reading from current Russian scientific publications. Does not satisfy the Liberal Arts and Sciences language requirement for B.A. degree. Prerequisite: RUS 102.

**304 Scientific Russian.** (3) S

See RUS 303. Prerequisite: RUS 102.

**311 Russian Composition and Conversation.** (3) F

Development of writing ability and oral expression. Prerequisite: RUS 202. *General Studies: G.*

**312 Russian Composition and Conversation.** (3) S

See RUS 311. Prerequisite: RUS 202. *General Studies: G.*

**321 Survey of Russian Literature.** (3) A

Main literary movements, authors, and significant works of prose, poetry, and drama from the beginning to the mid-19th century in translation. Prerequisite: RUS 202 or equivalent. *General Studies: L2/HU, H.*

**322 Survey of Russian Literature.** (3) A

An insight into the 19th- and early 20th-century Russian thought, life, and culture by reading translations of works of major writers. Prerequisite: RUS 202 or equivalent. *General Studies: L2/HU.*

**323 Survey of Literature of the Soviet Era.**

(3) A

Main literary movements, prominent authors, and the most significant works of prose, poetry, and drama of the soviet period from 1917–1991. Prerequisite: RUS 202 or equivalent. *General Studies: L2/HU, G.*

**411 Advanced Composition and Conversation I.** (3) F

Designed to improve aural discrimination and self-expression in oral and written skills, emphasizing vocabulary building. Subject materials drawn from current post-Soviet-Russian publications. Prerequisite: RUS 312. *General Studies: G.*

**412 Advanced Composition and Conversation II.** (3) S

See RUS 411. Prerequisite: RUS 312. *General Studies: G.*

**417 Applied Russian Phonetics I.** (2) N

General improvement in the student's language skills through aural/oral training in Russian phonology and an analysis of Russian orthography. Prerequisite: RUS 102.

**418 Applied Russian Phonetics II.** (2) N

See RUS 417. Prerequisite: RUS 102.

**420 Russian Poetry.** (3) N

Development of Russian poetry from its beginnings to the present, including both native and émigré poets. Topics in criticism and the study of poetics. Prerequisite: RUS 312 or instructor approval. *General Studies: L2/HU.*

**421 Pushkin.** (3) N

Pushkin's poetry, plays, and prose fiction, including *Eugene Onegin*, *The Little Tragedies*, *Tales of Belkin*, *Queen of Spades*, and *The Captain's Daughter*. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for B.A. degree. *General Studies: L2/HU.*

**423 Dostoyevsky.** (3) N

Dostoyevsky's major works of fiction, including *Crime and Punishment* and *Brothers Karamazov*. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for B.A. degree. *General Studies: L2/HU.*

**424 Tolstoy.** (3) N

Tolstoy's major works, including *War and Peace* and *Anna Karenina*. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for B.A. degree. *General Studies: L2/HU.*

**425 Chekhov.** (3) N

Chekhov's major works, representative short stories and major plays, including *The Cherry Orchard* and *Three Sisters*. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for B.A. degree. *General Studies: L2/HU.*

**426 Literatures of the Nationalities of the Former Soviet Union.** (3) N

Including such authors as Belsevica, Kross, Venclova, Kupala, Khvylovy, Sevak, Nasri, Aitmatov, Charents, Cholpan. Prerequisite: RUS 312 or instructor approval. *General Studies: L2/HU, G.*

**430 Russian Short Story.** (3) N

Detailed study of representative works of the Russian short story genre. Authors included are from both Imperial and Soviet Russia. Prerequisite: RUS 312 or instructor approval. *General Studies: L2/HU.*

**440 History of the Russian Language.** (3) N

Principles of historical linguistics presented through the evolution of the Russian language from Proto-Indo-European to the present. Readings of historical documents in Old Russian and Old Church Slavonic. Prerequisite: RUS 312 or instructor approval.

**441 Survey of Russian Culture.** (3) N

Interplay of artistic, social, and political forces in the development of Russian culture from the Kievan period to the present. Exclusive use of Russian language source materials. Prerequisite: RUS 312 or instructor approval. *General Studies: HU, G/H.*

**591 Seminar.** (3) N

Topics may be selected from the following:

- Pre-19th Century Russian Literature
- 19th-Century Russian Literature
- Russian Poetry to 1890
- Russian Poetry, 1890 to Present
- Russian Literary Criticism
- Literary Zhdanovism
- Literature from 1956 to August 1991
- Post-Soviet Literature
- Baltic Literatures

**SPANISH**

*Students who have completed their secondary education in a school where Spanish was the official language of instruction should begin their studies at the 325 level or above. For the courses SPA 313 and 314, certain restrictions apply: no student who has completed more than two years of high school in a Spanish-speaking country, where Spanish is the medium of instruction in the school, is allowed to register in a Spanish class below the 400 level.*

**SPA 101 Elementary Spanish.** (4) F, S, SS

Fundamentals of the language. Emphasis on listening, speaking, reading, and writing. 4 hours lecture, 1 hour lab. Not open to students with credit in SPA 111.

**102 Elementary Spanish.** (4) F, S, SS

See SPA 101. Prerequisite: SPA 101 or equivalent. Not open to students with credit in SPA 111.

**107 Spanish for International Professions I.** (8) F

Accelerated program alternative to SPA 101, 102 sequence. Functional approach to needs of international professions.

**111 Fundamentals of Spanish.** (4) F, S

Primarily for students with two years of high school Spanish who need review to enter second-year study. 4 hours lecture, 1 hour lab. Not open to students with credit in SPA 101 or 102.

**201 Intermediate Spanish.** (4) F, S, SS

Continuation of fundamentals. Emphasis on the development of the skills of reading, listening comprehension, speaking, writing, and culture. 4 hours lecture, 1 hour lab. Prerequisite: SPA 102 or 111. *General Studies: G.*

**202 Intermediate Spanish.** (4) F, S, SS

See SPA 201. Prerequisite: SPA 201 or equivalent. *General Studies: G.*

**203 Intermediate Spanish for Bilinguals.** (4) F

For Spanish-speaking students, in lieu of SPA 201. Composition, literature, conversation, grammar fundamentals. 4 hours lecture, 1 hour lab. Prerequisite: SPA 102 or 111 or placement. *General Studies: G.*

**204 Intermediate Spanish for Bilinguals.** (4) S

For Spanish-speaking students, in lieu of SPA 202. Composition, literature, conversation, grammar fundamentals. 4 hours lecture, 1 hour lab. Prerequisite: SPA 203 or equivalent. *General Studies: G.*

**207 Spanish for International Professions II.** (8) S

Continuation of SPA 107, alternative to SPA 201, 202 sequence. Expansion of communicative proficiency in specific areas of international professions. Prerequisite: SPA 107 or instructor approval. *General Studies: G.*

**311 Spanish Conversation.** (3) F, S

Designed primarily for nonmajors to promote vocabulary building and communicative expression in Spanish through discussions based on cultural readings. Prerequisite: SPA 202 or equivalent.

**312 Spanish Conversation.** (3) F, S

See SPA 311. Prerequisite: SPA 311 or equivalent.

**313 Spanish Conversation and Composition.** (3) F, S, SS

Designed to develop skill and accuracy in spoken and written Spanish. Required of majors; SPA 313 and 314 must be taken in sequence. Prerequisite: SPA 202 or equivalent. *General Studies: G.*

**314 Spanish Conversation and Composition.** (3) F, S, SS

See SPA 313. Prerequisite: SPA 313 or equivalent. *General Studies: G.*

**315 Spanish Conversation and Composition for Bilinguals.** (3) F

Emphasis on comparing standard Spanish with regional Southwest Spanish. May be taken in lieu of SPA 313 and 314. Prerequisite: SPA 202 or 204 or instructor approval.

**316 Spanish Conversation and Composition for Bilinguals.** (3) S

See SPA 315. Prerequisite: SPA 315 or equivalent.

**319 Business Correspondence and Communication.** (3) N

Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: G.*

**325 Introduction to Hispanic Literature.** (3) F, S

A critical approach to and analysis of literary types, including poetry, drama, short story, and novel. Required of all majors. Prerequisite: SPA 313. *General Studies: HU.*

**412 Advanced Conversation and Composition.** (3) F, S

Oral and written Spanish communication skills, with particular attention given to developing fluency and facility. Required of majors. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: G.*

**413 Advanced Spanish Grammar.** (3) F

Intensive analysis of the Spanish language. Required of teaching majors. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: G.*

**417 Spanish Phonetics and Phonology.** (3) F

Introduction to the theory and practice of Spanish phonetics and phonology. Prerequisite: SPA 314 or 316.

**420 Applied Spanish Linguistics.** (3) S

Application of linguistic principles to the acquisition, analysis, and teaching of Spanish. Prerequisite: FLA 400 or any other introductory linguistics course. *General Studies: L2.*

**421 Spanish in the Southwest.** (3) F

Analysis of Southwest spoken and written Spanish as compared to standard Spanish. Designed for students preparing for bilingual-bicultural work. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: L2/SB, C.*

**425 Spanish Literature.** (3) F, S

Survey of Spanish literature from its beginning to 1700. Prerequisite: SPA 325. *General Studies: HU.*

**426 Spanish Literature.** (3) F, S

Survey of Spanish literature from 1700 to the present. Prerequisite: SPA 325. *General Studies: HU.*

- 427 Spanish-American Literature.** (3) F, S  
Survey of major works, figures, and movements from Colonial period to 1880. Prerequisite: SPA 325. *General Studies: L2.*
- 428 Spanish-American Literature.** (3) F, S  
Survey of major works, figures, and movements from 1880 to the present. Prerequisite: SPA 325.
- 429 Mexican Literature.** (3) N  
Selected readings from pre-Columbian writers/poets (e.g., Macuilxóchtli) through the novel of the Revolution to the present. Prerequisite: SPA 325.
- 434 Drama of the Golden Age.** (3) S  
Dramatic works of Lope de Vega, Calderón de la Barca, and their contemporaries. Prerequisite: SPA 325.
- 435 Cervantes—*Don Quijote*.** (3) F  
*Don Quijote* and the development of the novel. Prerequisite: SPA 325.
- 454 19th-Century Spanish-American Narrative.** (3) F  
Principal works in the novel, short story, narrative fiction, and narrative (Gauchesque) poetry. Prerequisite: SPA 325.
- 456 20th-Century Spanish-American Fiction.** (3) S  
Major works and movements. Prerequisite: SPA 325.
- 464 Mexican American Literature.** (3) F  
Representative literature in Spanish and English by Mexican Americans, emphasizing sociocultural as well as literary values. Prerequisite: SPA 325. *General Studies: HU.*
- 471 Civilization of the Spanish Southwest.** (3) S  
The political, intellectual, social, economic, and artistic development of the Spanish-speaking people of the Southwest. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: HU.*
- 472 Spanish-American Civilization.** (3) F  
Growth of the institutions and cultures of Spanish-American people. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: HU, G/H.*
- 473 Spanish Civilization.** (3) S  
Political, intellectual, social, economic, and artistic development of the Spanish nation from its origin to the present. Prerequisite: SPA 314 or 316 or instructor approval. *General Studies: HU/SB, G.*
- 485 Mexican American Short Story.** (3) N  
Critical study of contemporary short stories by Mexican American authors, with emphasis on their Spanish-language writings. Prerequisite: SPA 325 or instructor approval.
- 486 Mexican American Novel.** (3) N  
Social and literary contexts of representative novelists, emphasizing their Spanish-language writings. Prerequisite: SPA 325 or instructor approval.
- 487 Mexican American Drama.** (3) N  
Representative dramatic works, with emphasis on the history and development of this genre from its regional origins to the present. Prerequisite: SPA 325 or instructor approval.
- 500 Bibliography and Research Methods.** (3) F  
Required of all graduate students.
- 536 Generation of 1898.** (3) N  
Works of Unamuno, Baroja, Azorín, and their contemporaries, studied against the ideological background of the turn of century in Spain. Prerequisite: SPA 325.
- 540 History of the Spanish Language.** (3) S  
Linguistic development of the Spanish language from the epoch of Vulgar Latin to the present day.
- 541 Spanish Language in America.** (3) F  
The major dialects of Spanish in the Americas, and their historical, social, and cultural development. Prerequisite: SPA 540 or instructor approval.
- 542 Studies in the Spanish of the Southwest.** (3) S  
Examination of bilingualism and the social and regional dialects of Spanish in the Southwest. Prerequisite: FLA 400 or equivalent.
- 543 Structure of Spanish.** (3) S  
Analysis and discussion, within the framework of contemporary linguistic theories, of selected problems in Spanish morphology, syntax, and semantics. Prerequisite: FLA 400 or equivalent.
- 545 Concepts of Literary Criticism.** (3) S  
Aims and methods of modern literary scholarship. Discussion of major theories of literary analysis.
- 555 Spanish-American Modernism.** (3) N  
Principal works and figures of literary Modernism, 1880–1920, with emphasis on international literary context of the movement. Prerequisite: SPA 325.
- 557 Contemporary Spanish-American Poetry.** (3) N  
Major works and problems in contemporary poetry and poetics, with emphasis on Paz, Parra, Cardenal, and new poetry since 1960. Prerequisite: SPA 325.
- 560 Medieval Spanish Literature.** (3) N  
Major figures and works of the Middle Ages in Spain.
- 561 Golden Age Spanish Prose Fiction.** (3) N  
Major figures and works of the 16th and 17th centuries, with emphasis on the picaresque novel.
- 562 Golden Age Spanish Poetry.** (3) N  
Major figures and works of the 16th and 17th centuries, with emphasis on lyric poetry.
- 563 Spanish Romanticism.** (3) N  
Principal figures and works of the Spanish Romanticism, with emphasis on international literary context of the movement.
- 564 19th-Century Spanish Prose Fiction.** (3) N  
Principal figures and works of Realism in the 19th-century novel, with emphasis on Galdós.
- 565 20th-Century Spanish Drama.** (3) N  
Principal figures and works of Spanish dramatic literature from the Generation of 1898 to the present.
- 566 Generation of 1927.** (3) N  
Major poets of the Generation of 1927, with emphasis on works of Lorca, Guillén, Salinas, and Aleixandre.
- 567 Contemporary Spanish Novel.** (3) N  
Major works of post-Civil War Spanish fiction.
- 568 Cervantes.** (3) N  
An extensive analysis of the prose and theater of Cervantes as a key figure of the Spanish Golden Age. Lecture, seminar.
- 570 Indigenous Literatures of Spanish America.** (3) N  
The indigenous literary traditions, with emphasis on Nahuatl, Mayan, and Quechua literatures through readings in Spanish translations.
- 571 Colonial Spanish-American Literature.** (3) N  
The major figures and works from Conquest to Independence.
- 572 Spanish-American Drama.** (3) N  
Major contributions of Spanish-American drama, with emphasis on contemporary dramatists.
- 573 Spanish-American Essay.** (3) N  
Major works of the essay, within the framework of intellectual history and literary movements.
- 574 Spanish-American Vanguard Poetry.** (3) N  
Examination of poetic developments, 1920–1940, with emphasis on Huidobro, Vallejo, Neruda, and the international context of their works.
- 575 Contemporary Spanish-American Novel.** (3) N  
Principal novels of the *Nueva Narrativa Hispanoamericana*, within the context of contemporary theories of the narrative.
- 576 Contemporary Spanish-American Short Story.** (3) N  
Principal short stories of the *Nueva Narrativa Hispanoamericana*, within the context of contemporary theories of the narrative.
- 577 Regional Spanish-American Literature.** (3) N  
The figures and works of major national (Peru, Argentina, Chile, and Mexico) and regional (Caribbean) literatures. Topics offered on a rotating basis. May be repeated for different topics.
- 578 Novel of the Mexican Revolution.** (3) N  
Representative works and authors of this genre (Guzmán, Azuela, Urquiza, Muñoz, and Romero), including related or peripheral offshoots in indigenous novels.
- 581 Latin American Popular Culture.** (3) N  
Studies in selected topics of Latin American popular culture, with emphasis on appropriate academic models for the critical analysis of these materials.
- 582 Studies in Latin American Film.** (3) N  
Examination of the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Seminar.
- 591 Seminar.** (3) N  
Spanish and Spanish-American literary, cultural, and linguistic topics.
- 691 Figures and Works Seminar.** (3) N  
Topics may be selected from Spanish and Spanish American literatures.

**THAI**

**THA 101 Elementary Thai I. (5) F**

Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose readings in Thai script. 4 hours lecture, 1 hour lab.

**102 Elementary Thai II. (5) S**

Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. 4 hours lecture, 1 hour lab. Prerequisite: THA 101 or equivalent.

**201 Intermediate Thai I. (5) F**

Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. 4 hours lecture, 1 hour lab. Prerequisite: THA 102 or equivalent. *General Studies: G.*

**202 Intermediate Thai II. (5) S**

Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. 4 hours lecture, 1 hour lab. Prerequisite: THA 201 or equivalent. *General Studies: G.*

**VIETNAMESE**

**VTN 101 Elementary Vietnamese I. (5) F**

Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. 4 hours lecture, 1 hour lab.

**102 Elementary Vietnamese II. (5) S**

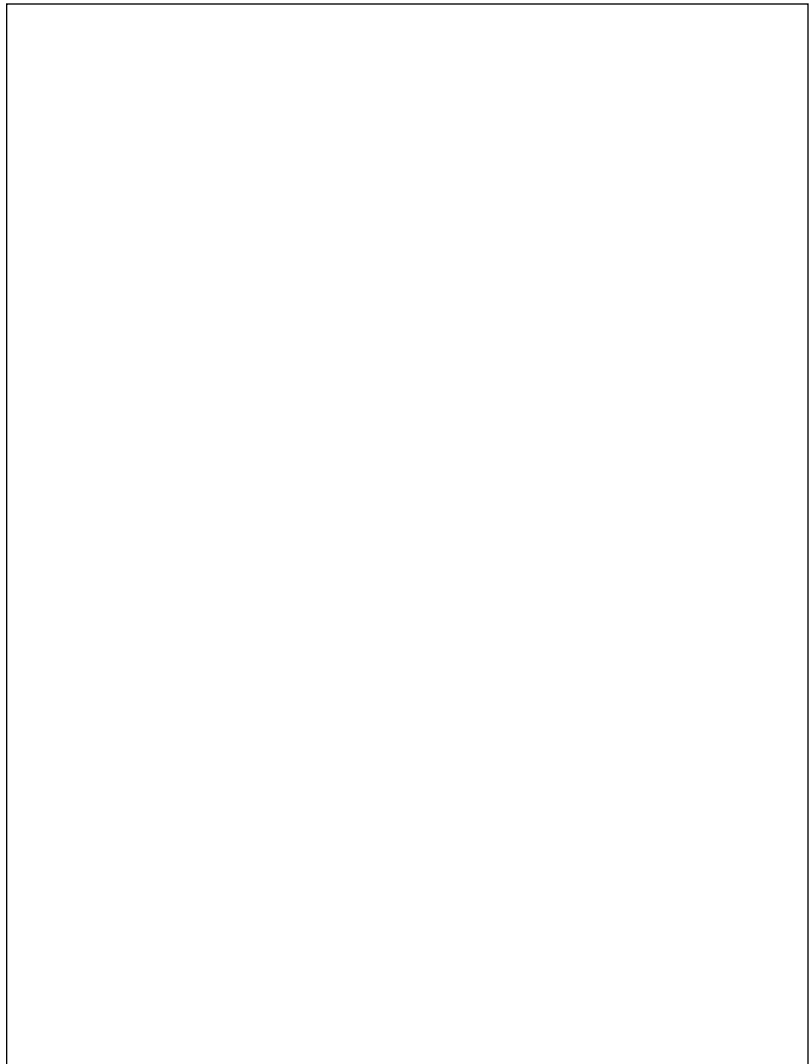
Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. 4 hours lecture, 1 hour lab. Prerequisite: VTN 101 or equivalent.

**201 Intermediate Vietnamese I. (5) F**

Improve students' speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. 4 hours lecture, 1 hour lab. Prerequisite: VTN 102 or equivalent. *General Studies: G.*

**202 Intermediate Vietnamese II. (5) S**

Improve students' speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. 4 hours lecture, 1 hour lab. Prerequisite: VTN 201 or equivalent. *General Studies: G.*



**Department of Mathematics**

**William T. Trotter**  
*Chair*  
**(PS A216) 602/965-3951**

**REGENTS' PROFESSOR**  
TROTTER

**PROFESSORS**

ARMBRUSTER, BREMNER, BUSTOZ, FELDSTEIN, GRACE, HELTON, HOPPENSTEADT, IHRIG, JACKIEWICZ, JACOBOWITZ, KADELL, KIERSTEAD, KUIPER, LEONARD, McDONALD, MITTELMANN, NICOLAENKO, RINGHOFER, H.A. SMITH, H.L. SMITH, THIEME, A. WANG, C. WANG, WEISS, YOUNG

**ASSOCIATE PROFESSORS**

BAER, DRISCOLL, FAN, FARMER, GARDNER, HASSETT, KAWSKI, KOSTELICH, KUANG, KURTZ, LOHR, McCARTER, MOORE, QUIGG, RENAUT, SPIELBERG, STEWART, SWIMMER, TAYLOR

**ASSISTANT PROFESSORS**

BARCELO, BLOUNT, CARLSON, CHILDRESS, HURLBERT, JONES, MAHALOV, NIKITIN, PREWITT, WELFERT

**PROFESSORS EMERITI**

BEDIENT, FREUND, KELLY, LAKE, LISKOVEC, NERING, NIEMEIR, SANSONE, SAVAGE, SHERMAN, SINKOV, L. SMITH

**MATHEMATICS—B.A.**

The B.A. in Mathematics consists of a minimum of 36 semester hours in mathematics and additional course work in closely related fields, as approved by the advisor, for a total of at least 51 semester hours. The required courses must include the following:

CSE	100	Introduction to Computer Science I .....	3
		or CSE 183 Applied Problem Solving with FORTRAN N3 (3) or CSE 200 Concepts of Computer Science N3 (3)	
MAT	270	Calculus with Analytic Geometry I <i>NI</i> .....	4
MAT	271	Calculus with Analytic Geometry II .....	4
MAT	272	Calculus with Analytic Geometry III.....	4

MAT 274	Elementary Differential Equations.....3
MAT 300	Mathematical Structures L2... 3
MAT 342	Linear Algebra.....3
MAT 370	Intermediate Calculus.....3 or MAT 371 Advanced Calculus I (3)

Four 400-level MAT or STP courses must also be approved by the advisor.

The department recommends a one-year sequence in some closely related field. Students who plan to attend graduate school in mathematics should choose the Bachelor of Science degree.

**MATHEMATICS—B.S.**

The B.S. in Mathematics consists of a minimum of 42 semester hours in mathematics plus additional course work in closely related fields, as approved by the advisor, for a total of at least 55 semester hours. The required hours must include the following:

CSE 100	Introduction to Computer Science I .....3 or CSE 183 Applied Problem Solving with FORTRAN N3 (3) or CSE 200 Concepts of Computer Science N3 (3)
MAT 270	Calculus with Analytic Geometry I N1..... 4
MAT 271	Calculus with Analytic Geometry II .....4
MAT 272	Calculus with Analytic Geometry III.....4
MAT 342	Linear Algebra.....3

To satisfy the remaining required hours, the student selects either the applied mathematics, computational mathematics, general mathematics, or statistics and probability option.

**General Mathematics Option.** For the general mathematics option, the student must take the following courses:

MAT 274	Elementary Differential Equations.....3
MAT 300	Mathematical Structures L2 ..... 3
MAT 371	Advanced Calculus I .....3
MAT 372	Advanced Calculus II .....3
MAT 410	Introduction to General Topology .....3 or MAT 415 Combinatorial Mathematics I (3) or MAT 443 Introduction to Abstract Algebra (3) or MAT 445 Theory of Numbers (3)

MAT 461	Applied Complex Analysis ...3 or MAT 462 Partial Differential Equations (3) or MAT 475 Differential Equations (3)
MAT 464	Numerical Analysis I N3 ..... 3
STP 421	Probability .....3

Three more hours in a MAT course must also be approved by the advisor.

The department recommends a one-year sequence in some closely related field.

**Pure Mathematics Option.** For the pure mathematics option, the student must take the following courses:

CSE 100	Introduction to Computer Science I .....3 or CSE 200 Concepts of Computer Science N3 (3)
MAT 274	Elementary Differential Equations.....3
MAT 300	Mathematical Structures L2 ..... 3
MAT 372	Advanced Calculus II .....3
MAT 442	Advanced Linear Algebra .....3
MAT 444	Intermediate Abstract Algebra .....3
MAT 472	Intermediate Real Analysis ...3

Students must also take two courses from the following:

MAT 410	Introduction to General Topology .....3
MAT 415	Combinatorial Mathematics I .....3
MAT 445	Theory of Numbers .....3 or MAT 461 Applied Complex Analysis (3) or STP 421 Probability (3)

Two more MAT or STP courses at the 400 level must also be taken.

**Applied Mathematics Option.** For the applied mathematics option, the student must take the following courses:

CSE 100	Introduction to Computer Science I .....3 or CSE 200 Concepts of Computer Science N3 (3) and CSE 210 Data Structures and Algorithms I <sup>1</sup> N3 (3)
MAT 274	Elementary Differential Equations.....3
MAT 371	Advanced Calculus I .....3
MAT 372	Advanced Calculus II .....3
MAT 451	Mathematical Modeling N2... 3
MAT 461	Applied Complex Analysis ...3
MAT 462	Partial Differential Equations.....3

MAT 465	Numerical Analysis II N3..... 3
PHY 121	University Physics I: Mechanics S1/S2 <sup>2</sup> ..... 3
PHY 131	University Physics II: Electricity and Magnetism S1/S2 <sup>3</sup> ..... 3
STP 421	Probability .....3

<sup>1</sup> The CSE 200–210 sequence is recommended.

<sup>2</sup> Both PHY 121 and 122 must be taken to secure S1 or S2 credit.

<sup>3</sup> Both PHY 131 and 132 must be taken to secure S1 or S2 credit.

For PHY 121 and 131, the corresponding laboratory courses (PHY 122 University Physics Laboratory I and PHY 132 University Physics Laboratory II) are strongly recommended.

Students should choose additional courses from the following:

CSE 101	Introduction to Computer Science II.....3
IEE 476	Operations Research Techniques/Applications N2..... 4
MAT 415	Combinatorial Mathematics I .....3
MAT 416	Combinatorial Mathematics II.....3
MAT 419	Linear Programming N2..... 3
MAT 443	Introduction to Abstract Algebra .....3
MAT 463	Transform Theory and Operational Methods .....3
MAT 464	Numerical Analysis I N3 ..... 3
MAT 472	Intermediate Real Analysis ...3
MAT 475	Differential Equations .....3
STP 425	Stochastic Processes .....3
STP 427	Mathematical Statistics.....3

**Computational Mathematics Option.** For the computational mathematics option, the student must take the following courses:

CSE 200	Concepts of Computer Science N3..... 3
CSE 210	Data Structures and Algorithms I N3..... 3
CSE 310	Data Structures and Algorithms II .....3
MAT 243	Discrete Mathematical Structures.....3 or MAT 300 Mathematical Structures L2 (3)
MAT 274	Elementary Differential Equations.....3
MAT 371	Advanced Calculus I .....3
MAT 464	Numerical Analysis I N3 ..... 3
MAT 465	Numerical Analysis II N3..... 3
MAT 467	Computer Arithmetic N3..... 3

**NOTE:** For the General Studies requirement, codes (such as L1, N3, C, and H), and courses, see pages 71–94. For graduation requirements, see pages 66–70. Omnibus courses are offered that are not listed in the catalog; see pages 44–45.

STP 326 Intermediate Probability *N2* .. 3  
or STP 420 Introductory  
Applied Statistics *N2* (3)

The remaining hours are to include three upper-division courses, at least two of which must be mathematics, including one at the 400 level, and all of which must be approved by the advisor.

### Statistics and Probability Option.

For the statistics and probability option, the student must take the following courses:

MAT 300 Mathematical Structures *L2*... 3  
MAT 371 Advanced Calculus I .....3  
or MAT 472 Intermediate  
Real Analysis (3)  
MAT 372 Advanced Calculus II .....3  
STP 420 Introductory Applied  
Statistics *N2*..... 3  
STP 421 Probability .....3  
STP 425 Stochastic Processes .....3  
or STP 427 Mathematical  
Statistics (3)

The remaining courses in mathematics and statistics, as approved by the advisor, may be selected from the following:

IEE 476 Operations Research  
Techniques/  
Applications *N2*..... 4  
MAT 415 Combinatorial  
Mathematics I .....3  
MAT 419 Linear Programming *N2*..... 3  
MAT 442 Advanced Linear Algebra .....3  
MAT 464 Numerical Analysis I *N3* ..... 3  
MAT 465 Numerical Analysis II *N3*..... 3  
MAT 466 Applied Computational  
Methods *N3* ..... 3  
STP 425 Stochastic Processes .....3  
STP 427 Mathematical Statistics.....3  
STP 429 Experimental Statistics *N3* .... 3

A coherent set of courses in a related field is also required.

**Actuarial Science.** The Department of Mathematics offers courses that cover the content of the mathematical examinations of the Society of Actuaries. The option in statistics and probability is particularly suited to students who wish to pursue actuarial careers. See the department's actuarial advisor for more information.

### MINOR IN MATHEMATICS

The minor in Mathematics consists of a minimum of 24 semester hours. Required courses are as follows:

MAT 270 Calculus with Analytic  
Geometry I *NI*..... 4

MAT 271 Calculus with Analytic  
Geometry II .....4  
MAT 272 Calculus with Analytic  
Geometry III.....4  
MAT 342 Linear Algebra.....3

Electives are chosen in consultation with a mathematics advisor and must include three upper-division courses in mathematics and statistics. In addition, CSE 200 Concepts of Computer Science (3) and CSE 210 Data Structures and Algorithms I (3) are recommended. An approved Minor Verification Form must be submitted to the Graduation Office of the College of Liberal Arts and Sciences.

### SECONDARY EDUCATION— B.A.E.

**Mathematics.** Students pursuing the major teaching field may choose from two options.

*Option One.* With this option, the academic specialization consists of at least 36 semester hours in mathematics. Required courses are as follows:

CSE 100 Introduction to  
Computer Science I .....3  
or CSE 181 Applied  
Problem Solving with  
BASIC *N3* (3)  
or CSE 200 Concepts  
of Computer Science *N3* (3)  
MAT 270 Calculus with Analytic  
Geometry I.....4  
MAT 271 Calculus with Analytic  
Geometry II .....4  
MAT 272 Calculus with Analytic  
Geometry III.....4  
MAT 300 Mathematical Structures *L2*... 3  
or MAT 243 Discrete  
Mathematical Structures (3)  
MAT 310 Introduction to Geometry.....3  
MAT 342 Linear Algebra.....3  
MAT 370 Intermediate Calculus.....3  
or MAT 371 Advanced  
Calculus I (3)  
MAT 443 Introduction to Abstract  
Algebra .....3  
or MAT 445 Theory of  
Numbers (3)  
MTE 483 Mathematics in the  
Secondary School .....3  
STP 420 Introductory Applied  
Statistics *N2*..... 3

MTE 482 Methods of Teaching Mathematics in Secondary School (3) is required as part of the 31-hour professional education requirement but cannot be counted as part of the 36-hour major requirement.

*Option Two.* This option may be exercised only in combination with option two in chemistry (page 124) or physics (page 176). The mathematics portion of this 60-hour program consists of 30 semester hours in mathematics. Required courses are as follows:

MAT 270 Calculus with Analytic  
Geometry I *NI*..... 4  
MAT 271 Calculus with Analytic  
Geometry II .....4  
MAT 272 Calculus with Analytic  
Geometry III.....4  
MAT 274 Elementary Differential  
Equations.....3  
or MAT 371 Advanced  
Calculus I (3)  
or MAT 460 Applied  
Real Analysis (3)  
MAT 300 Mathematical Structures *L2*... 3  
MAT 310 Introduction to Geometry.....3  
MAT 342 Linear Algebra.....3  
MAT 443 Introduction to Abstract  
Algebra .....3

A computer science course—CSE 100 Introduction to Computer Science I (3) or CSE 183 Applied Problem Solving with FORTRAN (3) or CSE 200 Concepts of Computer Science (3)—is recommended.

**Mathematics.** The minor teaching field consists of at least 24 semester hours. Required courses are as follows:

MAT 270 Calculus with Analytic  
Geometry I *NI*..... 4  
MAT 271 Calculus with Analytic  
Geometry II .....4  
MAT 272 Calculus with Analytic  
Geometry III.....4  
MAT 274 Elementary Differential  
Equations.....3  
or MAT 371 Advanced  
Calculus I (3)  
or MAT 460 Applied  
Real Analysis (3)  
MAT 300 Mathematical  
Structures *L2* ..... 3  
MAT 310 Introduction to Geometry.....3  
MAT 342 Linear Algebra.....3

### GRADUATE PROGRAMS

The Department of Mathematics offers programs leading to the M.A. and Ph.D. degrees. Consult the *Graduate Catalog* for requirements.

### MATHEMATICS

**MAT 106 Intermediate Algebra.** (3) F, S, SS  
Topics from basic algebra such as linear equations, polynomials, factoring, exponents, roots, and radicals. Prerequisite: 1 year of high school algebra.

- 114 College Mathematics.** (3) F, S, SS  
Applications of basic college-level mathematics to real-life problems. Appropriate for students whose major does not require MAT 117 or 170. Prerequisite: MAT 106 or 2 years of high school algebra. *General Studies: N1.*
- 117 College Algebra.** (3) F, S, SS  
Linear and quadratic functions, systems of linear equations, logarithmic and exponential functions, sequences, series, and combinatorics. Prerequisite: MAT 106 or 2 years of high school algebra. *General Studies: N1.*
- 119 Finite Mathematics.** (3) F, S, SS  
Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. Prerequisite: MAT 117 or equivalent. *General Studies: N1.*
- 170 Precalculus.** (3) F, S, SS  
Intensive preparation for calculus (MAT 260, 270 and 290). Topics include functions (including trigonometric), matrices, polar coordinates, vectors, complex numbers, and mathematical induction. Prerequisite: a grade of "B" in MAT 106 or "C" in MAT 117 or two years of high school algebra. *General Studies: N1.*
- 210 Brief Calculus.** (3) F, S, SS  
Differential and integral calculus of elementary functions with applications. Not open to students with credit in MAT 260, 270, or 290. Prerequisite: MAT 117 or equivalent. *General Studies: N1.*
- 242 Elementary Linear Algebra.** (2) F, S, SS  
Introduction to matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills. Prerequisite: 1 semester of calculus or instructor approval. *General Studies: N1.*
- 243 Discrete Mathematical Structures.** (3) F, S, SS  
Introduction to lattices, graphs, Boolean algebra, and groups, with emphasis on topics relevant to computer science. Prerequisite: 1 semester of calculus.
- 260 Technical Calculus I.** (3) F, S, SS  
Analytic geometry, differential, and integral calculus of elementary functions, emphasizing physical interpretation and problem solving. Not open to students with credit in MAT 210, 270, or 290. Prerequisite: MAT 170 or equivalent. *General Studies: N1.*
- 261 Technical Calculus II.** (3) F, S, SS  
Continuation of MAT 260. Prerequisite: MAT 260 or instructor approval.
- 262 Technical Calculus III.** (3) F, S  
Infinite series, an introduction to differential equations and elementary linear algebra. Prerequisite: MAT 261 or equivalent.
- 270 Calculus with Analytic Geometry I.** (4) F, S, SS  
Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. Not open to students with credit in MAT 290. The sequence MAT 270 and 271 may be substituted for MAT 290 to satisfy requirements of any curriculum. Prerequisite: Grade of "C" or better in MAT 170 or equivalent. *General Studies: N1.*
- 271 Calculus with Analytic Geometry II.** (4) F, S, SS  
Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, sequences, and series. Not open to students with credit in MAT 291. The sequence MAT 270 and 271 and 272 may be substituted to satisfy requirements for MAT 290 and 291. Prerequisites: Grade of "C" or better in MAT 270 or equivalent.
- 272 Calculus with Analytic Geometry III.** (4) F, S, SS  
Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. The sequence MAT 270 and 271 and 272 may be substituted to satisfy requirements for MAT 290 and 291. Prerequisites: Grade of "C" or better in MAT 271 or equivalent.
- 274 Elementary Differential Equations.** (3) F, S, SS  
Introduction to ordinary differential equations, adapted to the needs of students in engineering and the sciences. MAT 272 or equivalent is recommended. Prerequisite: MAT 271 or equivalent.
- 290 Calculus I.** (5) F, S  
Differential and integral calculus of elementary functions; topics from analytic geometry essential to the study of calculus. Prerequisite: MAT 170 or equivalent. *General Studies: N1.*
- 291 Calculus II.** (5) F, S  
Further applications of calculus, partial differentiation, multiple integrals, and infinite series. Prerequisite: MAT 290 or equivalent.
- 300 Mathematical Structures.** (3) F, S  
Introduction to rigor and proof in mathematics. Basic logic, set theory, mathematical induction, combinatorics, functions, relations, and probability. Prerequisite: 1 semester of calculus or instructor approval. *General Studies: L2.*
- 310 Introduction to Geometry.** (3) S  
Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. Prerequisite: MAT 272 or equivalent.
- 342 Linear Algebra.** (3) F, S, SS  
Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. Pre- or corequisite: MAT 272 or equivalent.
- 362 Advanced Mathematics for Engineers and Scientists I.** (3) F, S, SS  
Vector analysis, Fourier analysis, and partial differential equations. Prerequisites: MAT 272 and 274 or equivalents.
- 370 Intermediate Calculus.** (3) F, S  
Theory behind basic 1-variable calculus: continuity, derivative, Riemann integral, sequences, and series. Not open to students with credit in MAT 371. Prerequisites: MAT 272, 300.
- 371 Advanced Calculus I.** (3) F, S  
Real numbers, completeness, sequences/series, continuity, uniform theorems, derivative, Riemann integral, pointwise/uniform convergence, Taylor's theorem. Not open to students with credit in MAT 370. Prerequisite: MAT 272 or 300 or instructor approval.
- 372 Advanced Calculus II.** (3) F, S  
Open, closed, compact sets in  $\mathbb{R}^n$  continuity, differentiation, partial differentiation, integration in  $\mathbb{R}^n$ . Inverse/implicit function theorems.
- Not open to students with credit in MAT 460. Prerequisite: MAT 371. Pre- or corequisite: MAT 342.
- 410 Introduction to General Topology.** (3) A  
Topological spaces, metric spaces, compactness, connectedness, and product spaces. Prerequisite: MAT 300 or 371 or instructor approval.
- 415 Combinatorial Mathematics I.** (3) F  
Permutations and combinations, recurrence relations, generating functions, graph theory, and combinatorial proof techniques. Prerequisites: MAT 300 and 342 or instructor approval.
- 416 Combinatorial Mathematics II.** (3) S  
Continuation of MAT 415 considering some advanced aspects of the theory as well as applications. Topics chosen from transport networks, matching theory, block designs, coding theory, Polya's counting theory, and applications to the physical and life sciences. MAT 443 is recommended. Prerequisite: MAT 415 or instructor approval.
- 419 Linear Programming.** (3) S  
Linear programming and the simplex algorithm, network problems, quadratic, and nonlinear programming. Prerequisites: MAT 242 or 342; 1 semester of college calculus. *General Studies: N2.*
- 431 Foundations of Mathematics.** (3) N  
Topics from mathematical logic and set theory. May be repeated for credit with instructor approval. Prerequisites: MAT 300 and 342 or instructor approval.
- 442 Advanced Linear Algebra.** (3) F  
Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra. Prerequisites: MAT 300 and 342 or instructor approval.
- 443 Introduction to Abstract Algebra.** (3) F  
Introduction to concepts of abstract algebra. Not open to students with credit in MAT 444. Prerequisites: MAT 300 and 342 or instructor approval.
- 444 Intermediate Abstract Algebra.** (3) S  
Basic theory of groups, rings, and fields, including an introduction to Galois theory. Appropriate as preparation for MAT 543. Prerequisites: MAT 300 and 342.
- 445 Theory of Numbers.** (3) S  
Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. Prerequisites: MAT 300 and 342 or instructor approval.
- 451 Mathematical Modeling.** (3) S  
A detailed study of 1 or more mathematical models that occur in the physical or biological sciences. May be repeated for credit with instructor approval. Prerequisites: MAT 242 (or 342) and 274 or instructor approval. *General Studies: N2.*
- 460 Applied Real Analysis.** (3) S  
Vectors, curvilinear coordinates, Jacobians, implicit function theorem, line and surface integrals, Green's, Stokes', and divergence theorems. Not open to students with credit in MAT 372. Prerequisites: MAT 242 (or 342), 272, 274.

- 461 Applied Complex Analysis.** (3) F, SS  
Analytic functions, complex integration, Taylor and Laurent series, residue theorem, conformal mapping, and harmonic functions. Prerequisite: MAT 272 or equivalent.
- 462 Partial Differential Equations.** (3) F, S, SS  
Second order partial differential equations, emphasizing Laplace, wave, and diffusion equations. Solutions by the methods of characteristics, separation of variables, and integral transforms. Prerequisites: MAT 242 (or 342), 274.
- 464 Numerical Analysis I.** (3) F, S  
Theory and methods for numerical solution of algebraic and transcendental equations; iteration methods; eigenvalues and eigenvectors; interpolation; introductory computer arithmetic. Prerequisites: MAT 342 and 371 and fluency in computer programming or instructor approval. *General Studies: N3.*
- 465 Numerical Analysis II.** (3) F, S  
Theory and methods for numerical solution of analysis problems; differentiation; quadrature; solution of differential equations. Prerequisite: MAT 342 and 371 and fluency in computer programming or instructor approval. *General Studies: N3.*
- 466 Applied Computational Methods.** (3) F, S  
Numerical methods for quadrature, differential equations, roots of nonlinear equations, interpolation, approximation, linear equations, floating-point arithmetic, and roundoff error. Prerequisites: MAT 271 (or equivalent) and fluency in computer programming (preferably FORTRAN) or instructor approval. *General Studies: N3.*
- 467 Computer Arithmetic.** (3) S  
Number systems, hardware/software arithmetic, overflow, significance, rounding, multiple precision, and automatic error control; impact on languages, architectures, robust programming, and software development. Prerequisite: CSE 200 or 210 or MAT 464 or 466 or instructor approval. *General Studies: N3.*
- 472 Intermediate Real Analysis.** (3) F  
Introduction to analysis in metric spaces with emphasis on the real line. Appropriate as preparation for MAT 570. Prerequisites: MAT 300, 342.
- 475 Differential Equations.** (3) S  
Asymptotic behavior of solutions of linear and nonlinear ordinary differential equations, stability, Sturm-Liouville problems, boundary value problems, and singular point behavior of autonomous systems. Prerequisites: MAT 242 (or 342), 274.
- 485 History of Mathematics.** (3) N  
Topics from the history of the origin and development of mathematical ideas. Prerequisite: MAT 272 or equivalent.
- 510 Point Set Topology.** (3) F  
Topological spaces, metric spaces, compactness, connectedness, local properties, product and decomposition spaces, mappings, covering properties, and separation properties. Prerequisite: MAT 371 or 410 or instructor approval.
- 511 Point Set Topology.** (3) S  
Continuation of MAT 510. Prerequisite: MAT 510 or instructor approval.
- 520 Numerical Linear Algebra.** (3) A  
Direct solution of linear systems, iterative methods, eigenvalues and eigenvectors, singular value decomposition, the QR algorithm, error propagation, arithmetic, and stability. Prerequisites: MAT 342 and 464 (or 466) or instructor approval.
- 521 Iterative Methods.** (3) N  
Numerical methods for solving linear/nonlinear systems of equations (symmetric, nonsymmetric). Iterative methods for linear systems, conjugate gradients, multigrid methods, preconditioning, Krylov methods. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 523 Numerical Optimization.** (3) N  
Linear programming, unconstrained nonlinear minimization, line search algorithms, conjugate gradients, quasi-Newton methods, constrained nonlinear optimization, gradient projection, and penalty methods. Prerequisite: MAT 342 or 371 or 460 or 520 or equivalent or instructor approval.
- 524 Parallel Numerical Algorithms.** (3) N  
Algorithms for massively parallel, hypercube architectures; "parallel" FORTRAN; solution of linear, nonlinear systems; partial differential equations; iterative methods; multigrid; domain decomposition. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 526 Numerical Solution of Bifurcation Problems.** (3) N  
Nonlinear parameter-dependent differential, algebraic equations, numerical solutions; bifurcation, turning points; continuation methods, branch switching; steady-state, time-dependent cases; Hopf Bifurcation. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 528 Advanced Numerical Analysis.** (3) N  
Finite difference equations, orthogonal polynomials, quadrature, approximation and integration theory, numerical solution of differential equations, and numerical linear algebra. May be repeated for credit with instructor approval. Prerequisite: MAT 464 or instructor approval.
- 529 Advanced Numerical Analysis.** (3) N  
Continuation of MAT 528. Prerequisite: MAT 528 or instructor approval.
- 530 Numerical Solution of Ordinary Differential Equations.** (3) N  
One step, linear multistep methods; consistency, order, stability, convergence; discretization, round-off errors, error estimation, adaptive strategy; implementation, software for nonstiff equations. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 531 Numerical Solution of Stiff Differential Systems.** (3) N  
Runge-Kutta methods, order conditions, construction of highly stable methods, order stars, error estimation, stepsize selection, contractivity properties, linear multistep methods. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 533 Computational Elliptic and Parabolic Partial Differential Equations.** (3) N  
Parabolic and elliptic equations, finite difference, finite element methods, stability, consistency, convergence, practical aspects, applications, software. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 534 Computational Hyperbolic Partial Differential Equations.** (3) N  
Numerical solutions of hyperbolic PDEs, finite difference methods, well-posedness, stability, consistency, convergence, adaptive grids; Maxwell's equations, elastic wave propagation; Navier-Stokes. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 535 Spectral Methods for Partial Differential Equations.** (3) N  
Spectral, pseudo-spectral theory; Galerkin, collocation methods; Tau-methods, global approximation properties, stability; convergence; solutions for linear, nonlinear systems. Prerequisites: MAT 371 and 464 (or 466) or instructor approval.
- 536 Numerical Solution of Boundary Value Problems.** (3) N  
Difference methods, finite element methods, defect correction, irregular meshes, nonlinear problems, bifurcation, boundary layers, and sparse systems. May be repeated for credit with instructor approval. Prerequisites: MAT 371 (or 460 or 462) and 464 (or 466) or instructor approval.
- 543 Abstract Algebra.** (3) F  
Groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory. Prerequisite: MAT 443 or instructor approval.
- 544 Abstract Algebra.** (3) S  
Continuation of MAT 543. Prerequisite: MAT 543 or instructor approval.
- 550 Variational Methods.** (3) F  
Calculus of variations and its applications to extremal problems, classical mechanics, and partial differential equations. Prerequisites: MAT 274 and 462 or equivalents.
- 551 Linear Operators and Integral Equations.** (3) S  
Bounded linear and compact operators on Hilbert spaces. Linear integral equations, Fredholm and Hilbert-Schmidt theory, and approximate methods. Distributions. Prerequisites: MAT 242 and 462 or equivalents.
- 570 Real Analysis.** (3) S  
Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. Prerequisite: MAT 372 or instructor approval.
- 571 Real Analysis.** (3) F  
Continuation of MAT 570. Prerequisite: MAT 570 or instructor approval.
- 572 Complex Analysis.** (3) F  
Analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. Prerequisite: MAT 371 or instructor approval.
- 573 Complex Analysis.** (3) S  
Continuation of MAT 572. Prerequisite: MAT 572 or instructor approval.
- 574 Theory of Ordinary Differential Equations.** (3) N  
Systems, existence proofs, singularities, asymptotic behavior of solutions, boundedness of solutions, eigenvalues and eigenfunctions, and perturbation theory. Prerequisite: MAT 372 or instructor approval.



**575 Theory of Ordinary Differential Equations.** (3) N

Continuation of MAT 574. Prerequisite: MAT 574 or instructor approval.

**576 Theory of Partial Differential Equations.** (3) N

Existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. Prerequisite: knowledge of Lebesgue integration or instructor approval.

**577 Theory of Partial Differential Equations.** (3) N

Continuation of MAT 576. Prerequisite: MAT 576 or instructor approval.

**578 Functional Analysis.** (3) N

Locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. Prerequisite: MAT 472 or 571 or instructor approval.

**579 Functional Analysis.** (3) N

Continuation of MAT 578. Prerequisite: MAT 578 or instructor approval.

**591 Seminar.** (1–3) N

Topics may be selected from the following:

- (a) Algebra
- (b) Analysis
- (c) Applied Mathematics
- (d) Combinatorial Mathematics
- (e) Mathematical Logic
- (f) Numerical Analysis
- (g) Topology

**MATHEMATICS EDUCATION**

**MTE 180 Theory of Elementary Mathematics.** (3) F, S, SS

Number systems, intuitive geometry, elementary algebra, and measurement. Intended for prospective elementary school teachers. Prerequisite: MAT 117 or equivalent.

**181 Theory of Elementary Mathematics.** (3) A

Continuation of MTE 180. Prerequisite: MTE 180 or instructor approval.

**380 Arithmetic in the Elementary School.** (3) A

Historical numeration systems, overview of elementary number theory, including primes, factorization, divisibility, bases, modular systems, linear congruence, and continued fractions. Prerequisite: MTE 181 or instructor approval.

**381 Geometry in the Elementary School.** (3) N

Informal geometry, including concepts of length, area, volume, similarity, and congruence. Classification of figures, straightedge and compass constructions, and motion geometry. Prerequisite: MTE 380 or instructor approval.

**480 Mathematics in the Upper-Elementary Grades I.** (3) N

An introduction to probability and statistics, including open-ended data gathering and processing, counting techniques, sampling strategies, estimation, and decision making. Prerequisite: MTE 381 or instructor approval.

**481 Mathematics in the Upper-Elementary Grades II.** (3) N

Elementary functions and their applications. A thorough investigation of some of the algorithms of basic arithmetic. Prerequisite: MTE 480 or instructor approval.

**482 Methods of Teaching Mathematics in Secondary School.** (3) F, SS

Examination of secondary school curricular material and analysis of instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. Prerequisite: instructor approval.

**483 Mathematics in the Secondary School.** (3) S, SS

Topics in geometry, number theory, algebra, and analysis. Emphasis on unifying principles. Prerequisite: MAT 310 or instructor approval.

**582 Modern Mathematics for Teachers.** (3) A

Theory of sets, real number system, transfinite numbers, and other selected topics. Prerequisite: instructor approval.

**583 Abstract Algebra for Teachers.** (3) A

Postulational approach to algebra and elementary mathematical systems, including groups and fields. Prerequisite: instructor approval.

**585 Modern Geometry for Teachers.** (3) A

Euclidean, projective, and non-Euclidean geometries. Prerequisite: instructor approval.

**587 Analysis for Teachers.** (3) N

Subject matter in mathematics appropriate for accelerated programs in secondary schools, including analytic geometry and calculus. Prerequisite: instructor approval.

**588 Analysis for Teachers.** (3) N

Continuation of MTE 587. Prerequisite: MTE 587 or instructor approval.

**STATISTICS AND PROBABILITY**

**STP 226 Elements of Statistics.** (3) F, S, SS

Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation. Not open to majors in mathematics or the physical sciences. Prerequisite: MAT 114 or 117 or equivalent. *General Studies: N2.*

**326 Intermediate Probability.** (3) F, S

Probability models and computations, joint and conditional distributions, moments, and families of distributions. Topics in stochastic processes, simulation, and statistics. Prerequisite: MAT 210 or equivalent. *General Studies: N2.*

**420 Introductory Applied Statistics.** (3) F, S, SS

Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. Prerequisite: MAT 117 or equivalent. *General Studies: N2.*

**421 Probability.** (3) F

Laws of probability, combinatorial analysis, random variables, probability distributions, expectations, moment generating functions, transformations of random variables, and cen-

tral limit theorem. Prerequisites: MAT 300 and STP 420 or equivalents.

**425 Stochastic Processes.** (3) S

Markov chains, stationary distributions, pure jump processes, 2d order processes, and other topics in stochastic processes. Prerequisites: MAT 342; STP 421.

**427 Mathematical Statistics.** (3) S

Limiting distributions, interval estimation, point estimation, sufficient statistics, and tests of hypotheses. Prerequisite: STP 421.

**429 Experimental Statistics.** (3) S

Statistical inference for controlled experimentation. Multiple regression, correlation, analysis of variance, multiple comparisons, and nonparametric procedures. Prerequisite: STP 420 or equivalent. *General Studies: N3.*

**525 Advanced Probability.** (3) N

Measure-theoretic foundations of probability, distribution functions and characteristic functions, laws of large numbers and central limit theorems, conditional probabilities, martingales, and topics in stochastic processes. Prerequisites: MAT 571 and STP 421 or instructor approval.

**526 Theory of Statistical Linear Models.** (3) F

Multinormal distribution, distribution of quadratic forms, full and nonfull rank models, generalized inverses, unbalanced data, variance components, and the large sample theory. Prerequisites: STP 427; knowledge of matrix algebra.

**527 Theory of Statistical Linear Models.** (3) S

Continuation of STP 526. Prerequisite: STP 526 or instructor approval.

**530 Applied Regression Analysis.** (3) F

Method of least squares, simple and multiple linear regression, polynomial regression, analysis of residuals, dummy variables, and model building. Prerequisite: STP 420 or equivalent.

**531 Applied Analysis of Variance.** (3) S

Factorial designs, balanced and unbalanced data, fixed and random effects, randomized blocks, Latin squares, analysis of covariance, and multiple comparisons. Prerequisite: STP 420 or equivalent.

**532 Applied Nonparametric Statistics.** (3) F

One sample test, tests of 2 or more related or independent samples, measures of correlation, and tests of trend and dependence. Prerequisite: STP 420 or equivalent.

**533 Applied Multivariate Analysis.** (3) S

Discriminant analysis, principal components, factor analysis, cluster analysis, and canonical correlation. Prerequisite: STP 420 or equivalent.

**534 Applied Discrete Data Analysis.** (3) N

Models for discrete and count data, measures of association, and log-linear and regression models for contingency tables. Prerequisite: STP 420 or equivalent.

**591 Seminar.** (1–3) N

Topics may be selected from the following:

- (a) Probability
- (b) Statistics