Required supplemental courses in chemistry and mathematics are as follows (a minimum grade of "C" [2.00] is required for all course work):

CHM 113 General Chemistry I *SQ* 4
CHM 115 General Chemistry with Qualitative Analysis *SQ* 5
Choose between the organic chemistry course combinations below ..... 4 or 8
  CHM 231 Elementary Organic Chemistry *SQ** (3)
  CHM 235 Elementary Organic Chemistry Laboratory *SQ** (1)
  — *or* —
  CHM 233 General Organic Chemistry I (3)
  CHM 234 General Organic Chemistry II (3)
  CHM 237 General Organic Chemistry Laboratory I (1)
  CHM 238 General Organic Chemistry Laboratory II (1)
MAT 251 Calculus for Life Sciences *MA* 3
Total ..... 16 or 20

* Both CHM 231 and 235 must be taken to secure SQ credit.

One of the following courses is also required:

PLB 430 Statistical Analyses in Environmental Science *CS* 3
  or PLB 432 Computer Applications in Biology *CS* (3)
  or BIO 415 Biometry *CS* (4)

Special Concentration Programs

Two special concentration programs are optional. Students who wish to pursue the general program in Plant Biology are not obligated to choose one of these specific programs. Each special concentration program is expected to be interdisciplinary and contain course work outside both Plant Biology and the College of Liberal Arts and Sciences. Each concentration includes hands-on technical training.

Environmental Science and Ecology. The BS degree in Plant Biology with a concentration in environmental science and ecology consists of a minimum of 44 semester hours in plant biology and approved life science and physical science courses. A minimum grade of "C" (2.00) is required for all course work in the major and related fields. Required courses are as follows:

BIO 320 Fundamentals of Ecology 3
Choose between the geology course combinations below 4
  GLG 101 Introduction to Geology I (Physical) *SQ, G*[1] (3)
  GLG 103 Introduction to Geology I—Laboratory *SQ*[1] (1)
  — *or* —
  GLG 110 Geologic Disasters and the Environment *SG, G*[2] (3)
  GLG 111 Geologic Disasters Laboratory *SG*[2] (1)
  — *or* —
  GPH 111 Introduction to Physical Geography *SQ* (4)
PLB 200 Biology of Plants *SQ*[3] 3
PLB 201 Biology of Plants Laboratory *SQ*[3] 1
PLB 310 The Flora of Arizona 4
PLB 322 Environmental Science (Major) 3
PLB 420 Plant Ecology: Organisms and Populations 3
  or PLB 421 Plant Ecology: Communities and Ecosystems (3)
PLB 484 Internship 3
  or PLB 499 Individualized Instruction (3)
Total 24

[1] Both GLG 101 and 103 must be taken to secure SQ credit.
[2] Both GLG 110 and 111 must be taken to secure SG credit.
[3] Both PLB 200 and 201 must be taken to secure SQ credit.

The remaining hours to bring the total to 44 are selected from among relevant courses in plant biology, other life sciences, and physical sciences.

CHM 113 General Chemistry I *SQ* 4
CHM 115 General Chemistry with Qualitative Analysis *SQ* 5
CHM 231 Elementary Organic Chemistry *SQ** 3
CHM 235 Elementary Organic Chemistry Laboratory *SQ** 1
MAT 251 Calculus for Life Sciences *MA* 3
Total 16

* Both CHM 231 and 235 must be taken to secure SQ credit.

One of the following courses is also required:

PLB 430 Statistical Analyses in Environmental Science *CS* 3
  or PLB 432 Computer Applications in Biology *CS* (3)
  or BIO 415 Biometry *CS* (4)
  or STP 420 Introductory Applied Statistics *CS* (3)

Plant Biochemistry and Molecular Biology. The BS degree in Plant Biology with a concentration in biochemistry and molecular biology consists of 56 semester hours. A minimum grade of "C" (2.00) is required for all course work in the major and related fields.

The required major courses are as follows:

BIO 353 Cell Biology 3
MBB 245 Cellular and Molecular Biology *SQ* 4
PLB 308 Plant Physiology 4
PLB 350 Applied Genetics 4
PLB 444 Plant Growth and Development 3
PLB 484 Internship 3
  or PLB 499 Individualized Instruction (3)
Total 21

Required supplemental courses in biochemistry, chemistry, mathematics, and physics are as follows (a minimum grade of "C" (2.00) is required for all course work):

Choose between the course combinations below ..... 4 or 9
  BCH 361 Principles of Biochemistry (3)
  BCH 367 Elementary Biochemistry Laboratory (1)
  — *or* —
  BCH 461 General Biochemistry (3)
  BCH 462 General Biochemistry (3)
  BCH 467 Analytical Biochemistry Laboratory *L* (3)
CHM 113 General Chemistry I *SQ* 4
CHM 115 General Chemistry with Qualitative Analysis *SQ* 5
CHM 231 Elementary Organic Chemistry *SQ*[1] 3
CHM 235 Elementary Organic Chemistry Laboratory *SQ*[1] 1
MAT 251 Calculus for Life Sciences *MA* 3
PHY 111 General Physics *SQ*[2] 3
PHY 112 General Physics *SQ*[3] 3
PHY 113 General Physics Laboratory *SQ*[2] 1
PHY 114 General Physics Laboratory *SQ*[3] 1
Total ..... 28 or 33

[1] Both CHM 231 and 235 must be taken to secure SQ credit.
[2] Both PHY 111 and 113 must be taken to secure SQ credit.
[3] Both PHY 112 and 114 must be taken to secure SQ credit.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

The remaining hours to bring the total to 56 are selected from among relevant courses in plant biology, other life sciences, and physical sciences.

One of the following courses is also required:

BIO 406 Computer Applications in Biology *CS* 3
or MAT 351 Mathematical Methods for Genetic Analysis *CS* (3)

HEALTHCARE ORGANIZATIONS AND SOCIETY CERTIFICATE

The certificate program is designed to allow undergraduate students interested in healthcare and the healthcare industry to access a broad range of disciplinary approaches and issues relevant to the subject.

To complete the certificate, students must take 18 semester hours of course work. Before starting the program students should seek advice and information in the School of Life Sciences Student Services Office in the College of Liberal Arts and Sciences or Business Honors advising in the W. P. Carey School of Business.

The course work must conform to the following structure and must be drawn from the three areas listed below. Additional courses are permissible with the approval of an advisor. In addition, students must meet the following requirements:

1. complete 18 semester hours, 12 of which must be in the upper division;
2. earn a "C" or higher in all upper-division courses taken for the certificate; and
3. complete at least 12 of the semester hours for the certificate in residence at ASU.

Overview of the U.S. Healthcare Industry. HSM 220 Healthcare Organizations is required. HSM 498 PS: Healthcare Economics is required for business students. HSM 561 Biostatistics may be taken by petition. No more than three courses in this area may be taken.

Ethical and Legal Issues in Healthcare. PHI 320 Bioethics is required. A second course is also required, PAF 460 Public Service Ethics or HSM 498 PS: Legal and Ethical Issues in Healthcare. No more than three courses in this area may be taken.

Anthropological, Historical, and Social Perspectives on Healthcare. One course is required. No more than two courses in this area may be taken, from among ASB 462 Medical Anthropology: Culture and Health, HPS 331 History of Medicine, and SOC 427 Sociology of Health and Illness.

For more information, visit the School of Life Sciences in LSC 206, or call 480/727-6277. Or visit Business Honors in the W. P. Carey School of Business in BA 150, or call 480/965-8710.

HISTORY AND PHILOSOPHY OF SCIENCE CERTIFICATE

The School of Life Science offers an undergraduate History and Philosophy of Science Certificate. The certificate program is designed to give students an understanding of both traditional philosophic issues surrounding science and the historical development of concrete scientific theories and ideas. The philosophic questions, of the belief-worthiness and interpretation of scientific claims as well as norms within or about science, both enrich and are enriched by their combination with historical study. Such philosophic and historical study will also often include the examination of contemporary sciences and their place within the larger society.

The certificate requires 18 semester hours bearing an HPS or PHI prefix, of which 12 semester hours must be in the upper division. Included with the 18 semester hours, at least nine must bear the HPS prefix. HPS 314 or PHI 314 Philosophy of Science is also required. All courses counting toward the certificate must be approved for this purpose by a School of Life Sciences academic advisor and passed with a grade of "C" (2.00) or higher.

MINOR

Biological Sciences

The Biological Sciences minor is designed to provide students interested in biology with a flexible curriculum that can be tailored to their interests. The minor consists of 24 semester hours, including BIO 187 General Biology I and BIO 188 General Biology II. PLB 200 Biology of Plants and PLB 201 Biology of Plants Laboratory or MIC 206 Microbiology Laboratory and MIC 220 Biology of Microorganisms may together be substituted for BIO 187 or 188. Alternatively, MBB 245 Cellular and Molecular Biology may be substituted for BIO 188. The remaining 16 hours are selected by the student with the approval of an advisor. At least 12 of these 16 hours must be in upper-division courses in the life sciences. Courses not available for credit in the Life Science majors cannot be used for the minor (e.g., BIO 100 The Living World and BIO 201 Human Anatomy and Physiology I). This minor is not available to students majoring in the life sciences.

Any one of these combinations may be used:

1. BIO 187 and BIO 188,
2. BIO 187 and PLB 200 and 201,
3. BIO 188 and PLB 200 and 201,
4. BIO 187 and MIC 206 and 220,
5. BIO 188 and MIC 206 and 220, or
6. BIO 187 and MBB 245.

BIS CONCENTRATIONS

Concentrations in biological sciences, history and philosophy of science, and health care organizations and society are available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. The requirements for the BIS concentrations are the same as for the minor or certificate in that area. For more information, see "School of Interdisciplinary Studies," page 139.

SECONDARY EDUCATION—BAE

This degree is offered through the Initial Teacher Certification (ITC) program in the College of Education. Students pursuing a major in Secondary Education have an advisor in the College of Education and an advisor within the School of Life Sciences.

See "College of Education," page 349, for information on admission eligibility requirements, admission deadlines, field experiences, and student teaching. For more information, or to schedule an appointment with an advisor, call the Office of Student Services in the College of Education at 480/965-5555.

Academic Specialization ITC Admission Requirements. The following courses must be completed with a grade of "C" (2.00) or higher before applying to the ITC professional program:

BIO 187 General Biology I *SG* 4
BIO 188 General Biology II *SQ* 4

In addition, at least 12 hours of biology course work from the major teaching field may be in progress when applying to the ITC but must be completed before starting the program.

Biological Sciences. The academic specialization requires 61 hours, and six hours in teaching methods. A minimum grade of "C" (2.00) is required for all course work in the major and related fields. Required major courses are as follows:

BIO 187 General Biology I *SG* 4
BIO 188 General Biology II *SQ* 4
BIO 320 Fundamentals of Ecology 3
BIO 340 General Genetics 4
BIO 345 Organic Evolution 3
BIO 360 Animal Physiology 3
BIO 370 Vertebrate Zoology 4
or BIO 385 Comparative Invertebrate Zoology (4)
or PLB 300 Comparative Plant Diversity *L/SG* (4)
or PLB 310 The Flora of Arizona (4)
MIC 205 Microbiology *SG*[1] 3
or MIC 220 Biology of Microorganisms (3)
MIC 206 Microbiology Laboratory *SG*[1] 1
PLB 308 Plant Physiology 4
Electives[2] 6
Total 39

[1] Both MIC 205 and 206 must be taken to secure SG credit.
[2] Electives should be selected from BIO, MIC, and PLB courses. BIO 100, 201, 202, 241, 300, and 319, or PLB 108 and 320 cannot be used to fulfill the elective requirement.

Required supporting courses are as follows:

BIO 316 History of Biology: Conflicts and Controversies *H* 3
or HPS 330 History of Biology: Conflicts and Controversies *H* (3)
CHM 113 General Chemistry I *SQ* 4
CHM 116 General Chemistry with Qualitative Analysis *SQ* 4
GLG 102 Introduction to Geology II (Historical) *SG*,[1] *H* 3
or GLG 300 Geology of Arizona (3)
MAT 170 Precalculus *MA* 3
PHY 101 Introduction to Physics *SQ* 4
or PHY 111, 112 General Physics *SQ*[2] (6)
and PHY 113, 114 General Physics Laboratory *SQ*[2] (2)
Minimum total 21

[1] Both GLG 102 and 104 must be taken to secure SG credit.
[2] Both PHY 111 and 113 or PHY 112 and 114 must be taken to secure SQ credit.

Teaching Methods
BIO 480 Methods of Teaching Biology 3
BIO 482 Advanced Methods of Teaching Biology 3
Total 6

Graduate Programs

The School of Life Sciences offers programs leading to the degrees of Master of Natural Sciences, MS, and PhD See the *Graduate Catalog* for requirements. A combined BS-MS degree in Biology is also available.

MOLECULAR AND CELLULAR BIOLOGY

The school participates in the interdisciplinary program for the MS and PhD degrees in Molecular and Cellular Biology as well.

The interdisciplinary MS and PhD degrees with a major in Molecular and Cellular Biology are administered by the Interdisciplinary Committee on Molecular and Cellular Biology. The participating faculty are drawn primarily from the School of Life Sciences and the Department of Chemistry and Biochemistry, with additional faculty from the Department of Physics and Astronomy and the School of Human Evolution and Social Change.

For more information, contact the director or see the *Graduate Catalog.*

BIOLOGY (BIO)

For more BIO courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M BIO 100 The Living World. (4)
fall, spring, summer
Principles of biology. Cannot be used for major credit in the biological sciences. 3 hours lecture, 3 hours lab.
General Studies: SQ

M BIO 187 General Biology I. (4)
fall, spring, summer
Biological concepts emphasizing principles and interplay of structure and function at the organismal, population, and community levels; includes ecology, evolution. Lecture, lab. Fee. Prerequisite: life science or health-related sciences major.
General Studies: SG

M BIO 188 General Biology II. (4)
fall, spring, summer
Biological concepts emphasizing principles and interplay of structure and function at the molecular, cellular, and organismal levels; includes genetics, cell biology, physiology. Lecture, lab. Fee. Prerequisite: BIO 187 recommended.
General Studies: SQ

M BIO 193 The Nature of Biological Science. (4)
selected semesters
Creative and critical thinking skills in biological research; nature of biological knowledge; role of experimentation, predictions, hypotheses, theories, values. Lecture, lab, discussion. Fee. Prerequisite: high school biology.
General Studies: SQ

M BIO 201 Human Anatomy and Physiology I. (4)
fall, spring, summer
Structure and dynamics of the human mechanism. Cannot be used for major credit in the biological sciences. 3 hours lecture, 3 hours lab. Fee.
General Studies: SG

M BIO 202 Human Anatomy and Physiology II. (4)
fall, spring, summer
Continuation of BIO 201. Cannot be used for major credit in the biological sciences. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 201 or instructor approval.

ΩM BIO 300 Natural History of Arizona. (3)
selected semesters
Plant and animal communities of Arizona. Cannot be used for major credit in the biological sciences. Prerequisite: junior standing.

M BIO 301 Field Natural History. (1)
selected semesters
Organisms and their natural environment. Cannot be used for major credit in the biological sciences. 2 weekend field trips, field project. Fee. Pre- or corequisite: BIO 300.

M BIO 302 Cancer and Heart Disease. (3)
fall
Incidence and mortality statistics for cancer and heart disease; host and environmental risk factors; diagnosis, treatment and prevention strategies. Cannot be counted toward a Biology major. Prerequisites: a combination of CHM 231 (or its equivalent) and 12 hours in life sciences and a General Studies L course or only instructor approval.
General Studies: L

M BIO 303 Radiation and Life. (3)
spring
Benefits and risks of radiation exposure in society; medical applications, food irradiation, nuclear power, solar UV, population health effects. Cannot be counted toward a Biology major. Prerequisites: a combination of CHM 231 (or its equivalent) and 12 hours in life sciences and a General Studies L course or only instructor approval.
General Studies: L

M BIO 304 Radiation Medicine and Biology. (3)
fall
Uses of radiation in medicine, including CT, diagnostic x rays, MRI, nuclear medicine, ultrasound; biological effects of radiation with emphasis on cancer. Prerequisites: a combination of PHY 112 and 12 hours in life sciences and a General Studies L course or only instructor approval.
General Studies: L

M BIO 310 Special Problems and Techniques. (1–3)
fall and spring
Qualified undergraduates may investigate a specific biological problem under the direction of a faculty member. May be repeated for a total of 6 semester hours. Prerequisites: formal conference with the instructor; approval of the problem by the instructor and department chair.

M BIO 311 Biology and Society. (3)
fall
Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. Lecture, discussion. Cross-listed as HPS 340. Credit is allowed for only BIO 311 or HPS 340. Prerequisites: both BIO 187 and 188 or only BIO 193 (or 100).

M BIO 314 Research Colloquium in Biology and Society I. (2)
spring
Develops critical thinking abilities, research methods, and writing skills for research in the interactions between biological sciences and society. Lecture, discussion. Prerequisite: BIO 311 or instructor approval.
General Studies: L (if credit also earned in BIO 414)

M BIO 315 HIV/AIDS: Science, Behavior, and Society. (3)
fall and spring
Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. Prerequisite: any 100-level MIC, BIO, or PLB course.

M BIO 316 History of Biology: Conflicts and Controversies. (3)
selected semesters
Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. Cross-listed as HPS 330. Credit is allowed for only BIO 316 or HPS 330.
General Studies: H

M BIO 317 Conservation Biology. (3)
fall
Scientific and technical means for management, maintenance, protection, and restoration of biological resources on this planet. Prerequisite: 8 hours in biology.

M BIO 318 History of Medicine. (3)
once a year
Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. Cross-listed as HPS 331. Credit is allowed for only BIO 318 or HPS 331.
General Studies: H

M BIO 319 Environmental Science (Nonmajor). (3)
fall
Environmental and biological concepts used to understand ecological systems with specific references to problems caused by humans. Cannot be used for major credit in the biological sciences. Cross-listed as PLB 320. Credit is allowed for only BIO 319 or PLB 320.
General Studies: G

M BIO 320 Fundamentals of Ecology. (3)
fall and spring
Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics. Prerequisite: BIO 187 or instructor approval.

M BIO 321 Introductory Ecology Laboratory. (3)
once a year
Laboratory and field observations and experiments to test current concepts and theories in ecology. Lab. Fee. Pre- or corequisite: BIO 320.
General Studies: L

M BIO 325 Oceanography. (3)
fall
Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. Cross-listed as GLG 325. Credit is allowed for only BIO 325 or GLG 325. Prerequisite: BIO 101 or GLG 101 or instructor approval.

M BIO 331 Animal Behavior. (3)
fall
Evolutionary, genetic, physiological, and ecological bases of animal behavior. Prerequisite: BIO 187 (or its equivalent).

M BIO 336 Sociobiology. (3)
selected semesters
Survey of animal and human social behavior examined from an evolutionary perspective. Suitable for nonmajors. Prerequisite: BIO 331 recommended.

M BIO 340 General Genetics. (4)
fall, spring, summer
Science of heredity and variation. 3 hours lecture, 1 hour recitation. Prerequisite: BIO 187.

M BIO 341 Genetic Analysis. (5)
selected semesters
General genetics: science of heredity and variation using critical inquiry. Not open to students with credit for BIO 340. 3 hours lecture, 6 hours lab. Prerequisites: BIO 187 and 193 (or their equivalents).

M BIO 342 General Genetics Laboratory. (2)
fall
Explores general principles of inheritance with special reference to Mendelian, molecular, and computational genetics via laboratory experiments. Lab. Pre- or corequisite: BIO 340.

M BIO 343 Genetic Engineering and Society. (4)
fall
Introduces genetic engineering, with emphasis on applications (gene therapy, DNA fingerprinting, bioremediation, transgenic animals and plants). 3 hours lecture, 3 hours lab. Cross-listed as MBB 343. Credit is allowed for only BIO 343 or MBB 343. Fee. Prerequisites: preferably MBB 245 or BIO 188 (or its equivalent).
General Studies: L

M BIO 344 Origins, Evolution, and Creation. (3)
selected semesters
Examines scientific, mythic, and religious ideas relating to origins (particularly human). Place of antievolutionism and "scientific creationism" in American culture. Lecture, discussion. Cross-listed as HPS 311/HUM 371/REL 383. Credit is allowed for only BIO 344 or HPS 311 or HUM 371 or REL 383.

M BIO 345 Organic Evolution. (3)
spring
Processes of adaptive change and speciation in sexual populations. Prerequisite: BIO 187.

M BIO 346 The Darwinian Revolution. (3)
selected semesters
Intellectual and cultural history of Darwinism and modern evolutionary theory and their impact on 19th- and 20th-century thought. Lecture, discussion. Cross-listed as HPS 332/HUM 372. Credit is allowed for only BIO 346 or HPS 332 or HUM 372.

M BIO 351 Developmental Anatomy. (3)
fall
General developmental biology (embryology) and comparative structure of organ systems, illustrated mainly by vertebrate examples. Prerequisite: BIO 187.

M BIO 352 Laboratory in Vertebrate Developmental Anatomy. (2)
fall
Morphology of representative embryonic and adult vertebrates. 2 3-hour labs. Fee. Prerequisites: BIO 187; BIO 351 recommended.

M BIO 353 Cell Biology. (3)
fall, spring, summer
Survey of major topics in cell biology, including structural, biochemical, and molecular aspects of cell function. Prerequisite: BIO 187.

M BIO 360 Animal Physiology. (3)
fall and spring
Physiological mechanisms of the higher vertebrates. Prerequisites: BIO 187; CHM 115; MAT 117.

M BIO 361 Animal Physiology Laboratory. (2)
fall and spring
Experimental laboratory studies of physiological mechanisms in animals and model systems. Lab, recitation. Fee. Prerequisites: CHM 115; MAT 117. Pre- or corequisite: BIO 360.

M BIO 370 Vertebrate Zoology. (4)
fall and spring
Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 187.

M BIO 385 Comparative Invertebrate Zoology. (4)
fall
Characteristics, life cycles, adaptations, and evolution of invertebrate animals. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 187 or instructor approval.

M BIO 386 General Entomology. (4)
selected semesters
Form, activities, and classification of insects. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 187.

M BIO 390 Medical/Dental Field Placement. (3)
fall, spring, summer
Field placement for students exploring a career in a health profession. Requires classroom sessions and field work. Lecture, lab.
Prerequisites: application; instructor approval.

M BIO 394 Special Topics. (1–4)
selected semesters
Topics of current or special interest in one or more aspects of biology. Topics may include the following.
- Introduction to Computational Molecular Biology. (2–3) Fee.

Prerequisite: junior standing.

M BIO 406 Computer Applications in Biology. (3)
fall
Computer analysis techniques in biology emphasizing data entry, management and analysis, and graphic portrayal. Employs mainframe and microcomputers. 2 hours lecture, 3 hours lab. Cross-listed as PLB 432. Credit is allowed for only BIO 406 or PLB 432. Fee.
Prerequisites: both BIO 187 and MAT 117 (or 210) or only instructor approval.
General Studies: CS

M BIO 410 Techniques in Wildlife Conservation Biology. (3)
fall
Field and analytical techniques used in evaluating population structure, viability and environmental impacts. Lecture, lab. Fee.
Prerequisites: both BIO 317 and 320 or only instructor approval.
General Studies: L

M BIO 411 Advanced Conservation Biology I. (3)
selected semesters
Principles of conservation science, biology of threatened species, management principles that meet conservation goals, emphasizing North American ecosystems. Prerequisites: BIO 317, 320.

M BIO 412 Advanced Conservation Biology II. (3)
spring
Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. Prerequisites: BIO 317, 320.

M BIO 414 Research Colloquium in Biology and Society II. (1)
spring
Further develops critical thinking abilities, research methods, and writing skills for research in the interactions between biological sciences and society. Lecture, discussion. Prerequisites: both BIO 311 and 314 or only instructor approval.
General Studies: L (if credit also earned in BIO 314)

M BIO 415 Biometry. (4)
fall
Statistical methods applied to biological problems, design of experiments, estimation, significance, analysis of variance, regression, correlation, chi square, and bioassay; the use of computers. Does not satisfy laboratory requirements for the College of Liberal Arts and Sciences' General Studies program. 3 hours lecture, 3 hours lab. Fee. Prerequisite: MAT 210 (or its equivalent).
General Studies: CS

M BIO 416 Professional Values in Science. (3)
once a year
Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. Discussion, student projects. Cross-listed as HPS 410. Credit is allowed for only BIO 416 or HPS 410.
General Studies: L

M BIO 417 Experimental Design. (3)
spring
Fixed, random, mixed models; crossed and nested factorial designs; balanced and unbalanced data; completely randomized, blocked, repeated measure designs; ANCOVA. Prerequisite: BIO 415 (or its equivalent).

M BIO 420 Field Zoology. (3)
selected semesters
Experience in zoological field techniques. Weekend or longer field trips. Prerequisite: instructor approval.

M BIO 421 Landscape Ecology. (3)
fall
Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. Prerequisite: BIO 320.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M BIO 423 Population and Community Ecology. (3)
selected semesters
Organization and dynamics of population and communities, emphasizing animals. Theoretical and empirical approaches. Prerequisite: BIO 320 or instructor approval.

M BIO 424 Mathematical Models in Ecology. (4)
selected semesters
Mathematical modeling of populations, communities, and ecosystems, including case studies and student-designed projects. 3 hours lecture, 3 hours lab. Prerequisites: BIO 320; a course in calculus.

M BIO 425 Animal Ecology. (3)
selected semesters
Physiological and behavioral adaptations of individual animals to both abiotic and biotic environments. Prerequisite: BIO 320.

M BIO 426 Limnology. (4)
selected semesters
Structure and function of aquatic ecosystems, with emphasis on freshwater lakes and streams. 3 hours lecture, 3 hours lab or field trip. Fee. Prerequisite: BIO 320 or instructor approval.
General Studies: L

M BIO 427 Fire. (3)
selected semesters
Interdisciplinary survey of fire on Earth—its history, ecology, and management. Prerequisite: BIO 187.

M BIO 428 Biogeography. (3)
fall
Environmental and historical processes determining distributional patterns of animals and plants, emphasizing terrestrial life. Prerequisites: BIO 187 (or its equivalent); junior standing.
General Studies: L

M BIO 431 Genes, Development, and Evolution. (3)
fall
Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease. Discussion, presentation. Prerequisites: BIO 187, 188 (or their equivalents).

M BIO 435 Research Techniques in Animal Behavior. (3)
selected semesters
Experimental and field studies of animal behavior; description and quantification of animal behavior and interpretation of behavior within an evolutionary framework. 1 hour lecture, 6 hours lab. Prerequisite: BIO 331.

M BIO 446 Principles of Human Genetics. (3)
once a year
Molecular and cellular analysis of the human genome. Prerequisite: BIO 340.
General Studies: L

M BIO 450 Advanced Developmental Biology. (3)
spring
Current concepts and experimental methods involving differentiation and biosynthetic activities of cells and organisms, with examples from microorganisms, plants, and animals. Prerequisite: BIO 351.

M BIO 451 Cell Biotechnology Laboratory. (3)
fall
Mammalian cell culture techniques, including mouse embryonic stem cells, the use of bioreactors, cell fractionation, and digital video imaging. Lecture, lab. Cross-listed as BME 451. Credit is allowed for only BIO 451 or BME 451. Prerequisites: BIO 353; instructor approval.

M BIO 453 Animal Histology. (4)
selected semesters
Microscopic study of animal tissues. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 187 or instructor approval.

M BIO 460 Astrobiology. (3)
fall and spring
Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. May be repeated for credit. Lecture, discussion, video conferences, possible field trips. Cross-listed as AST 460/CHM 483/GLG 460/MIC 475. Credit is allowed for only AST 460 or BIO 460 or CHM 483 or GLG 460 or MIC 475. Prerequisite: instructor approval.

M BIO 464 Photobiology. (3)
selected semesters
Principles underlying the effects of light on growth, development, and behavior of plants, animals, and microorganisms. Cross-listed as PLB 440. Credit is allowed for only BIO 464 or PLB 440. Prerequisites: CHM 231 (or 233); 12 hours in life sciences.

M BIO 465 Neurophysiology. (3)
spring in even years
Detailed treatment of cellular and organismal neurophysiology and nervous system function. Prerequisite: BIO 360.

M BIO 466 Neurophysiology Laboratory. (2)
selected semesters
Intracellular and extracellular electrophysiological recording techniques, histological preparations, and dye-filling techniques. 6 hours lab. Pre- or corequisite: BIO 465.

M BIO 470 Systematic Zoology. (4)
spring in odd years
Philosophy, theory, practice of interpreting animal diversity, including species concepts speciation, nomenclature, and evolutionary and phylogenetic classification emphasizing phylogenetics. 3 hours lecture, 3 hours lab. Prerequisites: junior standing; 18 hours in life sciences.
General Studies: L

M BIO 471 Ornithology. (3)
spring in odd years
Biology of birds. 2 hours lecture, 3 hours lab, weekend field trips. Fee. Prerequisite: BIO 370 or instructor approval.

M BIO 472 Mammalogy. (4)
fall in odd years
Classification, structure, habits, ecology, and distribution of mammals, emphasizing North American forms. 3 hours lecture, 3 hours lab or field trip, weekend field trips. Fee. Prerequisite: BIO 370 or instructor approval.

M BIO 473 Ichthyology. (3)
spring in odd years
Systematics and biology of recent and extinct fishes. 2 hours lecture, 3 hours lab or field trip, weekend field trips. Fee. Prerequisites: both BIO 370 and 425 or only instructor approval.

M BIO 474 Herpetology. (3)
spring in even years
Systematics and biology of recent and extinct reptiles and amphibians. 2 hours lecture, 3 hours lab or field trip. Fee. Prerequisite: BIO 370.

M BIO 480 Methods of Teaching Biology. (3)
spring
Methods of instruction, experimentation, organization, and presentation of appropriate content in biology. Prerequisite: 20 hours in the biological sciences.

M BIO 482 Advanced Methods of Teaching Biology. (3)
fall in odd years
Design, delivery, and evaluation of student-centered, inquiry-based lessons for high school biology students. Learning cycle. Prerequisite: BIO 480.

M BIO 484 Internship. (3)
selected semesters

M BIO 490 Surgical Field Placement. (3)
fall, spring, summer
Advanced field placement for students exploring a career in a health profession. Requires classroom sessions and field work. May be repeated for credit. Lecture, lab. Prerequisites: application; instructor approval. Pre- or corequisite: BIO 390.

M BIO 492 Honors Directed Study. (1–6)
selected semesters

M BIO 493 Honors Thesis. (1–6)
fall, spring, summer
General Studies: L

M BIO 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
•Advanced Study Practicum. (1–3)

M BIO 495 Undergraduate Thesis. (3)
fall, spring, summer
Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. Prerequisites: at least 3 hours of BIO 310 (or 499); formal conference with instructor; instructor and department chair approval.

M BIO 498 Pro-Seminar. (1–7)
selected semesters

M BIO 499 Individualized Instruction. (1–3)
fall and spring

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

CLINICAL LABORATORY SCIENCES/ MEDICAL TECHNOLOGY (CLS)

M CLS 100 Introduction to Clinical Laboratory Sciences. (1)
fall
Introduces the field of clinical laboratory sciences. Required for Clinical Laboratory Sciences majors.

M CLS 310 Principles of Clinical Chemistry I. (6)
spring
Theory and application of principles of clinical chemistry, with emphasis on laboratory techniques, pathophysiology, methods of analysis, and assessment of procedure. 3 hours lecture, 9 hours lab. Fee. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 320 Principles of Clinical Microbiology I. (6)
spring
Theory and application of principles of clinical microbiology with emphasis on isolation and identification of medically significant fungi and bacteria. 3 hours lecture, 9 hours lab. Fee. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 330 Principles of Clinical Hematology I/Body Fluids. (3)
fall
Theory and application of principles in hematology, with emphasis on techniques to evaluate blood dyscrasias and analyze body fluids. 2 hours lecture, 3 hours lab. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 410 Principles of Clinical Chemistry II. (2)
summer
Continuation of CLS 310 with emphasis on principles of advanced clinical chemistry. 1 hour lecture, 3 hours lab. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 411 Advanced Applications of Clinical Chemistry. (4)
fall
Clinical application of theory/techniques from CLS 310 and 410. Emphasizes operation of common laboratory instrumentation and clinical correlation. Minimum 180 hours practicum. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 420 Principles of Clinical Microbiology II. (2)
summer
Disease mechanisms and identification of medically significant parasites, Mycobacteria, Actinomycetes, Chlamydia, Rickettsia, Mycoplasma, and viruses. 1 hour lecture, 3 hours lab. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 421 Advanced Applications of Clinical Microbiology. (4)
spring
Practical laboratory application of the principles of specimen collection, processing, detection, identification, and antimicrobial testing of medically significant bacteria, fungi, and parasites. Minimum 180 hours practicum. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 430 Principles of Clinical Hematology II/Hemostasis. (3)
fall
Theory and applications of principles in hematology with emphasis on etiology, pathophysiology, clinical manifestations, and treatment of blood dyscrasias/hemostatic defects. 2 hours lecture, 3 hours lab. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 431 Advanced Applications of Clinical Hematology. (4)
spring
Practical laboratory application of methods/techniques used to evaluate and diagnose blood dyscrasias/hemostatic defects. Applied techniques in body fluid analysis. Minimum 180 hours practicum. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 440 Principles of Clinical Immunology/Immunohematology. (4)
fall
Theoretical and practical application of clinical immunology and immunohematology. Emphasizes serological techniques that aid disease diagnosis and blood donor selection. 3 hours lecture, 3 hours lab. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 441 Advanced Applications of Clinical Immunology/Immunohematology. (3)
spring
Practical laboratory application of the principles of serological methods used in diagnosing disease and selecting blood components for transfusion therapy. Minimum 135 hours practicum. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.

M CLS 450 Principles of Clinical Laboratory Administration. (2)
fall and spring
Principles of management, with emphasis on the clinical laboratory. Basic management process, personnel supervision, identification, and allocation of resources. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.
General Studies: L (if credit also earned in CLS 460)

M CLS 460 Principles of Clinical Laboratory Education. (1)
spring
Principles of learning, with application to the development of instructional objectives, strategies, and evaluation for teaching-learning situations in the laboratory. Prerequisite: admission to the Clinical Laboratory Sciences professional study program.
General Studies: L (if credit also earned in CLS 450)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

HISTORY AND PHILOSOPHY OF SCIENCE (HPS)

M HPS 311 Origins, Evolution, and Creation. (3)
selected semesters
Examines scientific, mythic, and religious ideas relating to origins (particularly human). Place of antievolutionism and "scientific creationism" in American culture. Lecture, discussion. Cross-listed as BIO 344/HUM 371/REL 383. Credit is allowed for only BIO 344 or HPS 311 or HUM 371 or REL 383.

M HPS 314 Philosophy of Science. (3)
once a year
Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. Cross-listed as PHI 314. Credit is allowed for only HPS 314 or PHI 314.
General Studies: HU

M HPS 322 History of Science. (3)
once a year
Development and application of scientific thinking from ancient times through the 17th century.
General Studies: HU, H

M HPS 323 History of Science. (3)
selected semesters
Development and application of scientific thinking from the 18th century to the present.
General Studies: HU, H

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M HPS 325 Chinese Science and Medicine. (3)
selected semesters
Explores development of Chinese traditions dealing with the natural world, science, and medicine. Lecture, discussion. Cross-listed as HST 385. Credit is allowed for only HPS 325 or HST 385.
General Studies: HU, G, H

M HPS 330 History of Biology: Conflicts and Controversies. (3)
selected semesters
Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. Cross-listed as BIO 316. Credit is allowed for only BIO 316 or HPS 330.
General Studies: H

M HPS 331 History of Medicine. (3)
once a year
Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. Cross-listed as BIO 318. Credit is allowed for only BIO 318 or HPS 331.
General Studies: H

M HPS 332 The Darwinian Revolution. (3)
selected semesters
Intellectual and cultural history of Darwinism and modern evolutionary theory and their impact on 19th- and 20th-century thought. Lecture, discussion. Cross-listed as BIO 346/HUM 372. Credit is allowed for only BIO 346 or HPS 332 or HUM 372.

M HPS 336 Exploration and Science. (3)
fall
500-year survey of exploration as a historical process and cultural activity of Western civilization, with emphasis on its links with modern science.
General Studies: SB, H

M HPS 340 Biology and Society. (3)
fall
Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. Lecture, discussion. Cross-listed as BIO 311. Credit is allowed for only BIO 311 or HPS 340. Prerequisites: both BIO 187 and 188 or only BIO 193 (or 100).

M HPS 377 Nature in Context. (3)
fall
Explores perspectives on the nature of nature, the history of ecology, and the rise of environmentalism. Seminar. Cross-listed as HON 377. Credit is allowed for only HON 377 or HPS 377.
General Studies: L/HU

M HPS 402 Technology, Society, and Human Values. (3)
once a year
Values that motivate humankind to create technology. Areas of conflict and resolution of conflict between values and technology. Readings and discussions with visiting lecturers. Prerequisite: junior standing.

M HPS 410 Professional Values in Science. (3)
once a year
Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. Discussion, student projects. Cross-listed as BIO 416. Credit is allowed for only BIO 416 or HPS 410.
General Studies: L

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

MOLECULAR BIOSCIENCES/BIOTECHNOLOGY (MBB)

M MBB 245 Cellular and Molecular Biology. (4)
fall and spring
Concepts that underlie relationships between cellular and subcellular structure and function, and integration of major metabolic and genetic processes. Lecture, lab. Fee. Prerequisite: life science major or preprofessional student in health-related sciences.
General Studies: SQ

M MBB 247 Applied Biosciences: Biotechnology. (4)
fall and spring
Applies concepts of molecular and cellular biology of bacteria, animals, and plants to real-world problems. Lecture, lab. Fee. Prerequisite: MBB 245.

M MBB 343 Genetic Engineering and Society. (4)
fall
Introduces genetic engineering, with emphasis on applications (gene therapy, DNA fingerprinting, bioremediation, transgenic animals and plants). 3 hours lecture, 3 hours lab. Cross-listed as BIO 343. Credit is allowed for only BIO 343 or MBB 343. Fee. Prerequisites: preferably MBB 245 or BIO 188 (or its equivalent).
General Studies: L

M MBB 350 Applied Genetics. (4)
spring
Introduces molecular genetics with emphasis on application of genetics in solving biological questions and engineering organisms in biotechnology. 2 hours lecture, 6 hours lab. Cross-listed as PLB 350. Credit is allowed for only MBB 350 or PLB 350. Fee. Prerequisite: preferably MBB 247 or BIO 340 (or 341).

M MBB 445 Techniques in Molecular Biology/Genetics. (2)
fall and spring
Molecular genetic principles: plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation, immunologic detection, and electrophoresis. Cross-listed as MIC 445. Credit is allowed for only MBB 445 or MIC 445. Prerequisites: both BIO 340 and MIC 302 or only instructor approval.

M MBB 446 Techniques in Molecular Biology/Genetics Lab. (2)
fall and spring
Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation; immunologic detection and electrophoresis. Cross-listed as MIC 446. Credit is allowed for only MBB 446 or MIC 446. Pre- or corequisite: MBB 445 or MIC 445.

M MBB 484 Internship. (3)
selected semesters

M MBB 490 Capstone: Issues in Biotechnology. (2)
fall and spring
Integrates science and humanities within problem-solving exercises dealing with intellectual property, ethics, regulatory issues, business practices, and commercialization. May be repeated for credit. Prerequisite: Molecular Biosciences/Biotechnology major or instructor approval.
General Studies: L (must be taken twice to secure L credit)

M MBB 492 Honors Directed Study. (1–6)
selected semesters

M MBB 493 Honors Thesis. (1–6)
selected semesters
General Studies: L

M MBB 494 Special Topics. (1–4)
selected semesters

M MBB 498 Pro-Seminar. (1–7)
selected semesters

M MBB 499 Individualized Instruction. (3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

MOLECULAR AND CELLULAR BIOLOGY (MCB)

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

MICROBIOLOGY (MIC)

M MIC 205 Microbiology. (3)
fall, spring, summer
Basic course for students without credit in BIO 188, emphasizing general principles; role of microorganisms in health, ecology, and applied fields. May not be used for Microbiology major credit unless a

diagnostic test is passed. Prerequisites: both BIO 100 (or PLB 108) and CHM 101 or only instructor approval.
General Studies: SG (if credit also earned in MIC 206)

M MIC 206 Microbiology Laboratory. (1)
fall, spring, summer
Principles and laboratory techniques used in identifying and handling microorganisms. 3 hours lab. Fee. Pre- or corequisite: MIC 205 or 220.
General Studies: SG (if credit also earned in MIC 205)

M MIC 220 Biology of Microorganisms. (3)
fall and spring
Basic course for students with credit in BIO 188. Detailed study of microbial cells, their structure, genetics, physiology, and taxonomy. Corequisites: BIO 187; CHM 115.

M MIC 302 Advanced Bacteriology Laboratory. (2)
fall and spring
Advanced laboratory techniques in bacterial growth, physiology, genetics, and microscopy. Required of Microbiology majors. 4 hours lab. Fee. Prerequisites: completion of General Studies L requirement and either (a) MIC 206 and 220 or (b) MIC 205 and 206 and instructor approval.
General Studies: L (if credit also earned in MIC 401)

M MIC 360 Bacterial Physiology. (3)
fall and spring
Mechanisms and control of cell metabolism, structures, and functions. Prerequisite: MIC 220. Pre- or corequisite: BCH 361 or instructor approval.

M MIC 380 Medical Parasitology. (3)
fall
Parasitic diseases of humans, including life cycle events and clinical manifestations. Prerequisite: MIC 205 or 220.

M MIC 381 Pathogenic Microbes. (3)
spring
Host-microbial interactions in infectious disease, with emphasis on pathogenesis, host defenses, and molecular mechanisms of microbial virulence. Prerequisite: MIC 360 or 6 hours in microbiology with instructor approval.

M MIC 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- HIV Disease and AIDS in America
- Medical Immunology

M MIC 401 Research Paper. (1)
fall, spring, summer
Paper of 15 or more pages based on library or laboratory research in collaboration with a faculty member. Required of all Microbiology majors. Prerequisites: MIC 302; completion of General Studies L requirement.
General Studies: L (if credit also earned in MIC 302)

M MIC 402 Service Learning. (3)
fall and spring
K–12 tutoring internship; learning activities employed were originally developed as part of the Bio Reach Program. Requires weekly reflective writing. May be repeated for credit. Internship. Fee. Pre- or corequisite: BIO 181 or 188.
General Studies: C

M MIC 420 Immunology: Molecular and Cellular Foundations. (3)
fall
Molecular and cellular foundations of immunology. Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. Prerequisites: both CHM 231 (or 233) and MIC 205 (or 220) or only instructor approval.

M MIC 421 Experimental Immunology. (2)
fall and spring
Introduces the basic techniques, methods, and assays used in immunology. 6 hours lab. Fee. Prerequisites: a combination of CHM 231 and 233 and MIC 302 or only instructor approval.

M MIC 425 Advanced Immunology. (3)
selected semesters
Survey of recent advances in immunology, including lymphocyte membranes, lymphokines/biochemistry, molecular genetics, theoretical immunology, immunoregulation, neuroimmunology, and immunologic diseases. Prerequisite: MIC 420 or instructor approval.

M MIC 428 Immunophilosophy. (3)
selected semesters
Integrates immunology and philosophy, including psychoneuroimmunology and the mind-body problem, and immunologic/psychologic perspectives on self and self-identity. Discussion, original literature readings and written assignments. Cross-listed as PHI 428. Credit is allowed for only MIC 428 or PHI 428. Pre- or corequisite: MIC 420 or PHI 317 or instructor approval.

M MIC 441 Bacterial Genetics. (3)
spring
Survey of genetic exchange and regulatory processes in bacteria and their viruses. Bacteria and viruses as tools in genetic engineering. Prerequisites: both BIO 340 and MIC 205 (or 220) or only instructor approval.

M MIC 442 Bacterial Genetics Laboratory. (1)
fall
Techniques of mutagenesis, mapping, and strain and genetic library construction. 4 hours lab. Prerequisites: MIC 206, 302. Pre- or corequisite: MIC 441.

M MIC 445 Techniques in Molecular Biology/Genetics. (2)
fall and spring
Molecular genetic principles: plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation; immunologic detection and electrophoresis. Cross-listed as MBB 445. Credit is allowed for only MBB 445 or MIC 445. Prerequisites: both BIO 340 and MIC 302 or only instructor approval.

M MIC 446 Techniques in Molecular Biology/Genetics Lab. (2)
fall and spring
Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation; immunologic detection and electrophoresis. Cross-listed as MBB 446. Credit is allowed for only MBB 446 or MIC 446. Pre- or corequisite: MBB 445 or MIC 445.

M MIC 461 Geomicrobiology. (3)
spring
Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. Cross-listed as GLG 461. Credit is allowed for only GLG 461 or MIC 461. Prerequisites: introductory courses in chemistry and microbiology (or geological sciences); instructor approval.

M MIC 470 Bacterial Diversity and Systematics. (4)
selected semesters
Biology, classification, and enrichment culture of the nonpathogenic bacteria. 2 hours lecture, 6 hours lab. Fee. Prerequisite: MIC 302.

M MIC 475 Astrobiology. (3)
fall and spring
Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. May be repeated for credit. Lecture, discussion, video conferences, possible field trips. Cross-listed as AST 460/BIO 460/CHM 483/GLG 460. Credit is allowed for only AST 460 or BIO 460 or CHM 483 or GLG 460 or MIC 475. Prerequisite: instructor approval.

M MIC 484 Internship. (1–12)
fall, spring, summer

M MIC 485 General Virology. (3)
fall
Fundamental principles of viruses, their molecular biology, replication, genetics, and pathogenesis. Prerequisites: a combination of BCH 361 and MIC 206 and 220 or only instructor approval.

M MIC 492 Honors Directed Study. (1–6)
selected semesters

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M MIC 493 Honors Thesis. (1–6)
selected semesters
General Studies: L

M MIC 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Clinical Bacteriology Laboratory. (3)
- Service Learning (Bioreach). (3)

M MIC 495 Undergraduate Research. (1–6)
fall, spring, summer
Supervised research in microbiology. May be repeated for credit. Lab. Prerequisites: MIC 206, 220, 302; instructor approval.

M MIC 498 Pro-Seminar. (1–7)
selected semesters

M MIC 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PLANT BIOLOGY (PLB)

M PLB 108 Concepts in Plant Biology. (4)
fall, spring, summer
Introduces concepts of plant biology that are of human relevance using commercially important, edible, and medicinal plants as examples. Not for majors in the biological sciences. 3 hours lecture, 3 hours lab. Fee.
General Studies: SQ

M PLB 200 Biology of Plants. (3)
fall, spring, summer
Analyzes the structure/function interaction for plant cells and tissues and properties that emerge in whole plants. Prerequisites: high school biology and chemistry.
General Studies: SQ (if credit also earned in PLB 201)

M PLB 201 Biology of Plants Laboratory. (1)
fall, spring, summer
Lab/field experiments to teach techniques and protocols of the scientific process; reinforces concepts from lecture by asking questions and solving problems. Lab. Prerequisites: high school biology and chemistry.
General Studies: SQ (if credit also earned in PLB 200)

M PLB 300 Comparative Plant Diversity. (4)
fall
Surveys major plant groups and other photosynthetic organisms. Emphasizes comparative data analysis, evolutionary inference, and phylogenetic methods. 3 hours lecture, 3 hours lab. Fee. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).
General Studies: L/SG

M PLB 302 Plants and Civilization. (3)
fall
Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). Prerequisites: preferably both PLB 200 and 201 (or 108) or only BIO 187 (or its equivalent).

M PLB 304 Biology of Algae and Fungi. (3)
selected semesters
Ecology, economics, and evolutionary diversity of the algae and fungi. Traditional and modern biotechnological uses. 2 hours lecture, 3 hours lab. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).

M PLB 305 Desert Annuals and Cacti. (3)
fall
Adaptive biology of select plants. Analyzes diverse traits permitting survival in deserts: reproduction, structure, and physiology. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or equivalent).

M PLB 306 Plant Anatomy. (4)
fall
Development and mature structure of tissues of vascular plants; patterns and modifications of the leaf, stem, root, and flower. 3 hours lecture, 3 hours lab. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).

M PLB 308 Plant Physiology. (4)
spring
Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. Fee. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent); CHM 101 (or 115 or 231).

M PLB 310 The Flora of Arizona. (4)
spring
Principles of taxonomy; identification of Arizona plants. 2 hours lecture, 6 hours lab. Fee. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).

M PLB 400 Lichenology. (3)
spring in odd years
Chemistry, ecology, physiology, and taxonomy of lichens. 2 hours lecture, 3 hours lab. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).

M PLB 401 Mycology. (3)
spring
Fungal morphology and systematics with an introduction to fungal cell biology, ecology, economic significance, and growth and development. 2 hours lecture, 3 hours lab. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent) or only MIC 206.

M PLB 402 Service Learning. (3)
fall and spring
K–12 tutoring and mentoring internship related to academic course work in plant biology; requires weekly reflective reading and writing. May be repeated for credit. Internship. Fee. Pre- or corequisite: BIO 187 or PLB 108 (or 200 and 201).
General Studies: C

M PLB 404 Phycology. (4)
spring
Algae (both fresh water and marine forms), emphasizing field collection and identification of local representatives. Morphological, ecological, and economic aspects of the algae. 3 hours lecture, 3 hours lab. Fee. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent).

M PLB 407 Plant Fossils and Evolution. (4)
spring in odd years
Broad survey of plant life of the past, including the structure of plant fossils, their geologic ranges, geographic distribution, and paleoenvironment. 3 hours lecture, 3 hours lab or field trip. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or equivalent).

M PLB 410 Angiosperm Taxonomy. (3)
spring
Principles underlying angiosperm phylogeny. 2 hours lecture, 3 hours lab. Prerequisite: PLB 310 or instructor approval.

M PLB 411 Trees and Shrubs of Arizona. (3)
fall
Identification of woody plants from desert, chaparral, and forest habitats in Arizona. 1 hour lecture, 3 hours lab, field trips. Fee. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent) or only instructor approval.

M PLB 414 Plant Pathology. (3)
spring
Identification and control of biotic and abiotic factors that cause common disease problems to plants. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent) or only instructor approval.
General Studies: L

M PLB 416 Medical Botany. (4)
summer
Explores plants affecting human health: modern- and folk-usage medicinal plants. Quality control, clinical evidence, plant chemistry, and ethnopharmacology. 3 hours lecture, 3 hours lab. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 (or its equivalent) or only instructor approval.

M PLB 484 Internship. (1–12)
selected semesters
Topics may include the following:
- Plant Biology Internship. (3)
  fall and spring
  Applies a simplified version of PLB 108 to teach fifth-grade children by planting gardens and conducting indoor plant experiments.

- Service Learning
  fall, spring, summer
  Fee.

M PLB 492 Honors Directed Study. (1–6)
selected semesters

M PLB 493 Honors Thesis. (1–6)
selected semesters
General Studies: L

M PLB 494 Special Topics. (1–4)
selected semesters

M PLB 498 Pro-Seminar. (1–7)
fall and spring

M PLB 499 Individualized Instruction. (3)
selected semesters

Environmental Science and Ecology

M PLB 320 Environmental Science (Nonmajor). (3)
fall
Environmental and biological concepts used to understand ecological systems with specific references to problems caused by humans. Cannot be used for major credit in the biological sciences. Cross-listed as BIO 319. Credit is allowed for only BIO 319 or PLB 320.
General Studies: G

M PLB 322 Environmental Science (Major). (3)
fall
Nature of environmental and biological interaction: historical and modern examples, regional and global issues. Participation in environmental problem-solving activities. Lecture, lab. Prerequisites: preferably both PLB 200 and 201 or both GLG 110 and 111 or only GPH 111.

M PLB 420 Plant Ecology: Organisms and Populations. (3)
spring in odd years
Factors and controls on the physiological ecology and organization of plants and plant populations using empirical and theoretical approaches. 2 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 320 or PLB 322 (or its equivalent).

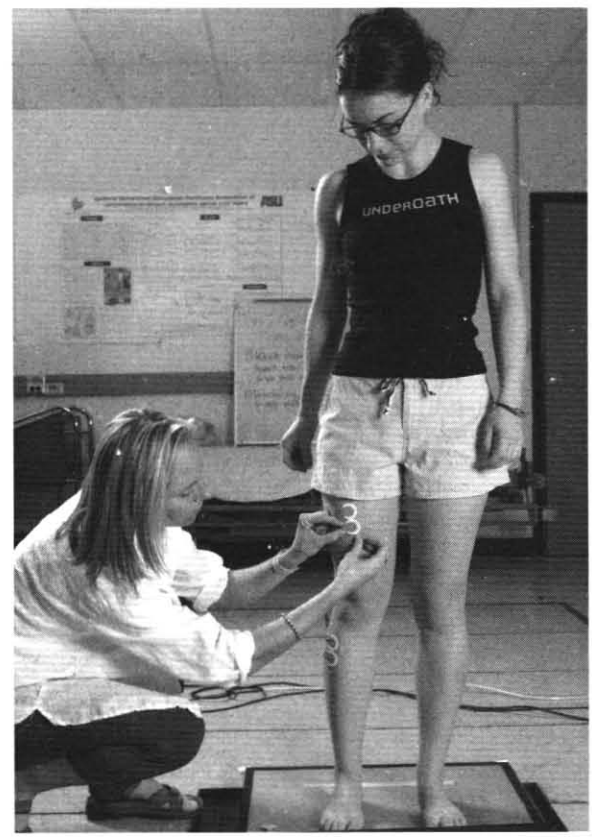
M PLB 421 Plant Ecology: Communities and Ecosystems. (3)
spring in even years
Plant community organization, field sampling techniques, and the structure and function of terrestrial ecosystems emphasizing the role of vegetation. 2 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 320 or PLB 322 (or its equivalent).

M PLB 422 Plant Geography. (3)
once a year
Plant communities of the world and their interpretation, emphasizing North American plant associations. Cross-listed as GPH 422. Credit is allowed for only GPH 422 or PLB 422. Prerequisites: preferably both PLB 200 and 201 or only BIO 187 or only GPH 111.

M PLB 430 Statistical Analyses in Environmental Science. (3)
spring
ANOVAS, 1-way classification of factorial and partially hierarchic designs; introductory multivariate statistics. Fee. Prerequisite: MAT 210 (or its equivalent).
General Studies: CS

M PLB 432 Computer Applications in Biology. (3)
fall
Computer analysis techniques in biology emphasizing data entry, management and analysis, and graphic portrayal. Employs mainframe and microcomputers. 2 hours lecture, 3 hours lab. Cross-listed as BIO 406. Credit is allowed for only BIO 406 or PLB 432. Fee. Prerequisites: both BIO 187 and MAT 117 (or 210) or only instructor approval.
General Studies: CS

M PLB 434 Landscape Ecological Analysis and Modeling. (3)
spring in odd years
Technical methods of landscape ecological analyses. Includes mathematical and statistical examination and modeling of landscape ecological patterns and processes. Prerequisites: both BIO 320 and 406 or only PLB 432 (or its equivalent).



Students conduct a bioengineering experiment that evaluates balance changes in the aging process. Tim Trumble photo

Plant Biochemistry and Molecular Biology

M PLB 350 Applied Genetics. (4)
spring
Introduces molecular genetics with emphasis on application of genetics in solving biological questions and engineering organisms in biotechnology. 2 hours lecture, 6 hours lab. Cross-listed as MBB 350. Credit is allowed for only MBB 350 or PLB 350. Fee. Prerequisite: preferably MBB 247 or BIO 340 (or 341).

M PLB 440 Photobiology. (3)
selected semesters
Principles underlying the effects of light on growth, development, and behavior of plants, animals, and microorganisms. Cross-listed as BIO 464. Credit is allowed for only BIO 464 or PLB 440. Prerequisites: CHM 231 (or 233); 12 hours in life sciences.

M PLB 444 Plant Growth and Development. (3)
spring
Molecular basis of development, role of signal transduction pathways/gene regulation in control of organ formation, pollination, germination, and growth. Prerequisite: BIO 353.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Department of Mathematics and Statistics

math.la.asu.edu
480/965-3951
PS A216

Dieter Armbruster, Interim Chair

Regents' Professor: Castillo-Chavez

Professors: Armbruster, Barcelo, Bremner, Carlson, Eubank, Gardner, Ihrig, Z. Jackiewicz, Kadell, Kawski, Kierstead, Kostelich, Kuang, Kuiper, Lohr, Lopez, Mahalov, Mittelmann, Nicolaenko, Quigg, Renaut, Ringhofer, Smith, Suslov, Thieme, Thompson, Young

Associate Professors: Baer, Blount, Childress, Farmer, Gelb, Hurlbert, D. Jones, J. Jones, Kaliszewski, Moore, Nikitin, Prewitt, Spielberg, Taylor, Welfert

Assistant Professors: Chen, Crook, Czygrinow, Majumdar, Oehrtman, Roh, Roudenko, Zandieh

Research Professor: Greenwood

Senior Lecturers: Abramson, Isom, Kolossa, Miller, Odish, Rody, Ruedemann, Surgent, Trapuzzano, Vaz, Zhu

Lecturers: Arce, Ashbrook, Brewer, Coombs, D' Alesandro, Downs, Firozzaman, Fulman, Heckman, E. Jackiewicz, E. Jones, Kellgren, Kim, Maris, Martin, Masilamani, McClure, Melendez, Newhouse, Pecuch-Herrero, Reynolds, Richardson, Seal, Tracogna, Turner, Ward, Williams

The Department of Mathematics and Statistics offers the BA and BS degrees in Mathematics. Students who plan to attend graduate school in mathematics or statistics should choose the BS degree.

The department also offers the BS degree in Computational Mathematical Sciences.

The department also offers a minor in Mathematics and an academic specialization in mathematics for students pursuing the BAE degree in Secondary Education.

MATHEMATICS—BA

The BA degree in Mathematics requires a minimum of 36 semester hours of course work in mathematics and statistics, and additional course work in closely related fields, for a total of 51 semester hours. A grade of "C" (2.00) or higher is required in all courses taken for the major. MAT 370 and 371 may not both be used to satisfy these degree requirements. The required course work has the following components:

Core Courses

MAT	270	Calculus with Analytic Geometry I *MA* 4
MAT	271	Calculus with Analytic Geometry II *MA* 4
MAT	272	Calculus with Analytic Geometry III *MA* 4
MAT	300	Mathematical Structures *L* 3
		or MAT 243 Discrete Mathematical Structures (3)
MAT	342	Linear Algebra 3
		or MAT 343 Applied Linear Algebra (3)
		or both MAT 242 Elementary Linear Algebra (3) and MAT 294 ST: Sophomore Problem Seminar (3)
MAT	370	Intermediate Calculus 3
		or MAT 371 Advanced Calculus I (3)
Total		21

Computer Science Requirement

CSE	100	Principles of Programming with C++ *CS* 3
		or CSE 110 Principles of Programming Java *CS* (3)
		or CSE 205 Concepts of Computer Science *CS* (3)
Total		3

Additional Course Work in Mathematics and Statistics[1]

Five additional courses in mathematics and statistics are also required 15

Related Field Course Work[2]

Course work in mathematics, statistics, or related fields 12

[1] Acceptable mathematics courses are MAT 243, 274, and upper-division MAT courses, with the exception of MAT 362, 485, and MAT 411. Acceptable statistics courses are upper-division STP courses.

[2] For a list of related field course work, see an advisor in PSA 211, or access math.la.asu.edu/undergrd/degree/related-fields.html.

MATHEMATICS—BS

The Department of Mathematics and Statistics has three avenues for earning a BS degree. The BS requirements are similar to the BA requirements, but they require more extensive courses in advanced mathematics. The program is flexible enough to allow students to focus their studies on mathematics, applied mathematics, or statistics. The statistics concentration offers extensive preparation in applied and theoretical statistics. The requirements for the BS degree with the statistics concentration are a subset of those for the BS degree. The requirements for the BS degree and for the BS degree with the computational mathematical sciences concentration are distinct; neither is a subset of the other.

BS Requirements. The BS degree in Mathematics requires a minimum of 42 semester hours of course work in mathematics and statistics, and additional course work in closely related fields, for a total of 55 semester hours. A grade of "C" (2.00) or higher is required in all courses taken for the major. MAT 370 and 371 may not both be used to satisfy these degree requirements. Credit may not be earned for both MAT 274 and 275 or for both MAT 342 and 343. The required course work has the following components:

Core Courses

MAT	270	Calculus with Analytic Geometry I *MA* 4
MAT	271	Calculus with Analytic Geometry II *MA* 4
MAT	272	Calculus with Analytic Geometry III *MA* 4
MAT	300	Mathematical Structures *L* 3
MAT	342	Linear Algebra 3
		or MAT 343 Applied Linear Algebra (3)
MAT	371	Advanced Calculus I 3
Total		21

Computer Science Requirement
CSE 205 Concepts of Computer Science *CS* 3
Total 3

Depth Requirement
Two courses chosen from the following list of advanced courses 6
MAT 415 Introduction to Combinatorics (3)
MAT 416 Introduction to Graph Theory (3)
MAT 423 Numerical Analysis I *CS* (3)
MAT 425 Numerical Analysis II *CS* (3)
MAT 442 Advanced Linear Algebra (3)
MAT 444 Intermediate Abstract Algebra (3)
MAT 472 Intermediate Real Analysis I (3)
MAT 473 Intermediate Real Analysis II (3)
MAT 475 Differential Equations (3)
MAT 476 Partial Differential Equations (3)
STP 421 Probability (3)
STP 427 Mathematical Statistics (3)

Advanced Courses in Mathematics and Statistics[1]
Two courses from the following list, both preferably taken from the same grouping 6

Algebra, Topology, and Number Theory
MAT 410 Introduction to General Topology (3)
MAT 442 Advanced Linear Algebra (3)
MAT 443 Introduction to Abstract Algebra (3)
MAT 444 Intermediate Abstract Algebra (3)
MAT 445 Theory of Numbers (3)

Analysis and Applications
MAT 372 Advanced Calculus II (3)
MAT 461 Applied Complex Analysis (3)
MAT 472 Intermediate Real Analysis I (3)

Applied Mathematics and Dynamics
MAT 451 Mathematical Modeling *CS* (3)
MAT 452 Introduction to Chaos and Nonlinear Dynamics (3)
MAT 455 Introduction to Fractals and Applications (3)

Computational Mathematics
MAT 420 Scientific Computing (3)
MAT 421 Applied Computational Methods *CS* (3)
MAT 423 Numerical Analysis I *CS* (3)
MAT 425 Numerical Analysis II *CS* (3)
MAT 427 Computer Arithmetic *CS* (3)

Differential Equations
MAT 462 Applied Partial Differential Equations (3)
MAT 475 Differential Equations (3)
MAT 476 Partial Differential Equations (3)

Discrete Mathematics
MAT 415 Introduction to Combinatorics (3)
MAT 416 Introduction to Graph Theory (3)
MAT 419 Introduction to Linear Programming *CS* (3)

Statistics and Probability
STP 420 Introductory Applied Statistics *CS* (3)
STP 421 Probability (3)
STP 425 Stochastic Processes (3)
STP 427 Mathematical Statistics (3)
STP 429 Experimental Statistics *CS* (3)

Additional Course Work in Mathematics and Statistics[2]
Three courses in mathematics and statistics 9

Related Fields Course Work[3]
Course work in mathematics, statistics, or related fields 10

[1] Students who contemplate graduate work in mathematics should choose additional courses listed under the depth requirement to satisfy the advanced courses requirement.

[2] Acceptable mathematics courses are MAT 243, 274, and upper division MAT courses, with the exception of MAT 310, 362, 485, and MAT 411. Acceptable statistics courses are 400-level STP courses.

[3] For a list of related field course work, see an advisor in PSA 211, or access math.la.asu.edu/undergrd/degree/related-fields.html.

COMPUTATIONAL MATHEMATICAL SCIENCES—BS

The BS degree in Computational Mathematical Sciences curriculum strives to provide students with a background in computer science and the natural or physical sciences in addition to a core of course work in mathematics. The requirements for the BS degree in Computational Mathematical Sciences and for the BS degree in Mathematics are distinct; neither is a subset of the other. A minimum grade of "C" (2.00) is required in all courses taken for the major.

The BS degree in Computational Mathematical Sciences requires a minimum of 32 semester hours of course work in mathematics and statistics, a minimum of 12 to 14 semester hours in science, nine hours in computer science, and a three hour advanced science course or internship/research credit. This adds up to a minimum of 56 to 58 semester hours of study related to the major.

Core Courses
MAT 243 Discrete Mathematical Structures 3
or MAT 300 Mathematical Structures *L* (3)
MAT 271 Calculus with Analytic Geometry II *MA* 4
MAT 272 Calculus with Analytic Geometry III *MA* 4
Total 11

Core Courses in Computational Mathematics
MAT 275 Modern Differential Equations *MA** 3
or MAT 274 Elementary Differential Equations *MA* (3)
MAT 343 Applied Linear Algebra* 3
or MAT 342 Linear Algebra (3)
MAT 420 Scientific Computing 3
MAT 421 Applied Computational Methods *CS* 3
Total 12

* MAT 275 and 343 are recommended.

Advanced Courses in Mathematics and Statistics
Choose one course from group one and two from group two 9
Group One
MAT 370 Intermediate Calculus (3)
MAT 371 Advanced Calculus I (3)
MAT 460 Vector Calculus (3)
Group Two
MAT 351 Mathematical Methods for Genetic Analysis *CS* (3)
MAT 415 Introduction to Combinatorics (3)
MAT 416 Introduction to Graph Theory (3)

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

MAT 419 Introduction to Linear Programming *CS* (3)
MAT 423 Numerical Analysis I *CS* (3)
MAT 425 Numerical Analysis II *CS* (3)
MAT 447 Cryptography (3)
MAT 451 Mathematical Modeling *CS* (3)
MAT 452 Introduction to Chaos and Nonlinear Dynamics (3)
MAT 455 Introduction to Fractals and Applications (3)
MAT 461 Applied Complex Analysis (3)
MAT 462 Applied Partial Differential Equations (3)
MAT 475 Differential Equations (3)
MAT 476 Partial Differential Equations (3)
STP 420 Introductory Applied Statistics *CS* (3)
STP 421 Probability (3)
STP 425 Stochastic Processes (3)
STP 427 Mathematical Statistics (3)
STP 429 Experimental Statistics *CS* (3)

Computer Science Requirement

CSE 205 Concepts of Computer Science *CS* 3
CSE 210 Object-Oriented Design and Data Structures *CS* 3
CSE 240 Introduction to Programming Languages 3
or CSE 310 Data Structures and Algorithms (3)
Total 9

Science Requirement. Two one-year science course and lab sequences (for a total of 14 to 17 hours) are required. Upon advisor approval, two advanced courses for which the first one-year science and lab sequence is a prerequisite may be substituted for the second one-year science and lab sequence. Allowable one-year sequences include the following:

Astrophysics

Astrophysics sequence 8
AST 113 Astronomy Laboratory I *SQ*[1] (1)
AST 114 Astronomy Laboratory II *SQ*[1] (1)
AST 321 Introduction to Planetary and Stellar Astrophysics *SQ*[1] (3)
AST 322 Introduction to Galactic and Extragalactic Astrophysics *SQ*[1] (3)

Biology

Choose one of the following sequences 8
BIO 187 General Biology I *SG* (4)
BIO 188 General Biology II *SQ* (4)
— *or* —
BIO 188 General Biology II *SQ* (4)
BIO 193 The Nature of Biological Science *SQ* (4)

Chemistry

Choose between the course combinations below ..... 8 or 9
CHM 113 General Chemistry I *SQ* (4)
CHM 115 General Chemistry with Qualitative Analysis *SQ* (5)
— *or* —
CHM 113 General Chemistry I *SQ* (4)
CHM 116 General Chemistry II *SQ* (4)
— *or* —
CHM 116 General Chemistry II *SQ* (4)
CHM 117 General Chemistry for Majors I *SQ*[2] (4)
— *or* —
CHM 114 General Chemistry for Engineers *SQ* (4)
CHM 231 Elementary Organic Chemistry *SQ*[3] (3)
CHM 235 Elementary Organic Chemistry Laboratory *SQ*[3] (1)

Geology

Geology sequence 8
GLG 101 Introduction to Geology I (Physical) *SQ, G*[4] (3)
GLG 103 Introduction to Geology I—Laboratory *SQ*[4] (1)
GLG 102 Introduction to Geology II (Historical) *SG, H*[4] (3)
GLG 104 Introduction to Geology II—Laboratory *SG*[4] (1)

Microbiology and Molecular Biosciences/Biotechnology

Choose one of the following sequences 4
MBB 245 Cellular and Molecular Biology *SQ* (4)
— *or* —
MIC 205 Microbiology *SG*[5] (3)
MIC 206 Microbiology Laboratory *SG*[5] (1)
— *or* —
MIC 206 Microbiology Laboratory *SG*[5] (1)
MIC 220 Biology of Microorganisms (3)

Physics

Choose one of the following sequences 8
PHY 121 University Physics I: Mechanics *SQ*[6] (3)
PHY 122 University Physics Laboratory I *SQ*[6] (1)
PHY 131 University Physics II: Electricity and Magnetism *SQ*[6] (3)
PHY 132 University Physics Laboratory II *SQ*[6] (1)
— *or* —
PHY 150 Physics I *SQ* (4)
PHY 151 Physics II *SQ* (4)

Plant Biology

Choose one of the following sequences 4
PLB 200 Biology of Plants *SQ*[7] (3)
PLB 201 Biology of Plants Laboratory *SQ*[7] (1)
— *or* —
MBB 245 Cellular and Molecular Biology *SQ* (4)

Internship, Research, or Advanced Science Requirement

Choose one of the following courses 3
MAT 484 Internship[8] (3)
MAT 493 Honors Thesis/Research[9] (3)
MAT 494 ST: Independent Study/Research[8] (3)
One advanced course in science for which a one-year sequence in the same science is required

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1 Both AST 113 and 321 or both AST 114 and 322 must be taken to secure SQ credit.
2 CHM 115 and 117 are strongly recommended for qualified students.
3 Both CHM 231 and 235 must be taken to secure SQ credit.
4 Both GLG 101 and 103 must be taken to secure SQ credit, and both GLG 102 and 104 must be taken to secure SG credit.
5 Both MIC 205 and MIC 206 must be taken to secure SG credit.
6 Both PHY 121 and 122 and both PHY 131 and 132 must be taken to secure SQ credit.
7 Both PLB 200 and 201 must be taken to secure SQ credit.
8 This course requires prior department approval.
9 Enrollment is restricted to students in the Barrett Honors College.

Restrictions: MAT 370 and 371 may not both be counted toward major requirements in Computational Mathematical Sciences. Credit may not be earned for both MAT 274 and 275, or for both MAT 342 and 343.

Statistics Concentration Requirements. The BS degree in Mathematics with the concentration in statistics requires a minimum of 42 semester hours of course work in mathematics and statistics, plus a minimum of 13 semester hours in computer science and related fields, for a minimum of 55 semester hours of course work related to the major. A grade of "C" (2.00) or higher is required in all courses taken for the major. MAT 370 and 371 may not both be used to satisfy

these requirements. The course work has the following components:

Core Courses

MAT	270 Calculus with Analytic Geometry I *MA*	4
MAT	271 Calculus with Analytic Geometry II *MA*	4
MAT	272 Calculus with Analytic Geometry III *MA*	4
MAT	300 Mathematical Structures *L*	3
MAT	342 Linear Algebra	3
	or MAT 343 Applied Linear Algebra (3)	
MAT	371 Advanced Calculus I	3
STP	420 Introductory Applied Statistics *CS*	3
STP	421 Probability	3
STP	427 Mathematical Statistics	3
STP	429 Experimental Statistics *CS*	3
Total		33

Computer Science Requirement

CSE	205 Concepts of Computer Science *CS*	3
Total		3

Additional Advanced Courses in Mathematics and Statistics

Three courses from the following list 9

- MAT 274 Elementary Differential Equations *MA* (3)
  or MAT 275 Modern Differential Equations *MA* (3)
- MAT 372 Advanced Calculus II (3)
- MAT 423 Numerical Analysis I *CS* (3)
- MAT 442 Advanced Linear Algebra (3)
- STP 425 Stochastic Processes (3)

Required Related Field Course Work

Statistics/probability, mathematics, or related fields* 10

* For a list of related field course work, see an advisor in PSA 211, or access math.la.asu.edu/undergrd/degree/related-fields.html.

Actuarial Science. The faculty in the Department of Mathematics and Statistics offer courses that cover the content of the mathematical examinations of the Society of Actuaries. See the department's actuarial advisor for more information.

Cryptographic Science. The faculty in the Department of Mathematics and Statistics offer courses that prepare students for graduate studies and careers in cryptography. See the department's advisors for more information.

MINORS IN MATHEMATICS AND STATISTICS

The minor in Mathematics consists of a minimum of 20 semester hours. Required courses are as follows:

MAT	271 Calculus with Analytic Geometry II *MA*	4
MAT	272 Calculus with Analytic Geometry III *MA*	4
MAT	342 Linear Algebra	3
	or MAT 343 Applied Linear Algebra (3)	
Total		11

Electives must be upper-division courses in mathematics (MAT) or Statistics and Probability (STP). Students may not apply MAT 485 or a course not offered at the Tempe campus to the minor, unless otherwise approved by a department advisor.

The minor in Statistics consists of a minimum of 20 semester hours. Required courses are the following:

MAT	271 Calculus with Analytic Geometry II *MA*	4
MAT	272 Calculus with Analytic Geometry III *MA*	4
MAT	300 Mathematical Structures *L*	3
STP	420 Introductory Applied Statistics *CS*	3
STP	421 Probability	3
STP	427 Mathematical Statistics	3
	or STP 429 Experimental Statistics *CS* (3)	
Total		20

The minor in Computational Mathematical Sciences consists of a minimum of 20 semester hours. Required courses are the following:

MAT	271 Calculus with Analytic Geometry II *MA*	4
MAT	272 Calculus with Analytic Geometry III *MA*	4
MAT	342 Linear Algebra	3
	or MAT 343 Applied Linear Algebra (3)	
MAT	420 Scientific Computing	3
MAT	421 Applied Computational Methods *CS*	3
MAT	423 Numerical Analysis I *CS*	3
	or MAT 425 Numerical Analysis II *CS* (3)	
Total		20

It is recommended that students take MAT 243 Discrete Mathematical Structures.

BIS CONCENTRATIONS

Concentrations in computational mathematical sciences, mathematics, and statistics are available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

SECONDARY EDUCATION—BAE

Mathematics. This degree is offered through the Initial Teacher Certification program in the College of Education. Students pursuing a major in Secondary Education have an advisor in the College of Education and an advisor within the department of their academic specialization area.

See "College of Education," page 349, for information on admission eligibility requirements, admission deadlines, field experiences, and student teaching. For more information, or to schedule an appointment with an advisor, call the Office of Student Services in the College of Education at 480/965-5555.

The academic specialization consists of the following required courses:

CSE	100 Principles of Programming with C++ *CS*	3
	or CSE 110 Principles of Programming Java *CS* (3)	
	or CSE 205 Concepts of Computer Science *CS* (3)	
MAT	270 Calculus with Analytic Geometry I *MA*	4
MAT	271 Calculus with Analytic Geometry II *MA*	4
MAT	272 Calculus with Analytic Geometry III *MA*	4
MAT	300 Mathematical Structures *L*	3
	or MAT 243 Discrete Mathematical Structures (3)	

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

MAT	310	Introduction to Geometry 3
MAT	342	Linear Algebra 3
		or MAT 343 Applied 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)
		or MAT 447 Cryptography (3)
MTE	483	Mathematics in the Secondary School 3
STP	420	Introductory Applied Statistics *CS* 3
Total		 36

The methods in academic specialization courses for mathematics are MTE 482 Methods of Teaching Mathematics in Secondary School and MTE 494 ST: Advanced Methods of Teaching Secondary Mathematics. They are required as part of the Initial Teacher Certification program but cannot be counted as part of the 36-hour major requirement.

GRADUATE PROGRAMS

The faculty in the Department of Mathematics and Statistics offer programs leading to the degrees of Master of Natural Science, MA, and PhD. See the *Graduate Catalog* for requirements.

MATHEMATICS (MAT)

For more MAT courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M MAT 106 Intermediate Algebra. (3)
fall, spring, summer
Topics from basic algebra such as linear equations, polynomials, factoring, exponents, roots, and radicals. Credit is allowed for only MAT 106 or 113. Prerequisite: 1 year of high school algebra.

M MAT 113 College Algebra Plus. (5)
fall and spring
A union of topics from intermediate algebra and college algebra, including exponents, factoring, graphing, polynomials, logarithmic, and exponential functions. Credit is allowed for only MAT 113 or 106 or 117. Prerequisite: 2 years of high school mathematics.

M MAT 117 College Algebra. (3)
fall, spring, summer
Linear and quadratic functions, systems of linear equations, logarithmic and exponential functions, sequences, series, and combinatorics. Credit is allowed for only MAT 117 or 113. Fee (online only). Prerequisite: MAT 106 or 2 years of high school algebra.

M MAT 119 Finite Mathematics. (3)
fall, spring, summer
Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. Prerequisite: MAT 113 or 117 (or its equivalent).
General Studies: MA

M MAT 142 College Mathematics. (3)
fall, spring, summer
Applies 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: MA

M MAT 170 Precalculus. (3)
fall, spring, summer
Intensive preparation for calculus (MAT 260, 270, and 290). Topics include functions (including trigonometric), matrices, polar coordinates, vectors, complex numbers, and mathematical induction. Prerequisite with a grade of "B" or higher: MAT 106. Prerequisite with a grade of "C" (2.00) or higher: MAT 113 or 117 (or its equivalent) or 2 years of high school algebra.
General Studies: MA

M MAT 210 Brief Calculus. (3)
fall, spring, summer
Differential and integral calculus of elementary functions with applications. Not open to students with credit for MAT 260, 270, or 290. Fee (online only). Prerequisite: MAT 113 or 117 (or its equivalent).
General Studies: MA

M MAT 211 Mathematics for Business Analysis. (3)
fall, spring, summer
Topics in business analysis, including: Lagrange multipliers, linear programming, linear algebra, intermediate probability, random variables, discrete distributions, and continuous distributions. Prerequisite with a grade of "C" or higher: MAT 210 or instructor approval.

M MAT 242 Elementary Linear Algebra. (2)
fall, spring, summer
Introduces 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.

M MAT 243 Discrete Mathematical Structures. (3)
fall, spring, summer
Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science. Prerequisite: 1 semester of calculus or computer programming.

M MAT 251 Calculus for Life Sciences. (3)
fall and spring
Differential and integral calculus of elementary functions. Introduces differential and difference equations. Emphasizes applications to the life sciences. Not open to students with credit for MAT 210, 260, or 270. Prerequisite: MAT 170 (or its equivalent).
General Studies: MA

M MAT 260 Technical Calculus I. (3)
selected semesters
Analytic geometry, differential, and integral calculus of elementary functions, emphasizing physical interpretation and problem solving. Not open to students with credit for MAT 210, 270, or 290. Prerequisite: MAT 170 (or its equivalent).
General Studies: MA

M MAT 261 Technical Calculus II. (3)
selected semesters
Continuation of MAT 260. Prerequisite: MAT 260 or instructor approval.
General Studies: MA

M MAT 262 Technical Calculus III. (3)
selected semesters
Infinite series, an introduction to differential equations and elementary linear algebra. Prerequisite: MAT 261 (or its equivalent).
General Studies: MA

M MAT 270 Calculus with Analytic Geometry I. (4)
fall, spring, summer
Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. Not open to students with credit for MAT 290. The sequence MAT 270 and 271 may be substituted for MAT 290 to satisfy requirements of any curriculum. Fee. Prerequisite with a grade of "C" (2.00) or higher: MAT 170 or satisfactory score on placement examination.
General Studies: MA

M MAT 271 Calculus with Analytic Geometry II. (4)
fall, spring, summer
Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, sequences, and series. Not open to students with credit for MAT 291. The sequence MAT 270, 271, 272 may be substituted to satisfy requirements for MAT 290 and 291. Fee. Prerequisite with a grade of "C" (2.00) or higher: MAT 270 (or its equivalent).
General Studies: MA

M MAT 272 Calculus with Analytic Geometry III. (4)
fall, spring, summer
Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. The sequence MAT 270, 271, 272 may be substituted to satisfy requirements for MAT 290 and 291. Fee.

Prerequisite with a grade of "C" (2.00) or higher: MAT 271 (or its equivalent).
General Studies: MA

M MAT 274 Elementary Differential Equations. (3)
fall and spring or summer
Introduces ordinary differential equations, adapted to the needs of students in engineering and the sciences. Credit is allowed for only MAT 274 or 275 toward a mathematics degree. Prerequisites: MAT 271 (or its equivalent); MAT 272 (or its equivalent) recommended.
General Studies: MA

M MAT 275 Modern Differential Equations. (3)
fall and spring
Introduces differential equations, theoretical and practical solution techniques. Applications. Problem solving using MATLAB. Credit is allowed for only MAT 275 or 274 toward a mathematics degree. Lecture, computing lab. Fee. Pre- or corequisite: MAT 271 (or its equivalent).
General Studies: MA

M MAT 290 Calculus I. (5)
selected semesters
Differential and integral calculus of elementary functions; topics from analytic geometry essential to the study of calculus. Prerequisite: MAT 170 (or its equivalent).
General Studies: MA

M MAT 291 Calculus II. (5)
selected semesters
Further applications of calculus, partial differentiation, multiple integrals, and infinite series. Prerequisite: MAT 290 (or its equivalent).

M MAT 294 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Calculus for Engineers I. (3)
  fall, spring, summer
  Limits and continuity, differential calculus of functions of one variable, introduction to integration. Not open to students with credit in MAT 270. Prerequisite: satisfactory score on the calculus readiness exam. Prerequisite with a grade of "C" or higher: MAT 170 (or its equivalent).
- Calculus for Engineers II. (3)
  fall, spring, summer
  Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series. Not open to students with credit in MAT 271. Prerequisite: satisfactory score on the calculus readiness exam. Prerequisite with a grade of "C" or higher: MAT 294 Calculus for Engineers I.
- Calculus for Engineers III. (3)
  fall, spring, summer
  Vector-valued functions of several variables, partial derivatives, multiple integration. Not open to students with credit in MAT 272. Prerequisite with a grade of "C" or higher: MAT 294 Calculus for Engineers II.
- Mathematics of Change I
- Mathematics of Change II
- Mathematics of Change III
- Sophomore Problem Seminar. (3)

M MAT 300 Mathematical Structures. (3)
fall and spring
Logic and set theory, induction, functions, order and equivalence relations, cardinality. Emphasizes writing proofs. Prerequisite: 1 semester of calculus or instructor approval.
General Studies: L

M MAT 310 Introduction to Geometry. (3)
spring
Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. Prerequisite: MAT 272 (or its equivalent).

M MAT 340 Theory of Interest. (3)
fall and spring
Compound interest, discount rates, annuities, present values, depreciation, and bond valuations. Prerequisites: MAT 243 (or 300 or instructor approval); 1 semester of calculus.

M MAT 342 Linear Algebra. (3)
fall and spring or summer
Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. Credit is allowed for only MAT 342 or 343 toward a mathematics degree. Pre- or corequisite: MAT 272 (or its equivalent).

M MAT 343 Applied Linear Algebra. (3)
fall and spring
Solving linear systems, matrices, determinants, vector spaces, bases, linear transformations, eigenvectors, norms, inner products, decompositions, applications. Problem solving using MATLAB. Credit is allowed for only MAT 343 or 342 toward a mathematics degree. Lecture, computing lab. Fee. Prerequisite: MAT 271 (or its equivalent).

M MAT 351 Mathematical Methods for Genetic Analysis. (3)
fall and spring
Discrete mathematics, probability, statistics, and associated computer packages. Applications to genomics, bioinformatics, forensics, and DNA/protein sequence patterns. Fee. Prerequisite: MAT 251 or 270 or instructor approval.
General Studies: CS

M MAT 362 Advanced Mathematics for Engineers and Scientists. (3)
fall, spring, summer
Vector analysis, Fourier analysis, and partial differential equations. Prerequisites: MAT 272 and 274 (or 275) (or their equivalents).

M MAT 370 Intermediate Calculus. (3)
fall and spring
Theory behind basic 1-variable calculus: continuity, derivative, Riemann integral, sequences, and series. Not open to students who have received a "C" (2.00) or higher in MAT 371. Credit is allowed for only MAT 370 or 371 toward a mathematics degree. Prerequisites: MAT 272, 300 (or 243).

M MAT 371 Advanced Calculus I. (3)
fall and spring
Real numbers, completeness, sequences/series, continuity, uniform theorems, derivative, Riemann integral, pointwise/uniform convergence, Taylor's theorem. Credit is allowed for only MAT 371 or 370 toward a mathematics degree. Prerequisites: MAT 272, 300.

M MAT 372 Advanced Calculus II. (3)
spring
Open, closed, compact sets in R^n continuity, differentiation, partial differentiation, integration in R^n. Inverse/implicit function theorems. Not open to students with credit for MAT 460. Prerequisite: MAT 371. Pre- or corequisite: MAT 342 or 343.

M MAT 394 Special Topics. (1–4)
selected semesters
Topics may include the following.
- Introduction to Computational Molecular Biology. (2–3)
  Fee. Prerequisite: junior standing.

M MAT 410 Introduction to General Topology. (3)
once a year
Topological spaces, metric spaces, compactness, connectedness, and product spaces. Prerequisite: MAT 300 or 371 or instructor approval.

M MAT 415 Introduction to Combinatorics. (3)
fall
Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Pólya theory and combinatorial structures. Prerequisites: preferably both MAT 300 (or 243) and 342 (or 242) or only instructor approval.

M MAT 416 Introduction to Graph Theory. (3)
spring
Trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. Prerequisites: preferably both MAT 300 (or 243) and 342 (or 242) or only instructor approval.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M MAT 419 Introduction to Linear Programming. (3)
spring
Simplex method, duality, and network flows. Applications to game theory, geometry, combinatorics, graph theory, and posets. Prerequisites: a combination of CSE 100 (or 205 or 210) and MAT 300 (or 243) and 342 (or 242 or 343) or only instructor approval.
General Studies: CS

M MAT 420 Scientific Computing. (3)
fall
Surveys and applies programming languages, libraries, and scientific visualization tools. Programming assignments emphasize software development skills. Lecture, lab. Fee. Prerequisites: a combination of CSE 205 and MAT 274 (or 275) and 342 (or 343) (or their equivalents) or only instructor approval.

M MAT 421 Applied Computational Methods. (3)
fall and spring
Numerical methods for quadrature, differential equations, roots of nonlinear equations, interpolation, approximation, linear equations, floating-point arithmetic, and roundoff error. Prerequisites: both MAT 271 (or its equivalent) and fluency in computer programming (preferably FORTRAN) or only instructor approval.
General Studies: CS

M MAT 423 Numerical Analysis I. (3)
fall
Analysis and algorithms for numerical solutions linear/nonlinear equations, direct solvers, iterative procedures, optimization. Determination of eigenvalues. Elementary computer arithmetic. Prerequisites: both MAT 342 (or 343) and fluency in computer programming or only instructor approval.
General Studies: CS

M MAT 425 Numerical Analysis II. (3)
spring
Analysis of and algorithms for numerical interpolation, integration, and differentiation. Numerical solution of ordinary differential equations, and method of lines. Those seeking a methods survey course should take MAT 421. Prerequisites: both MAT 274 (or 275) and fluency in computer programming or only instructor approval. MAT 371 recommended.
General Studies: CS

M MAT 442 Advanced Linear Algebra. (3)
fall
Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra. Prerequisites: both MAT 300 and 342 (or 343) or only instructor approval.

M MAT 443 Introduction to Abstract Algebra. (3)
fall
Introduces concepts of abstract algebra. Not open to students with credit for MAT 444. Prerequisites: both MAT 300 and 342 (or 343) or only instructor approval.

M MAT 444 Intermediate Abstract Algebra. (3)
spring
Basic theory of groups, rings, and fields, including an introduction to Galois theory. Appropriate as preparation for MAT 543. Prerequisite: MAT 443 or graduate standing or instructor approval.

M MAT 445 Theory of Numbers. (3)
spring
Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. Prerequisites: both MAT 300 and 342 (or 343) or only instructor approval.

M MAT 447 Cryptography. (3)
fall and spring
Block ciphers, stream ciphers, congruence arithmetic, information theory, public key cryptosystems, key exchange, electronic signatures. Prerequisites: CSE 100 (or 110); MAT 242 (or 342 or 343), 300.

M MAT 451 Mathematical Modeling. (3)
spring
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: both MAT 242 (or 342 or 343) and 274 (or 275) or only instructor approval.
General Studies: CS

M MAT 452 Introduction to Chaos and Nonlinear Dynamics. (3)
fall
Properties of nonlinear dynamical systems; dependence on initial conditions; strange attractors; period doubling; bifurcations; symbolic dynamics; Smale-Birkhoff theorem; and applications. Prerequisites: MAT 274 (or 275), 342 (or 242 or 343); MAT 371 is recommended.

M MAT 455 Introduction to Fractals and Applications. (3)
spring
Fractals; self-similar structures, fractals with iterated function systems of maps, computing fractals, fractal dimensions, chaotic dynamics on fractals, applications. Prerequisites: MAT 274 (or 275), 342 (or 242 or 343); MAT 371 recommended.

M MAT M 460 Vector Calculus. (3)
spring
Vectors, curvilinear coordinates, Jacobians, implicit function theorem, line and surface integrals, Green's, Stokes', and divergence theorems. Not open to students with credit for MAT 372. Prerequisites: MAT 242 (or 342 or 343), 272, 274 (or 275).

M MAT 461 Applied Complex Analysis. (3)
fall and summer
Analytic functions, complex integration, Taylor and Laurent series, residue theorem, conformal mapping, and harmonic functions. Prerequisite: MAT 272 (or its equivalent).

M MAT 462 Applied Partial Differential Equations. (3)
spring
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 or 343), 274 (or 275).

M MAT 472 Intermediate Real Analysis I. (3)
fall
Introduces analysis in metric spaces with emphasis on the real line. Appropriate as preparation for MAT 570. Prerequisites: MAT 300, 342 (or 343).

M MAT 473 Intermediate Real Analysis II. (3)
spring
Analysis in R^n; implicit function theorem, introduction to manifolds, Lebesque integration, change of variables formula, convergence theorems for integrals. Prerequisite: MAT 472 or instructor approval.

M MAT 475 Differential Equations. (3)
fall
Linear and nonlinear ordinary differential equations, asymptotic behavior of solutions, stability, existence and uniqueness, limit sets, Poincar-Bendixson theorem. Prerequisites: MAT 242 (or 342 or 343), 274 (or 275), 370 (or 371) (or their equivalents) or instructor approval.

M MAT 476 Partial Differential Equations. (3)
spring
First-order quasilinear, second-order linear (wave, Laplace, heat). Characteristics, harmonic functions, maximum principles, Fourier series, separation of variables. Prerequisites: MAT 242 (or 342 or 343), 274 (or 275 or 475), 370 (or 371) (or their equivalents) or instructor approval.

M MAT 484 Internship. (1–12)
selected semesters

M MAT 485 History of Mathematics. (3)
selected semesters
Topics from the history of the origin and development of mathematical ideas. Prerequisite: MAT 272 (or its equivalent).

M MAT 493 Honors Thesis/Research. (3)
selected semesters

M MAT 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Independent Study/Research. (3)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

MATHEMATICS EDUCATION (MTE)

For more MTE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M MTE 180 Theory of Elementary Mathematics. (3)
fall, spring, summer
Number systems, intuitive geometry, elementary algebra, and measurement. Intended for prospective elementary school teachers. Prerequisites: MAT 113, 142 (or 117 or its equivalent).

M MTE 181 Theory of Elementary Mathematics. (3)
once a year
Continuation of MTE 180. Fee. Prerequisite: MTE 180 or instructor approval.

M MTE 380 Arithmetic in the Elementary School. (3)
once a year
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.

M MTE 381 Geometry in the Elementary School. (3)
selected semesters
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.

M MTE 402 Service Learning. (3)
fall and spring
K–12 tutoring and mentoring internship related to academic course work in mathematics education. Requires weekly reflective reading and writing. May be repeated for credit. Internship. Fee. Pre- or corequisite: MTE 180 or instructor approval.
General Studies: C

M MTE 482 Methods of Teaching Mathematics in Secondary School. (3)
fall
Examines secondary school curricular material and analyzes instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. Fee. Prerequisite: instructor approval.

M MTE 483 Mathematics in the Secondary School. (3)
spring
Topics in geometry, number theory, algebra, and analysis. Emphasizes unifying principles. Prerequisite: MAT 310 or instructor approval.

M MTE 484 Internship. (1–12)
selected semesters

M MTE 494 Special Topics. (1–4)
fall and spring
Topics may include the following:
- Advanced Methods of Teaching Secondary Mathematics. (3) Continuation of MTE 482. Prerequisite: MTE 482.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

STATISTICS AND PROBABILITY (STP)

M STP 220 Conceptual Statistics. (3)
fall and spring
Treats the concepts and vocabulary needed to evaluate statistical reports on health, technology, and society. Aggressively emphasizes understanding over computation. Lecture, teamwork. Prerequisites: MAT 113, 142 (or 117 or its equivalent).
General Studies: CS

M STP 226 Elements of Statistics. (3)
fall, spring, summer
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. Prerequisites: MAT 113, 142 (or 117 or its equivalent).
General Studies: CS

M STP 231 Statistics for Biosciences. (3)
fall, spring, summer
Concepts and methods of statistics; display and summary of data, interval estimation, hypothesis testing, correlation, regression. Applications to biological sciences. Prerequisite with a grade of "C" or higher: MAT 113 or 117 or 142 (or their equivalents).

M STP 294 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Statistics for Biosciences. (3)

M STP 326 Intermediate Probability. (3)
fall and spring
Probability models and computations, joint and conditional distributions, moments, and families of distributions. Topics in stochastic processes, simulation, and statistics. Prerequisite: MAT 210 (or its equivalent).
General Studies: CS

M STP 420 Introductory Applied Statistics. (3)
fall, spring, summer
Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. Prerequisite: MAT 113 or 117 (or its equivalent).
General Studies: CS

M STP 421 Probability. (3)
fall
Laws of probability, combinatorial analysis, random variables, probability distributions, expectations, moment-generating functions, transformations of random variables, and central limit theorem. Prerequisite: MAT 272 (or its equivalent).

M STP 425 Stochastic Processes. (3)
spring
Markov chains, stationary distributions, pure jump processes, 2-D order processes, and other topics in stochastic processes. Prerequisites: MAT 342; STP 421.

M STP 427 Mathematical Statistics. (3)
spring
Limiting distributions, interval estimation, point estimation, sufficient statistics, and tests of hypotheses. Prerequisites: a combination of MAT 371 and STP 420 and 421 or only instructor approval.

M STP 429 Experimental Statistics. (3)
spring
Statistical inference for controlled experimentation. Multiple regression, correlation, analysis of variance, multiple comparisons, and nonparametric procedures. Prerequisite: STP 420 (or its equivalent).
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Department of Military Science

Army ROTC

www.asu.edu/clas/military

480/965-3318

SS 330

Lieutenant Colonel Kirk E. McIntosh, Chair

Professor: McIntosh

Assistant Professors: Barclay, Caryl, Hansen-Kaucheck, Murdock, Ranalli

Instructors: Kuhlmann, Ringenoldus, Stover, Utley

PURPOSE

The Department of Military Science, or Army ROTC (Reserve Officers' Training Corps), is a four-year or two-year program that consists of the basic and the advanced courses. It is one of the best leadership courses in the country and is part of a student's college curriculum. The curriculum prepares students with the tools, training, and experiences that will help them succeed in any competitive environment. During classes and field training, students learn firsthand what it takes to lead others and motivate groups and how to conduct missions as an officer in the U.S. Army. Upon successful completion of the advanced course and college graduation, students will earn a commission in the U.S. Army as a second lieutenant and become a leader for life.

In addition to the military science curriculum, courses in national defense studies are both an integral and parallel source of the department's program.

GENERAL INFORMATION

Basic Course. Any student who is enrolled in ASU (or approved by the professor of military science) can enroll in military science basic courses. The basic course (MIS 101, 102, 201, and 202) takes place during the first two years in college as elective courses. Each course includes a lab each semester. Students learn basic military skills and the fundamentals of leadership and begin the groundwork toward becoming an Army leader. Students may enroll in basic course classes without a military commitment.

Leader's Training Course (Two-Year Program). Scholars who want to achieve something even greater than a college degree and aspire to be leaders may join the Army ROTC program by attending a four-week summer Leader's Training Course (LTC) that consists of intense classroom and field training. This course is an accelerated version of the two-year basic course listed above and qualifies students for enrollment in the advanced course provided they have two years of college remaining (undergraduate or graduate). Students who attend this course receive a stipend; transportation to and from Fort Knox, Kentucky; housing; and meals. Those who want to receive four semester hours credit for this course may enroll in the ASU summer program, MIS 205 Leader's Training Course. Students who attend this course may also qualify for a two-year scholarship upon successful completion.

Advanced Course. The advanced course takes place during a student's last two years in college as elective courses (MIS 301, 302, 401, and 402). Each course includes a lab each semester plus a summer leadership camp. Students learn advanced military tactics and gain experience in team organization, planning, and decision making. To benefit from the leadership training in the advanced course, all students must have completed either the basic course (four-year program) or have attended the LTC (two-year program). Students must meet the following qualifications to be enrolled in the advanced course:

1. be a citizen of the United States;
2. be of sound physical condition and pass the U.S. Army physical fitness test;
3. meet the required professional military educational requirements;
4. be at least 17 years of age for entrance into the advanced course and be able to complete all commissioning requirements before age 30 (which can be waivered to age 32); and
5. commit to accept a commission and serve as an officer in the U.S. Army on Active Duty or in a Reserve Component (U.S. Army Reserve or Army National Guard) upon college graduation.

Leadership Development and Assessment Course (Advanced Course Program). Every ROTC cadet who enters into the Advanced Course attends the Leader Development and Assessment Course. It is a four-week summer course designed to evaluate and train all Army ROTC cadets. This course normally takes place between the junior and senior years of college and is conducted at Fort Lewis, Washington. Students who attend this course receive a stipend, transportation to and from camp, housing, and meals. Those who want to receive four semester hours credit for this course may enroll in the ASU summer program, MIS 303 National Advanced Leadership Camp.

The Commitment. Army ROTC cadets who receive an Army ROTC scholarship or enter the Army ROTC Advanced Course must commit to being commissioned a second lieutenant in the U.S. Army and to completing a period of service with the Army. Students may serve full-time on active duty, part-time in either the U.S. Army Reserve or the Army National Guard, or a combination of full-time and part-time.

Scholarship Programs. Students who accept an Army ROTC scholarship must also commit to accepting a commission and serving as an Officer in the U.S. Army on Active Duty or in a Reserve Component (U.S. Army Reserve or Army National Guard) upon college graduation. Scholarships provide either 100 percent costs for tuition, labs, and fees; or, costs for room and board up to the amount

of tuition costs. In addition, scholarship students receive a book stipend of $450 per semester. Army ROTC offers two-, three-, and four-year scholarship programs to outstanding young men and women based on the time remaining to complete a degree. Scholarships are awarded based on a student's merit and grades, not financial need.

1. High School four-year: The national high school four-year, active duty scholarship is for high school students planning on attending a four-year college program. Applications should be submitted by November 15. Applications submitted past that date are considered; however, late applications may not be as competitive due to selection time frames. Applications may be obtained at www.rotc.usaac.army.mil.
2. College four-year: These active duty scholarships are for college freshmen in their first year of a five-year undergraduate plan. Contact the department for more information.
3. College three- and two-year: These active duty scholarships are for students already enrolled in a college or university with three or two academic years remaining.
4. Guaranteed Reserve Forces Duty: These reserve component, two- and three-year scholarships are strictly dedicated for those students desiring to serve in the U.S. Army Reserve or Army National Guard.

Living Expenses. Scholarship and all Advanced Course students also receive a monthly, nontaxable living allowance for each school year. The amount depends on a student's level in the ROTC curriculum: freshman: $300; sophomore: $350; junior: $450; senior: $500 per month.

Simultaneous Membership Program. Under this program, ROTC students may simultaneously be members of the Army Reserve or the National Guard. The combination of advanced course living allowance and pay for Army Reserve or National Guard participation can provide between $550 and $1,000 per month.

Graduate and Professional Studies Programs. Graduate students may also enroll in the ROTC program. Outstanding students who desire to earn graduate or professional degrees may request and receive an educational, active duty delay of up to four years.

Nurse Program. By joining Army ROTC, nursing students can enhance their leadership skills and critical-thinking abilities while obtaining financial support. Besides great scholarship opportunities, Army ROTC nurse cadets may also qualify for cash bonuses. In addition, nurse cadets have an opportunity for a unique summer nursing experience. The paid, three-week Nurse Summer Training Program assigns cadets to Army hospitals throughout the U.S. and Germany. This program is designed to introduce nurse cadets to the Army Medical Department and to the roles and responsibilities of an Army nurse. Cadets work under the supervision of an Army nurse and obtain hands-on experience. This one-on-one clinical experience allows students to hone their clinical skills, develop their problem-solving techniques, and become comfortable with developing their professional skills as a member of the U.S. Army Healthcare Team. Being an Army nurse provides opportunities not found in the civilian world. Army nurses also have the opportunity to train and serve in a variety of specialties.

MILITARY SCIENCE (MIS)

M MIS 101 Introduction to the Military I. (3)
fall
Overview of mission, organization, and structure of the Army and its role in national defense; discussion of current military issues. 3 hours lecture/conference, 2 hours lab.

M MIS 102 Introduction to the Military II. (3)
spring
Introduces problem-solving methods, critical thinking, decision making, and group cohesion as applied in a military environment. 3 hours lecture/conference, 2 hours lab. Prerequisite: MIS 101.

M MIS 201 Introduction to Leadership Dynamics I. (3)
fall
Introduces interpersonal dynamics involved in military team operations; theory and application of military leadership principles. 3 hours lecture/conference, 2 hours lab.

M MIS 202 Introduction to Leadership Dynamics II. (3)
spring
Continuation of MIS 201. 3 hours lecture/conference, 2 hours lab. Prerequisite: MIS 201.

M MIS 205 Leader's Training Course. (4)
summer
6-week training program emphasizing practical hands-on skills and leadership development. Taken in lieu of MIS 101, 102, 201, 202. Conducted at Fort Knox, Kentucky.

M MIS 301 Advanced Military Science I. (3)
fall
Theory and dynamics of the individual soldier and military units in offensive combat operations. 3 hours lecture/conference, 2 hours Leadership Practical Application, 1 2-day field exercise. Fee. Prerequisites: MIS 101 and 102 and 201 and 202 (or their equivalents).

M MIS 302 Advanced Military Science II. (3)
spring
Theory and dynamics of military units in defensive combat operations. 3 hours lecture/conference, 2 hours Leadership Practical Application, 1 2-day field exercise. Fee. Prerequisites: MIS 101 and 102 and 201 and 202 (or their equivalents).

M MIS 303 National Advanced Leadership Camp. (4)
summer
6-week training program emphasizing leadership development and advanced military skills, including tactics, land navigation, and physical training. Conducted at Fort Lewis, Washington. Prerequisites: MIS 301, 302.

M MIS 401 Advanced Military Science III. (3)
fall
Military legal system; preparation and conduct of military training; leadership development; ethics and professionalism of the military officer. 3 hours lecture/conference, 2 hours Leadership Practical Application, 1 2-day field exercise. Fee. Prerequisites: MIS 301, 302.

M MIS 402 Advanced Military Science IV. (3)
spring
Military correspondence; career planning and personal affairs in service; conduct of training; leadership development; ethics and professionalism of the military officer. 3 hours lecture/conference, 2 hours Leadership Practical Application, 1 2-day field exercise. Fee. Prerequisites: MIS 301, 302.

M MIS 410 American Defense Policy I. (3)
fall
Evolution, organization, and execution of U.S. national security policy.
General Studies: SB

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M MIS 412 American Defense Policy II. (3)
spring
Contemporary problems and analytical issues in the formation and implementation of U.S. national security. Prerequisite: MIS 410.
General Studies: SB

M MIS 499 Individualized Instruction: Military Science Leadership. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Philosophy

www.asu.edu/clas/philosophy
480/965-3394
COOR 3309

Stewart M. Cohen, Chair

Regents' Professor: Murphy

Professors: Cohen, Creath, Fitch, French, Humphrey, Walker, White

Associate Professors: Armendt, Blackson, de Marneffe, Guleserian, Kobes, McGregor, Reynolds

Assistant Professor: Portmore

Senior Lecturer: Bolton

PHILOSOPHY—BA

The major in Philosophy consists of 45 semester hours, 33 of which must be upper-division hours. In exceptional cases, up to nine semester hours may be in related fields as approved by the undergraduate advisor. Required courses are as follows:

PHI	300 Philosophical Argument and Exposition *L*	3
PHI	301 History of Ancient Philosophy *HU, H*	3
PHI	302 History of Modern Philosophy *HU, H*	3
PHI	305 Ethical Theory *HU*	3
	or PHI 335 History of Ethics *HU* (3)	
PHI	312 Theory of Knowledge *HU*	3
	or PHI 314 Philosophy of Science *HU* (3)	
PHI	316 Metaphysics *HU*	3
	or PHI 317 Philosophy of Mind *HU* (3)	
PHI	333 Introduction to Symbolic Logic	3
Choose two courses below		6
PHI	401 Rationalism (3)	
PHI	402 Empiricism *HU* (3)	
PHI	403 Contemporary Analytic Philosophy *HU* (3)	
PHI	413 Advanced Symbolic Logic (3)	
PHI	420 Topics in Philosophy (3)	
PHI	494 Special Topics (3)	
Total		27

Exceptions are granted by special permission of the chair only. PHI 420 may be repeated for credit.

Students planning to do graduate work in philosophy should consult with an advisor to develop an appropriate selection of courses at the 300 and 400 levels. A minimum grade of "C" (2.00) is necessary for each course used to fulfill the major requirements. See "College Graduation Requirements," page 503.

History and Philosophy of Science. The faculty in the Department of Philosophy offer courses bearing the HPS prefix. With the consent of the director of undergraduate studies, these courses may be taken to satisfy the requirements of the Philosophy major.

MINOR IN PHILOSOPHY

A minor in Philosophy consists of 18 semester hours, of which at least 12 must be in the upper division and approved by an advisor in the department. All courses must be passed with a minimum grade of "C" (2.00).

CERTIFICATE IN ETHICS

The Ethics Certificate consists of 18 semester hours approved by an advisor in the department. The student must take PHI 305 or 335. At least 15 hours must be chosen from PHI 105, 120, 304, 305, 306, 307, 309, 310, 320, 335, and (when its topic is within ethics) PHI 420. One course outside this list, and perhaps outside the department, may be used with written approval from the director of undergraduate studies. All courses must be passed with a minimum grade of "C" (2.00).

CERTIFICATE IN SYMBOLIC SYSTEMS

The Certificate in Symbolic Systems consists of 28 semester hours approved by an advisor in the Department of Philosophy and divided evenly among computer science and engineering, psychology, and philosophy as follows:

1. CSE 205, 210, and 240;
2. PSY 230 and 290 and either PSY 323, 324, or 437; and
3. either PHI 312 or 314, either PHI 315 or 317, and either PHI 319 or 333.

Students must satisfy the prerequisites for the listed courses. With written approval from the director of undergraduate studies in the Department of Philosophy, one substitution of a course from outside this list may be made. All courses must be passed with a minimum grade of "C" (2.00).

BIS CONCENTRATIONS

Concentrations in ethics and philosophy (with options in history and philosophy of science, and symbolic systems) are available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Students may also choose a concentration from any approved certificate program. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

GRADUATE PROGRAM

The faculty in the Department of Philosophy offer a graduate program leading to the MA and PhD degrees. See the *Graduate Catalog* for requirements.

PHILOSOPHY (PHI)

For more PHI courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M PHI 101 Introduction to Philosophy. (3)
fall, spring, summer
Explores issues that philosophers have traditionally considered, including morality, reality, and knowledge.
General Studies: HU

M PHI 103 Principles of Sound Reasoning. (3)
fall, spring, summer
Fallacies, validity, and soundness of arguments. May include syllogistic, elementary symbolic, inductive logic, and scientific method. Prerequisite: ENG 101 or 105.
General Studies: L/HU

M PHI 105 Introduction to Ethics. (3)
once a year
Philosophical examination of such questions as, How should we live? Is morality a social invention? Does anything matter?
General Studies: HU

M PHI 120 Introduction to Medical and Bioethics. (3)
once a year
Philosophical examination of moral problems that arise in medicine and biology, e.g., end-of-life, reproduction, and patient's rights. Lecture, discussion.

M PHI 300 Philosophical Argument and Exposition. (3)
spring
Develops techniques of philosophical argument and exposition. Frequent written exercises. Course content may vary with instructor. Prerequisites: major; instructor approval.
General Studies: L

M PHI 301 History of Ancient Philosophy. (3)
fall
History of Western philosophy from its beginnings through the Hellenistic period.
General Studies: HU, H

M PHI 302 History of Modern Philosophy. (3)
spring
History of Western philosophy from the Renaissance through Kant.
General Studies: HU, H

M PHI 304 Existentialism. (3)
selected semesters
Covers such topics as absurdity, authenticity, the meaning of life and death, responsibility, and subjectivity. May include readings in phenomenology. Prerequisite: PHI 101 or 103 or 105 or instructor approval.
General Studies: HU

M PHI 305 Ethical Theory. (3)
once a year
Current theories about the nature of morality (metaethics) and about what is right and wrong (normative ethics). Prerequisite: PHI 105 or 306 or 307 or 309 or 335 or instructor approval.
General Studies: HU

M PHI 306 Applied Ethics. (3)
fall, spring, summer
Philosophical discussion of contemporary moral and political issues, such as abortion, euthanasia, animal rights, affirmative action, and sexual rights.
General Studies: HU

M PHI 307 Philosophy of Law. (3)
once a year
Nature and source of law and its relation to morality. Legal rights, legal enforcement of morals, civil disobedience, liability and responsibility, punishment, judicial reasoning, justice, property, and differences between theories of natural and positive law.
General Studies: HU

M PHI 308 Philosophy of Art. (3)
once a year
Central problems in philosophy of art, e.g., the nature of a work of art, modern and traditional theories of art, aesthetic perception and experience, and objectivity and relativity in art criticism.
General Studies: HU

M PHI 309 Social and Political Philosophy. (3)
once a year
Alternative principles and methods relevant to problems of human association and conflict; discusses justice and power, freedom and equality, and autonomy and order. Prerequisite: PHI 105 or 305 or 335 or instructor approval.
General Studies: HU

M PHI 310 Environmental Ethics. (3)
once a year
Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism.
General Studies: HU

M PHI 311 Philosophy in Literature. (3)
once a year
Selected works of literature introducing philosophical problems such as the nature of moral goodness and people's relation to the world and other people.
General Studies: HU

M PHI 312 Theory of Knowledge. (3)
once a year
Nature, sources, and limits of human knowledge. Topics may include truth, a priori knowledge, empirical knowledge, perception, induction, and skepticism. Prerequisite: PHI 101 or 103 or 300 or 301 or 302 or 333.
General Studies: HU

M PHI 314 Philosophy of Science. (3)
once a year
Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. Cross-listed as HPS 314. Credit is allowed for only HPS 314 or PHI 314.
General Studies: HU

M PHI 315 Philosophy of Language. (3)
once a year
Problems pertaining to the nature of language, including meaning, reference, truth, definition, analyticity, translatability, synonymy, and contributions of contemporary linguistics. Prerequisite: PHI 103 or 300 or 333.
General Studies: HU

M PHI 316 Metaphysics. (3)
once a year
Problems pertaining to the nature of reality. Topics may include nature of person, minds, substance, universals, space, time, causation, and modality. Prerequisite: PHI 101 or 103 or 300 or 301 or 333.
General Studies: HU

M PHI 317 Philosophy of Mind. (3)
once a year
Nature of consciousness. Common sense view of mind, behaviorism, materialism, dualism, functionalism, self-knowledge, and knowledge of other minds. Prerequisite: PHI 101 or 103 or 300 or 301 or 302 or 333.
General Studies: HU

M PHI 318 Philosophy of Religion. (3)
once a year
Classical arguments for the existence of God. Argument from evil against the existence of God. Justification of religious belief. Prerequisite: any PHI or REL course.
General Studies: HU

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M PHI 319 Philosophy of Computing. (3)
selected semesters
Philosophical problems surrounding the theory of computation. Turing machines, mind and AI, neural network computing, ethics, and epistemology of computing. Lecture, lab, discussion.
General Studies: CS/HU

M PHI 320 Bioethics. (3)
once a year
Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries.

M PHI 325 Philosophy of Social Science. (3)
selected semesters
Philosophical problems surrounding the aims, structure, and methods of the social sciences.
General Studies: HU/SB

M PHI 333 Introduction to Symbolic Logic. (3)
once a year
Symbolic techniques, emphasizing deductions and proofs in the propositional and 1st-order predicate calculi.

M PHI 335 History of Ethics. (3)
once a year
Major works of moral philosophy, both ancient and modern, such as those by Plato, Aristotle, Hobbes, Hume, Kant, and Mill. Prerequisite: PHI 101 or 105 or 305 or 306 or 307 or 309 or instructor approval.
General Studies: HU

M PHI 401 Rationalism. (3)
selected semesters
Examines classical philosophical rationalism, as in Descartes, Spinoza, Malebranche, or Leibniz. Contemporary rationalist thought may also be examined. Prerequisites: PHI 302 and 305 (or 309 or 312 or 316 or 317).

M PHI 402 Empiricism. (3)
selected semesters
Examines representatives of either classical or contemporary philosophical empiricism, e.g., Bacon, Hobbes, Locke, Butler, Berkeley, Reid, Hume, Mill, Carnap, and Ayer. Prerequisites: PHI 302 and 305 (or 309 or 312 or 316 or 317).
General Studies: HU

M PHI 403 Contemporary Analytic Philosophy. (3)
once a year
Aims and methods of such 20th-century philosophers as Frege, Moore, Russell, Wittgenstein, Carnap, Ayer, Wisdom, Ryle, Austin, Strawson, Quine, and Sellars, with application to metaphysics and epistemology. Prerequisites: PHI 302 and 312 (or 314 or 315 or 316 or 317 or 401 or 402).
General Studies: HU

M PHI 413 Advanced Symbolic Logic. (3)
selected semesters
Properties of formal systems axiomatizing propositional and 1st-order predicate logic. May also include modal logic, number theory, and limits of logicism. Prerequisite: PHI 333.

M PHI 420 Topics in Philosophy. (3)
once a year
Course descriptions on file in department. May be repeated for credit. Topics may include the following:
- History of Philosophy
- Metaphysics/Epistemology
- Philosophy of Language/Logic
- Philosophy of Science
- Value Theory

Prerequisite: a relevant upper-division PHI course or instructor approval.

M PHI 428 Immunophilosophy. (3)
selected semesters
Integrates immunology and philosophy, including psychoneuroimmunology and the mind-body problem, and immunologic/psychologic perspectives on self and self-identity. Discussion, original literature readings and written assignments. Cross-listed as MIC 428. Credit is allowed for only MIC 428 or PHI 428. Pre- or corequisite: MIC 420 or PHI 317 or instructor approval.

M PHI 494 Special Topics. (3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Physics and Astronomy

phy.asu.edu
480/965-3561
PS F470

Barry G. Ritchie, Chair

Regents' Professors: Smith, Spence, Starrfield, Windhorst

Professors: Alarcon, Bennett, Burstein, Chamberlin, Comfort, Cowley, Doak, Dow, Hester, Lindsay, Menéndez, Ponce, Rez, Ritchie, Sankey, Schmidt, Thorpe, Tillery, Treacy, Tsen, Tsong, Venables

Associate Professors: Culbertson, Drucker, Herbots, Marzke, McCartney, Newman

Assistant Professors: Belitsky, Desch, Lebed, Ortiz, Shumway

Distinguished Research Professor: Bauer

PHYSICS—BS

Students majoring in Physics may pursue one of two options.

Option I. Designed for students who wish to pursue physics at the bachelor or graduate degree levels, option I consists of the following required courses:

Choose between the course combinations below		4
PHY	150 Physics I *SQ* (4)	
	— *or* —	
PHY	121 University Physics I: Mechanics SQ^1 (3)	
PHY	122 University Physics Laboratory I SQ^1 (1)	
Choose between the course combinations below		4
PHY	151 Physics II *SQ* (4)	
	— *or* —	
PHY	131 University Physics II: Electricity and Magnetism SQ^2 (3)	
PHY	132 University Physics Laboratory II SQ^2 (1)	
PHY	201 Mathematical Methods in Physics I *CS*	3
PHY	252 Physics III *SQ*	4
PHY	302 Mathematical Methods in Physics II	2
PHY	310 Classical Particles, Fields, and Matter I	3
PHY	311 Classical Particles, Fields, and Matter II	3
PHY	314 Quantum Physics I	3
PHY	315 Quantum Physics II	3
PHY	333 Electronic Circuits and Measurements	3
PHY	334 Advanced Laboratory I L^3	2
PHY	412 Classical Particles, Fields, and Matter III	3
PHY	416 Quantum Physics III	3
PHY	441 Statistical and Thermal Physics I	3

PHY 465 Advanced Laboratory II 2
Total 45

[1] Both PHY 121 and 122 must be taken to secure SQ credit.
[2] Both PHY 131 and 132 must be taken to secure SQ credit.
[3] Both PHY 334 and 420 must be taken to secure L credit.

Supporting mathematics courses are as follows:

Choose between the course combinations below ..... 12 or 10
MAT 270 Calculus with Analytic Geometry I *MA* (4)
MAT 271 Calculus with Analytic Geometry II *MA* (4)
MAT 272 Calculus with Analytic Geometry III *MA* (4)
— *or* —
MAT 290 Calculus I *MA* (5)
MAT 291 Calculus II (5)

Additional courses in physics and related fields are selected with the approval of the advisor. French, German, or Russian is strongly recommended to fulfill the foreign language requirement.

Option II. The interdisciplinary option II is designed for students who wish to obtain an undergraduate physics preparation for entry into other professions or graduate programs. A total of 53 hours are required, including the following courses:

Choose between the course combinations below 4
PHY 150 Physics I *SQ* (4)
— *or* —
PHY 121 University Physics I: Mechanics *SQ*[1] (3)
PHY 122 University Physics Laboratory I *SQ*[1] (1)
Choose between the course combinations below 4
PHY 151 Physics II *SQ* (4)
— *or* —
PHY 131 University Physics II: Electricity and Magnetism *SQ*[2] (3)
PHY 132 University Physics Laboratory II *SQ*[2] (1)
PHY 201 Mathematical Methods in Physics I *CS* 3
PHY 252 Physics III *SQ* 4
PHY 302 Mathematical Methods in Physics II 2
PHY 310 Classical Particles, Fields, and Matter I 3
PHY 311 Classical Particles, Fields, and Matter II 3
PHY 314 Quantum Physics I 3
PHY 315 Quantum Physics II 3
PHY 333 Electronic Circuits and Measurements 3
PHY 334 Advanced Laboratory I *L*[3] 2
PHY 412 Classical Particles, Fields, and Matter III 3
PHY 441 Statistical and Thermal Physics I 3
Total 40

[1] Both PHY 121 and 122 must be taken to secure SQ credit.
[2] Both PHY 131 and 132 must be taken to secure SQ credit.
[3] Both PHY 334 and 420 must be taken to secure L credit.

The remaining courses are selected from physics and an area of concentration as approved by the student's advisor. Possible areas of concentration are astronomy, astrophysics, materials science, physical chemistry, applied mathematics, geophysics, biological physics, philosophy of science, scientific journalism, and premedical and prelaw programs. French, German, or Russian is strongly recommended to fulfill the foreign language requirement.

Supporting mathematics courses are as follows:

Choose between the course combinations below ..... 12 or 10
MAT 270 Calculus with Analytic Geometry I *MA* (4)
MAT 271 Calculus with Analytic Geometry II *MA* (4)
MAT 272 Calculus with Analytic Geometry III *MA* (4)
— *or* —
MAT 290 Calculus I *MA* (5)
MAT 291 Calculus II (5)

Emphasis in Astronomy

The astronomy faculty offer courses in astronomy both for nonscience majors and for science and physics majors. For an emphasis in astronomy, the following courses (or their equivalents) should be taken:

AST 321 Introduction to Planetary and Stellar Astrophysics *SQ*[1] 3
AST 322 Introduction to Galactic and Extragalactic Astrophysics *SQ*[2] 3
AST 421 Astrophysics I 3
AST 422 Astrophysics II 3
AST 499 Individualized Instruction 3
Total 15

[1] Both AST 113 and 321 must be taken to secure SQ credit.
[2] Both AST 114 and 322 must be taken to secure SQ credit.

MINOR IN ASTRONOMY

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

AST 113 Astronomy Laboratory I *SQ*[1] 1
AST 114 Astronomy Laboratory II *SQ*[2] 1
AST 321 Introduction to Planetary and Stellar Astrophysics *SQ*[1] 3
AST 322 Introduction to Galactic and Extragalactic Astrophysics *SQ*[2] 3
Choose between the course combinations below 4
PHY 150 Physics I *SQ* (4)
— *or* —
PHY 121 University Physics I: Mechanics *SQ*[3] (3)
PHY 122 University Physics Laboratory I *SQ*[3] (1)
Choose between the course combinations below 4
PHY 151 Physics II *SQ* (4)
— *or* —
PHY 131 University Physics II: Electricity and Magnetism *SQ*[4] (3)
PHY 132 University Physics Laboratory II *SQ*[4] (1)
PHY 252 Physics III *SQ* 4
Approved upper-division electives 4
Total 24

[1] Both AST 113 and 321 must be taken to secure SQ credit.
[2] Both AST 114 and 322 must be taken to secure SQ credit.
[3] Both PHY 121 and 122 must be taken to secure SQ credit.
[4] Both PHY 131 and 132 must be taken to secure SQ credit.

Electives are chosen with approval of an astronomy advisor from upper-division courses in physics and astronomy.

MINOR IN PHYSICS

The minor in Physics consists of a minimum of 29 semester hours. Required courses are as follows:

Choose between the course combinations below 4
PHY 150 Physics I *SQ* (4)
— *or* —
PHY 121 University Physics I: Mechanics *SQ*[1] (3)
PHY 122 University Physics Laboratory I *SQ*[1] (1)
Choose between the course combinations below 4
PHY 151 Physics II *SQ* (4)
— *or* —
PHY 131 University Physics II: Electricity and Magnetism *SQ*[2] (3)
PHY 132 University Physics Laboratory II *SQ*[2] (1)
PHY 201 Mathematical Methods in Physics I *CS* 3
PHY 252 Physics III *SQ* 4
PHY 302 Mathematical Methods in Physics II 2
PHY 310 Classical Particles, Fields, and Matter I 3
PHY 311 Classical Particles, Fields, and Matter II 3
PHY 314 Quantum Physics I 3
Approved electives 3
Total 29

[1] Both PHY 121 and 122 must be taken to secure SQ credit.
[2] Both PHY 131 and 132 must be taken to secure SQ credit.

Electives are chosen with approval of the physics advisor from upper-division courses in physics and astronomy.

BIS CONCENTRATIONS

Concentrations in astronomy and physics are available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

SECONDARY EDUCATION—BAE

Physics. This degree is offered through the Initial Teacher Certification (ITC) program in the College of Education. Students pursuing a major in Secondary Education have an advisor in the College of Education and an advisor within the department of their academic specialization area.

See "College of Education," page 349, for information on admission eligibility requirements, admission deadlines, field experiences, and student teaching. For more information, or to schedule an appointment with an advisor, call the Office of Student Services in the College of Education at 480/965-5555.

The following courses must be completed with a grade of "C" (2.00) or higher *before* applying to the ITC program: PHY 150 and 151 or PHY 121, 122, 131, and 132.

This academic specialization consists of 48 semester hours. Required courses are as follows:

MAT 270 Calculus with Analytic Geometry I *MA* 4
MAT 271 Calculus with Analytic Geometry II *MA* 4
MAT 272 Calculus with Analytic Geometry III *MA* 4
Choose between the course combinations below 8
PHY 150 Physics I *SQ* (4)
PHY 151 Physics II *SQ* (4)
— *or* —
PHY 121 University Physics I: Mechanics *SQ*[1] (3)
PHY 122 University Physics Laboratory I *SQ*[1] (1)
PHY 131 University Physics II: Electricity and Magnetism *SQ*[2] (3)
PHY 132 University Physics Laboratory II *SQ*[2] (1)
PHY 201 Mathematical Methods in Physics I *CS* 3
PHY 252 Physics III *SQ* 4
PHY 302 Mathematical Methods in Physics II 2
PHY 310 Classical Particles, Fields, and Matter I 3
PHY 333 Electronic Circuits and Measurements 3
PHY 361 Introductory Modern Physics 3
or PHY 314 Quantum Physics I (3)
PHY 480 Methods of Teaching Physics 3
or PHY 484 Internship: Physics Teaching (1–4)
Approved electives[3] 10
Minimum total 48

[1] Both PHY 121 and 122 must be taken to secure SQ credit.
[2] Both PHY 131 and 132 must be taken to secure SQ credit.
[3] Electives are chosen in physics or other closely related fields, subject to the approval of the advisor.

Teaching Methods
PHY 480 Methods of Teaching Physics 3
PHY 484 Internship: Physics Teaching 3
Total 6

GRADUATE PROGRAMS

The faculty in the department offer programs leading to degrees of Master of Natural Science, MS, and PhD. See the *Graduate Catalog* for requirements.

ASTRONOMY (AST)

For more AST courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M AST 111 Introduction to Solar Systems Astronomy. (3)
fall
History, properties of light, instruments, study of solar system and nearby stars. For nonscience majors. Optional lab (AST 113).
General Studies: SQ (if credit also earned in AST 113)

M AST 112 Introduction to Stars, Galaxies, and Cosmology. (3)
spring
Structure and evolution of stars, star clusters, galaxies, cosmology. For nonscience majors. Optional lab (AST 114).
General Studies: SQ (if credit also earned in AST 114)

M AST 113 Astronomy Laboratory I. (1)
fall
Astronomical observations and experiments designed to increase familiarity with the sky, telescopes, and astronomical measurements. 2.5 hours lab. Fee. Pre- or corequisites: AST 111 (or 321); a working knowledge of high school algebra and geometry.
General Studies: SQ (if credit also earned in AST 111 or 321)

M AST 114 Astronomy Laboratory II. (1)
spring
Similar to AST 113, but material chosen to supplement AST 112 and 322. 2.5 hours lab. Fee. Pre- or corequisites: AST 112 (or 322); a working knowledge of high school algebra and geometry.
General Studies: SQ (if credit also earned in AST 112 or 322)

M AST 321 Introduction to Planetary and Stellar Astrophysics. (3)
fall
Physical laws; celestial mechanics; properties of planets, the sun, and other stars; formation and evolution of stars and planetary systems. Prerequisites: MAT 270 (or 290); PHY 150.
General Studies: SQ (if credit also earned in AST 113)

M AST 322 Introduction to Galactic and Extragalactic Astrophysics. (3)
spring
Evolved stars, introduction to relativity, galaxies and interstellar matter, structure and dynamics of galaxies, cosmology. Prerequisite: AST 321 or instructor approval.
General Studies: SQ (if credit also earned in AST 114)

M AST 421 Astrophysics I. (3)
fall
Selected astrophysical topics, including stellar evolution, star formation, interstellar medium, galactic structure, extragalactic astronomy, high-energy astrophysics, and cosmology. Prerequisites: AST 321, 322; PHY 311, 314.

M AST 422 Astrophysics II. (3)
spring
Same range of astrophysical topics as for AST 421 but different specific topics are emphasized in a given year. Prerequisites: AST 321, 322; PHY 311, 314.

M AST 460 Astrobiology. (3)
fall and spring
Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. May be repeated for credit. Lecture, discussion, video conferences, possible field trips. Cross-listed as BIO 460/CHM 483/GLG 460/MIC 475. Credit is allowed for only AST 460 or BIO 460 or CHM 483 or GLG 460 or MIC 475. Prerequisite: instructor approval.

M AST 499 Individualized Instruction. (3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

PHYSICAL SCIENCES (PHS)

M PHS 110 Fundamentals of Physical Science. (4)
fall and spring
One-semester survey of the principles of physics and chemistry. Presumes understanding of elementary algebra. 3 hours lecture, 2 hours lab. Fee.
General Studies: SQ

M PHS 208 Patterns in Nature. (4)
fall and spring
Project-oriented science course with computer training to develop critical thinking and technical skills for student-oriented K–12 science lessons. Lecture, lab. Cross-listed as MSE 208. Credit is allowed for only MSE 208 or PHS 208. Fee. Prerequisite: a college-level science course or instructor approval.
General Studies: SQ

M PHS 402 Service Learning. (3)
fall and spring
K–12 tutoring and mentoring internship related to academic course work in physical science and physics. Requires weekly reflective reading and writing. May be repeated for credit. Internship. Fee. Pre- or corequisite: only PHS 110 (or 208) or PHY 101 (or 105) or both PHY 111 and 113 or both PHY 121 and 122 or only PHY 150.
General Studies: C

M PHS 484 Internship. (1–12)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

PHYSICS (PHY)

For more PHY courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M PHY 101 Introduction to Physics. (4)
fall and spring
Emphasizes applications of physics to life in the modern world. Presumes understanding of elementary algebra. 3 hours lecture, 1 recitation, 2 hours lab.
General Studies: SQ

M PHY 105 Basic Physics. (3)
fall
One-semester survey of the principles of physics. Primarily for students who intend to take PHY 121, 131 but have not taken high school physics. 3 hours lecture, 1 recitation. Prerequisites: algebra and trigonometry.

M PHY 111 General Physics. (3)
fall, spring, summer
Noncalculus treatment of the principles of physics for nonphysics majors. Students whose curricula require a laboratory course must also register for PHY 113. 3 hours lecture, 1 recitation. Prerequisite: trigonometry.
General Studies: SQ (if credit also earned in PHY 113)

M PHY 112 General Physics. (3)
fall, spring, summer
Continuation of PHY 111. Students whose curricula require a laboratory course must also register for PHY 114. Prerequisite: PHY 111.
General Studies: SQ (if credit also earned in PHY 114)

M PHY 113 General Physics Laboratory. (1)
fall, spring, summer
Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent to, PHY 111. 2 hours lab. Fee.
General Studies: SQ (if credit also earned in PHY 111)

M PHY 114 General Physics Laboratory. (1)
fall, spring, summer
See PHY 113. May be taken concurrently with, or subsequent to, PHY 112. Fee.
General Studies: SQ (if credit also earned in PHY 112)

M PHY 121 University Physics I: Mechanics. (3)
fall, spring, summer
Kinematics; Newton's laws; work, energy, momentum, conservation laws; dynamics of particles, solids, and fluids. 3 hours lecture, 1 hour recitation. Prerequisite: MAT 270 or 290 or instructor approval.
General Studies: SQ (if credit also earned in PHY 122)

M PHY 122 University Physics Laboratory I. (1)
fall, spring, summer
Lab accompanying PHY 121. Fee. Pre- or corequisite: PHY 121.
General Studies: SQ (if credit also earned in PHY 121)

M PHY 131 University Physics II: Electricity and Magnetism. (3)
fall, spring, summer
Electric charge and current, electric and magnetic fields in vacuum and in materials, and induction. AC circuits, displacement current, and electromagnetic waves. 3 hours lecture, 1 hour recitation. Prerequisites: MAT 271 (or 291 or instructor approval); PHY 121. Corequisite: MAT 272 or instructor approval.
General Studies: SQ (if credit also earned in PHY 132)

M PHY 132 University Physics Laboratory II. (1)
spring and summer
Lab accompanying PHY 131. Fee. Pre- or corequisite: PHY 131.
General Studies: SQ (if credit also earned in PHY 131)

M PHY 150 Physics I. (4)
spring
Introductory physics for majors. Kinematics, Newton's Laws, basic forces, energy, momentum, special relativity. 3 hours lecture, 3 hours lab. Fee. Prerequisite: MAT 270 or 290 (or its equivalent).
General Studies: SQ

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M PHY 151 Physics II. (4)
fall
Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. 3 hours lecture, 3 hours lab. Fee. Prerequisites: MAT 271 (or 291 or its equivalent); PHY 121, 122 (or 150).
General Studies: SQ

M PHY 190 Seminar: Physics as a Curriculum and a Profession. (1)
fall and spring
Seminar for new Physics majors. Instruction and information on curriculum, departmental functions, and professional preparation. Weekly meetings and excursions. Pass/fail grading.

M PHY 201 Mathematical Methods in Physics I. (3)
spring
Differential equations, linear equations, vectors, matrices, Fourier series, and numerical methods. 2 hours lecture, 2 hours lab. Fee. Prerequisites: MAT 272; Physics major. Corequisite: PHY 252.
General Studies: CS

M PHY 241 University Physics III. (3)
fall and spring
Thermodynamics, kinetic theory, physical and wave optics, relativity, photons, matter waves, atomic physics. 3 hours lecture, 1 hour recitation. Prerequisites: PHY 131; nonmajor.

M PHY 252 Physics III. (4)
spring
Continuation of PHY 151. Wave physics, oscillations, harmonic systems, physical optics, thermodynamics, kinetic theory. 3 hours lecture, 3 hours lab. Fee. Prerequisites: MAT 272 (or its equivalent); PHY 131 and 132 (or 151 or its equivalent). Corequisite: PHY 201.
General Studies: SQ

M PHY 302 Mathematical Methods in Physics II. (2)
fall
Continuation of PHY 201. Vector calculus, complex variables, partial differential equations, special functions, numerical methods. 1 hour lecture, 3 hours lab. Fee. Prerequisite: PHY 201 (or its equivalent).

M PHY 310 Classical Particles, Fields, and Matter I. (3)
fall
Particle kinematics, mechanics, conservation laws, particle motion in force fields, dynamics of two-body systems, reference frames, rigid body motion, relativity. Fee. Corequisites: both PHY 302 and 314 or only instructor approval.

M PHY 311 Classical Particles, Fields, and Matter II. (3)
spring
Electrostatic and gravitational fields, Poisson and Laplace equations, dielectric materials, magnetic fields and materials, magnetic induction, Faraday's Law. Fee. Prerequisites: PHY 302, 310. Corequisite: PHY 315 or instructor approval.

M PHY 314 Quantum Physics I. (3)
fall
Photons, models of the atom, wave properties of matter, introduction to wave mechanics, 1-D systems in quantum mechanics. Fee. Prerequisites: PHY 201 and 252 (or their equivalents). Corequisites: both PHY 302 and 310 or only instructor approval.

M PHY 315 Quantum Physics II. (3)
spring
General principles of quantum mechanics, 3-D problems, approximation methods, spin, introduction to many-particle systems. Fee. Prerequisites: PHY 302, 310, 314. Corequisite: PHY 311 or instructor approval.

M PHY 333 Electronic Circuits and Measurements. (3)
fall and spring
Basic principles of electronic circuit analysis and measurement techniques using modern instrumentation and computer-aided analysis of data. 1 hour lecture, 3 hours lab; required equivalent effort outside of lab. Fee. Corequisite: PHY 201 or instructor approval.

M PHY 334 Advanced Laboratory I. (2)
spring
Selected experiments from contemporary physics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report form writing. Lecture, lab. Fee. Prerequisites: PHY 310, 314, 333.
General Studies: L (if credit also earned in PHY 420)

M PHY 361 Introductory Modern Physics. (3)
fall and spring
Special relativity and introductory quantum theory with applications drawn from atomic, nuclear, and solid-state physics. 3 hours lecture, 1 recitation. Prerequisite: PHY 131.

M PHY 412 Classical Particles, Fields, and Matter III. (3)
fall
Electromagnetic fields of moving charges, Maxwell's equations, harmonic phenomena, oscillations, waves, electromagnetic radiation, covariant electromagnetism, introduction to general relativity. Fee. Prerequisites: PHY 311, 333. Corequisite: PHY 416 or instructor approval.

M PHY 416 Quantum Physics III. (3)
fall
Introduces the quantum theory of atoms, molecules, solids and nuclei, Dirac's equation. Fee. Prerequisites: PHY 311, 315. Corequisite: PHY 412 or instructor approval.

M PHY 420 Research Paper. (1)
fall and spring
Scientific report writing. Culminates in a paper based on library or laboratory research or both. Taken in conjunction with other courses as approved. Conference. Prerequisite: instructor approval.
General Studies: L (if credit also earned in PHY 334)

M PHY 441 Statistical and Thermal Physics. (3)
fall
Statistical and experimental basis of heat, temperature, and entropy. Mechanical and statistical basis of the laws of thermodynamics. Applications of macroscopic thermodynamics. Phase equilibrium. Prerequisites: PHY 311, 315.

M PHY 452 Physical Optics. (3)
fall
Principles of reflection, refraction, diffraction. Additional topics from contemporary optics may include Fourier transform spectroscopy, linear systems theory, holography. 2 hours lecture, 2 hours lab. Prerequisites: PHY 302, 311, 315. Corequisite: PHY 412.

M PHY 462 Subatomic Physics. (3)
spring
Nuclear properties, models, decays and reactions; fundamental forces, field theories, symmetry principles; hadrons, quarks, and leptons; the Standard Model. Prerequisites: PHY 311, 315.

M PHY 465 Advanced Laboratory II. (2)
fall and spring
Continuation of PHY 334. Students are encouraged to substitute laboratory research project in consultation with faculty sponsor. Fee. Prerequisite: PHY 334.

M PHY 466 Advanced Laboratory III. (1–3)
fall and spring
Continuation of PHY 465. Fee. Prerequisite: PHY 465.

M PHY 480 Methods of Teaching Physics. (3)
spring
Evaluation of various approaches to the teaching of high school physics. Preparation of demonstrations and experiments. Organization of a laboratory. Designed for secondary school physics teachers. Prerequisite: instructor approval.

M PHY 481 Materials Physics I. (3)
fall
Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. Credit is allowed for only PHY 481 or 511. Prerequisites: PHY 311, 315.

M PHY 482 Materials Physics II. (3)
spring
Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. Credit is allowed for only PHY 482 or 512. Prerequisite: PHY 481 (or its equivalent).

M PHY 484 Internship: Physics Teaching. (1–4)
fall, spring, summer
Preparation for high school physics teaching. Student works closely with a faculty member in the elementary physics program. May be repeated for a total of 6 semester hours. Prerequisite: instructor approval.

M PHY 495 Project Research. (1–3)
fall and spring
Supervised project in physics or astrophysics. May be repeated for credit. Prerequisite: instructor approval.

M PHY 498 Pro-Seminar. (1–7)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Political Science

www.asu.edu/clas/polisci
480/965-6551
COOR 6801

Patrick J. Kenney, Chair

Professors: Artibise, Ball, Dagger, Fridkin, Guston, Iheduru, Jones, Kenney, Simon, Youngblood

Associate Professors: Ashley, Crittenden, Dantico, Doty, M. Elman, Herrera, Keating, Mitchell, Simhony, Warner

Assistant Professors: Chin, C. Elman, Espino, Goren, Hindman, Hoekstra, Kittilson, Lewis, Pantoja, Schatzman

POLITICAL SCIENCE—BA

The BA degree in Political Science consists of 42 semester hours, of which 30 must be in political science and 12 in related fields consisting of courses selected from the Departments of Aerospace Studies, Chicana and Chicano Studies, Economics, Family and Human Development, Geography, History, Military Science, Philosophy, Psychology, Religious Studies, and Sociology; the Schools of Global Studies, Human Communication, Human Evolution and Social Change, and Justice and Social Inquiry; or from the African and African American Studies, American Indian Studies, Asian Pacific American Studies, or Women and Gender Studies programs. At least 15 hours in political science must be in upper-division courses.

The following courses are required:

POS	101	Political Ideologies *SB*	3
POS	110	Government and Politics *SB*	3
		or POS 310 American National Government *SB* (3)	
POS	150	Comparative Government *SB, G*	3
		or POS 160 Global Politics *SB, G* (3)	
POS	301	Empirical Political Inquiry *SB*	3
Total			12

Students who major in Political Science must have a minimum GPA of 2.00 for all courses that count toward the major. Courses that count toward the major must have a grade of "C" (2.00) or higher. See "College Graduation Requirements," page 503. No more than six hours of POS 484 Internship may be applied to the major.

POLITICAL SCIENCE—BS

The BS degree in Political Science consists of 48 semester hours, of which 36 must be in political science and 12 in related fields consisting of courses selected from the Departments of Aerospace Studies, Chicana and Chicano Studies, Economics, Family and Human Development, Geography, History, Military Science, Philosophy, Psychology, Religious Studies, and Sociology; the Schools of Global Studies, Human Communication, Human Evolution and Social Change, and Justice and Social Inquiry; or from the African and African American Studies, American Indian Studies, Asian Pacific American Studies, or Women and Gender Studies programs. At least 21 hours in political science must be in upper-division courses.

The following courses are required:

POS	101	Political Ideologies *SB*	3
POS	110	Government and Politics *SB*	3
		or POS 310 American National Government *SB* (3)	
POS	150	Comparative Government *SB, G*	3
		or POS 160 Global Politics *SB, G* (3)	
POS	301	Empirical Political Inquiry *SB*	3
POS	401	Political Statistics *CS*	3
Total			15

Students who major in Political Science must have a minimum GPA of 2.00 for all courses that count toward the major. Courses that count toward the major must have a grade of "C" (2.00) or higher. See "College Graduation Requirements," page 503. No more than six hours of POS 484 Internship may be applied to the major.

CERTIFICATES

Asian Studies Certificate or Emphasis. Students majoring in Political Science may elect to pursue an Asian Studies Certificate combining courses from the major with selected outside courses of wholly Asian content. See "Asian Studies," page 509, for more information.

Certificate in Civic Education. The Civic Education Certificate is designed to contribute to the preparation of undergraduate students for

1. careers in primary and secondary education (where the teaching of government and civics may be involved);
2. careers or voluntary participation in politics, public service, and civic and social movements; and
3. further education in law, journalism, business, history, sociology, political science, and other fields where an understanding of questions of citizenship, leadership, community, democracy, public responsibility, and ethics is crucial.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

The certificate does not substitute for degree requirements in any subject, including Political Science; rather, as a complement to the student's chosen major, the certificate program is intended to guide students to a variety of courses whose successful completion indicates their special accomplishment in the area of civic education.

Students majoring in any subject at the university may be awarded the Civic Education Certificate upon completion of the following 15 semester hours of political science courses:

POS 101 Political Ideologies *SB* 3
POS 346 Problems of Democracy *HU* 3
POS 442 American Political Thought *HU* 3
Choose one from the courses below 3
- POS 340 History of Political Philosophy I *HU, H* (3)
- POS 341 History of Political Philosophy II *HU, H* (3)
- POS 443 Topics in Contemporary Political Theory *HU* (3)

Choose one from the courses below 3
- POS 110 Government and Politics *SB* (3)
- POS 150 Comparative Government *SB, G* (3)
- POS 160 Global Politics *SB, G* (3)
- POS 270 American Legal System *SB* (3)
- POS 300 Contemporary Controversies in Global Politics *SB, G* (3)
- POS 313 The Congress *SB* (3)
- POS 314 The American Presidency *SB* (3)
- POS 315 The Supreme Court *SB* (3)
- POS 330 Contemporary Controversies in Domestic Politics *SB* (3)
- POS 332 American Political Parties *SB* (3)
- POS 333 Interest Groups *SB* (3)
- POS 370 Law and Society *SB* (3)
- POS 417 The Arizona Political System *SB* (3)
- POS 435 Women and Politics *SB, C* (3)
- POS 439 Minority Group Politics in America *SB, C* (3)

Total 15

Certificate students must have a minimum GPA of 2.00; only courses in which students have a grade of "C" (2.00) or higher count toward the certificate.

Certificate in International Studies. The International Studies Certificate is designed to prepare students for careers in government agencies, international governmental and nongovernmental organizations, multinational firms and banks, and for graduate studies in International Relations or Political Science. The certificate is not a substitute for degree requirements in any subject, including political science; rather, the required courses add an international and comparative dimension to the student's chosen major.

Requirements for the certificate are intended to provide an understanding of international relations and comparative government, an awareness of global social and political-economic processes, and sensitivity to foreign political systems and cultures. These objectives are met by a sequence of political science courses in the areas of international relations, comparative politics, and area studies.

Students majoring in any subject at the university may be awarded the International Studies Certificate upon completion of the following 15 semester hours of political science courses:

Choose one from the courses below 3
- POS 150 Comparative Government *SB, G* (3)
- POS 160 Global Politics *SB, G* (3)

Choose one from the courses below 3
- POS 361 American Foreign Policy *SB, G* (3)
- POS 364 National Security, Intelligence, and Terrorism *SB* (3)

Choose two from the courses below 6
- POS 300 Contemporary Controversies in Global Politics *SB, G* (3)
- POS 465 International Organization and Law *SB, G* (3)
- POS 467 International Security *SB, G* (3)
- POS 486 International Political Economy *SB, G* (3)

Choose one from the courses below 3
- POS 350 Comparative Politics *SB, G* (3)
- POS 355 Russia and Successor States *SB, G* (3)
- POS 356 European Union *SB, G* (3)
- POS 357 South Asia Politics *SB, G* (3)
- POS 358 Southeast Asia *SB, G* (3)
- POS 359 African Politics and Society *SB, G* (3)
- POS 360 World Politics *SB, G* (3)
- POS 451 China, Japan, and the Koreas *SB, G* (3)
- POS 452 China *SB, G* (3)
- POS 453 South America *SB, G* (3)
- POS 454 Mexico *SB, G* (3)
- POS 455 Central America and the Caribbean *SB, G* (3)
- POS 459 South and Southern Africa *SB, G* (3)
- POS 463 Inter-American Relations *SB, G* (3)
- POS 468 Comparative Asian Foreign Policies *SB, G* (3)

Total 15

Honors students who select an international topic for their theses may apply thesis credit toward the 15 hours of international course work for the certificate.

Depending upon their interests, certificate students are strongly advised to take 12 semester hours or more from appropriate courses in anthropology (ASB), economics (ECN), geography (GCU), history (HST), international business studies (IBS), and sociology (SOC). Knowledge of a modern foreign language equivalent to at least two years of college study is strongly recommended.

Certificate students must have a minimum GPA of 2.00; only courses in which students have a grade of "C" (2.00) or higher count toward the certificate.

Latin American Studies Certificate or Emphasis. Students majoring in Political Science may elect to pursue a Latin American Studies Certificate combining courses from the major with selected outside courses of wholly Latin American content. See "Latin American Studies," page 512, for more information.

MINOR IN POLITICAL SCIENCE

The minor in Political Science consists of 18 semester hours in political science courses, 12 hours of which must be upper-division courses. Students who minor in Political Science must have two courses from among the following:

POS 101 Political Ideologies *SB* 3
POS 110 Government and Politics *SB* 3
or POS 310 American National Government *SB* (3)
POS 150 Comparative Government *SB, G* 3
POS 160 Global Politics *SB, G* 3

Students who minor in Political Science must have a minimum GPA of 2.00 for all courses that count toward the minor. Courses that count toward the minor must have a grade of "C" (2.00) or higher; no more than one "D" (1.00)

grade in a lower-division course may be counted toward the minor. No more than three hours of POS 484 Internship and three hours of POS 499 Individualized Instruction may be applied to the minor.

BIS CONCENTRATIONS

Concentrations in political science (with civic education, and international studies options) are available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

SECONDARY EDUCATION—BAE

This degree is offered through the Initial Teacher Certification (ITC) program in the College of Education. Students pursuing a major in Secondary Education with an academic specialization in political science have an advisor in the College of Education and an advisor within the Department of Political Science.

See "College of Education," page 349, for information on admission eligibility requirements, admission deadlines, field experiences, and student teaching. For more information, or to schedule an appointment with an advisor, call the Office of Student Services in the College of Education at 480/965-5555.

Academic Specialization ITC Admission Requirements

At least four required courses in the academic specialization must be completed with a grade of "C" (2.00) or higher before applying to the ITC professional program.

Political Science. The major teaching field consists of 41 to 42 semester hours and six hours in teaching methods. A minimum grade of "C" (2.00) is required in all academic specialization courses. Required major courses are as follows:

POS	101	Political Ideologies *SB* 3
POS	110	Government and Politics *SB* 3
		or POS 310 American National Government *SB* (3)
POS	150	Comparative Government *SB, G* 3
		or POS 160 Global Politics *SB, G* (3)
POS	301	Empirical Political Inquiry *SB* 3
POS	311	Arizona Constitution and Government 2
		or POS 417 The Arizona Political System *SB* (3)
Electives[1] 15		
Related area[2] 12		
Total 41–42		

[1] Six hours must be in the upper division.

[2] Choose courses in consultation with a department advisor.

Students are required to complete two methods courses, one of which is SED 480 Methods of Teaching Social Studies. For the second methods course, students select from the following:

GCU	414	Teaching Geography Standards 3
GCU	494	ST: Geography in the K–12 Classroom 3
HST	480	Methods of Teaching History: Classroom Resources ... 3
HST	481	Methods of Teaching History: Community Resources 3

Courses may be substituted for POS 417 with departmental approval.

Social Studies. This degree is offered through the Initial Teacher Certification program in the College of Education. Students pursuing a major in Secondary Education have an advisor in the College of Education and an advisor within the department of their academic specialization area.

See "College of Education," page 349, for information on admission eligibility requirements, admission deadlines, field experiences, and student teaching. For more information, or to schedule an appointment with an advisor, call the Office of Student Services in the College of Education at 480/965-5555.

JOINT BACHELOR/MASTER'S PROGRAM

Admission. Any undergraduate Political Science major with a GPA of 3.40 or higher, who has accumulated at least 90 hours toward the undergraduate degree, or who is on the verge of doing so, and who has taken at least one 400-level political science course at ASU can be considered for admission into the joint program.

The following items should be submitted to the director of graduate studies of the Department of Political Science by April 15 in order to ensure recommendation for admission to the five-year program beginning the following fall:

1. the department's graduate application, available in the department's graduate office or online;
2. a statement of purpose that describes the applicant's educational objectives and identifies a faculty member who will serve as an advisor;
3. an official transcript;
4. a writing sample that best represents the applicant's analytical and writing skills; and
5. three letters of recommendation, two of which must be written by members of the political science faculty.

Students applying to the five-year program do not need to take the Graduate Record Exam.

Note: Students must also apply for admission to the Division of Graduate Studies at the same time they submit materials to the director of graduate studies of the department.

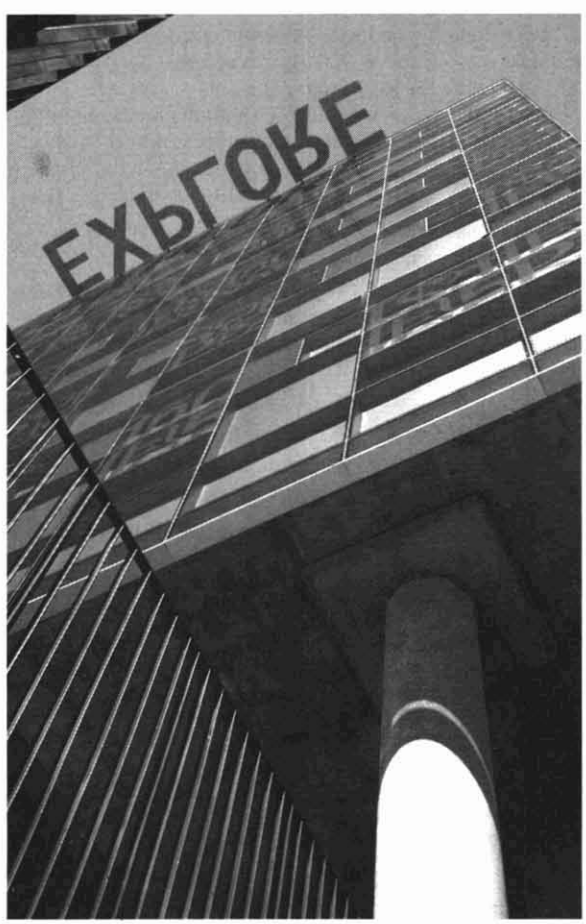
Program of Study. The Division of Graduate Studies has approved a plan whereby undergraduates can "share" credits for both their undergraduate and graduate degrees. Students can count one 400-level course and two 500-level courses as credit hours for both degrees. Using this system of shared credits, undergraduates will be able to complete both degrees in five years.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Once all existing degree requirements for the undergraduate degree have been completed, students will have completed enough courses to be able to finish their master's degree in one academic year. Students are only eligible for research or teaching assistantships, health insurance, financial aid, or graduate awards once they have completed all requirements for the undergraduate degree and the undergraduate degree has been posted.

A minimum of 30 semester hours is required for the Master of Arts degree. All candidates must take POS 503 and the core courses in the student's major and minor fields. Additional hours must be taken in graduate-level courses and seminars. Each student is expected to take seminars each semester in his/her major field, minor field, and an elective until course work is completed. If the thesis option is followed, the program must include a combination of at least six semester hours of research (POS 592) and thesis (POS 599) credit. A maximum of six semester hours in approved courses taken outside of the department or six hours of reading and conference (POS 590) courses may count toward the 30-semester-hour requirement.

Foreign Language Requirement. None.



Lattie F. Coor Hall is home to many College of Liberal Arts and Sciences degree programs, including Audiology, History, Philosophy, and Political Science. Tim Trumble photo

Thesis Option Requirement. MA students seeking admission to the PhD program are expected to complete the thesis early in their fourth semester. A copy of the *Format Manual* is available in the Division of Graduate Studies. A careful review of this document well in advance of preparation for the final copy of the thesis is recommended. An oral examination in defense of the thesis is required.

Non-Thesis Option Requirements. The program of study must include 27 semester hours of approved course work and at least one three-hour reading and conference course (POS 590) during the fourth semester to enhance the student's research capabilities. A research paper must be defended by the end of the third semester before a faculty committee appointed by the director of graduate studies.

GRADUATE PROGRAMS

The faculty in the Department of Political Science offer programs leading to the MA and PhD degrees. See the *Graduate Catalog* for requirements.

POLITICAL SCIENCE (POS)

M POS 101 Political Ideologies. (3)
fall and spring
Leading political ideas and belief systems, e.g., Marxism, liberalism, conservatism, theories of democracy, and alternative futures.
General Studies: SB

M POS 110 Government and Politics. (3)
fall and spring
Major institutions of modern government and processes of individual and group political activity, with emphasis on the American experience. Meets the federal government requirement for teacher certification. Credit is allowed for only POS 110 or 310.
General Studies: SB

M POS 150 Comparative Government. (3)
fall and spring
Political institutions and processes in selected foreign countries, including origins, strengths, and weaknesses of contemporary political systems and political development.
General Studies: SB, G

M POS 160 Global Politics. (3)
fall and spring
Nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas.
General Studies: SB, G

M POS 220 Political Issues and Public Policy. (3)
once a year
Contemporary social problems and political issues, particularly development of public policy.
General Studies: SB

M POS 230 Current Issues in National Politics. (3)
fall and spring
Major issues facing national governments in the domestic field. Prerequisite: ENG 101 or 105.
General Studies: L/SB

M POS 240 Introduction to Southeast Asia. (3)
fall and spring
Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. Cross-listed as ASB 240/GCU 240/HST 240/REL 240. Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240.
General Studies: HU/SB, G

M POS 260 Current Issues in International Politics. (3)
fall and spring
Analyzes major current problems in world politics. Prerequisite: ENG 101 or 105.
General Studies: L/SB, G

M POS 270 American Legal System. (3)
fall and spring
Concepts, institutions, classifications, and functions of law. Role of the courts and impact of judicial decision making on social change.
General Studies: SB

M POS 300 Contemporary Controversies in Global Politics. (3)
fall and spring
Explores key controversies in global politics, including security, economic stability, poverty, gender, race, and the environment.
General Studies: SB, G

M POS 301 Empirical Political Inquiry. (3)
fall and spring
Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis.
General Studies: SB

M POS 305 Politics and Film. (3)
once a year
Examines portrayal of political events, ethnic groups, and sociopolitical situations in film, a major medium addressing questions of human values. May be repeated for credit when topics vary. Lecture, film, discussion.
General Studies: SB

M POS 310 American National Government. (3)
fall and spring
Powers, functions, and agents of American political institutions. Meets the federal government requirement for teacher certification. Credit is allowed for only POS 310 or 110.
General Studies: SB

M POS 311 Arizona Constitution and Government. (2)
fall and spring
Constitution and government of the State of Arizona. Credit is allowed for only POS 311 or 316 or 417. Meets the Arizona constitution requirement for teacher certification. May not be counted for the major or a teaching major or minor in Political Science.

M POS 313 The Congress. (3)
once a year
Lawmaking process in the U.S. Congress.
General Studies: SB

M POS 314 The American Presidency. (3)
once a year
Office, role, and power of the American presidency in the American political system.
General Studies: SB

M POS 315 The Supreme Court. (3)
once a year
Role of the Supreme Court in American society and politics; examines decision-making process and impact of decisions; restraint versus activism.
General Studies: SB

M POS 316 State and Local Government. (3)
once a year
Survey of the operations, problems, and policies of state and local governments in the United States. Credit is allowed for only POS 316 or 311.
General Studies: SB

M POS 320 Public Administration. (3)
once a year
Role of the administrator in the political process with an examination of the basic concepts of bureaucracy.
General Studies: SB

M POS 325 Public Policy Development. (3)
once a year
Examines one or more aspects of public policy development, including agenda setting and policy formulation, implementation, and analysis.
General Studies: SB

M POS 330 Contemporary Controversies in Domestic Politics. (3)
fall and spring
Explores key controversies in domestic politics, including the environment, the economy, poverty, gender, race, and security.
General Studies: SB

M POS 331 Public Opinion. (3)
once a year
Formation, expression, and influence of individual and organized opinion on political institutions.
General Studies: SB

M POS 332 American Political Parties. (3)
once a year
Development of the American party system. Party organization and functions.
General Studies: SB

M POS 333 Interest Groups. (3)
once a year
Examines how minority, corporate, labor, farm, consumer, environmental, health, education and public interest groups, and single-issue movements influence government.
General Studies: SB

M POS 336 Voters in America. (3)
once a year
Voting behavior and the attitudes, perceptions, and activities of the citizenry in the political process.
General Studies: SB

M POS 340 History of Political Philosophy I. (3)
once a year
Western political philosophers and their theories to the 17th century.
General Studies: HU, H

M POS 341 History of Political Philosophy II. (3)
once a year
Western political philosophers and their theories from the 17th to the 20th centuries.
General Studies: HU, H

M POS 346 Problems of Democracy. (3)
once a year
Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation.
General Studies: HU

M POS 350 Comparative Politics. (3)
once a year
Theoretical approaches and political institutions, such as parties, pressure groups, legislatures, and executives, from a cross-national perspective.
General Studies: SB, G

M POS 351 Democratization. (3)
fall
Examines the consolidation of democracies in postauthoritarian and postcommunist settings (e.g., Latin America, Eastern Europe, Asia).
General Studies: SB, G

M POS 355 Russia and Successor States. (3)
once a year
Description and analysis of political institutions and practices in Russia and successor states.
General Studies: SB, G

M POS 356 European Union. (3)
once a year
History and workings of EU member states, including single market, Euro, legal system, ethnonationalism, immigration, expansion, trade wars, and defense.
General Studies: SB, G

M POS 357 South Asia Politics. (3)
once a year
Political culture and systems of South Asia examined through study of political writings, novels, and poetry. Lecture, discussion.
General Studies: SB, G

M POS 358 Southeast Asia. (3)
once a year
Political background, governmental institutions, political dynamics, and developmental problems of Southeast Asian nations.
General Studies: SB, G

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M POS 359 African Politics and Society. (3)
selected semesters
Comparative analysis of socioeconomic forces, political processes, government institutions, and political novels in Sub-Sahara Africa.
General Studies: SB, G

M POS 360 World Politics. (3)
once a year
Theory and practice of statecraft as applied to selected issues, regions, or eras. May be repeated for credit when topics vary.
General Studies: SB, G

M POS 361 American Foreign Policy. (3)
once a year
United States in world affairs; foreign policy since World War I. Techniques in formulating American foreign policies.
General Studies: SB, G

M POS 364 National Security, Intelligence, and Terrorism. (3)
once a year
Theoretical and empirical assessment of U.S. national security policy in the post-cold war era.
General Studies: SB

M POS 368 Ethics and Human Rights. (3)
spring
Explores issues of ethics, morality, and human rights in the global community. Lecture, discussion.

M POS 369 War, Politics, and Society. (3)
fall in odd years
Relationships between techniques/technology of war and political/social structures in different time periods and locations. Who commands, dies, and pays?

M POS 370 Law and Society. (3)
once a year
Analyzes debates among social scientists and legal theorists concerning the relationship between "law" and "society."
General Studies: SB

M POS 401 Political Statistics. (3)
fall and spring
Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. Prerequisite: POS 301 (or its equivalent) or instructor approval.
General Studies: CS

M POS 410 Governing American Cities. (3)
once a year
Reviews modern urban problems, their sources, and potential solutions, including structural and policy alternatives.
General Studies: SB

M POS 417 The Arizona Political System. (3)
selected semesters
Contemporary political problems within the context of Arizona's constitutional, political, and social frameworks. Meets the Arizona Constitution requirement for teacher certification. Credit is allowed for only POS 417 or 311.
General Studies: SB

M POS 426 Elements of Public Policy. (3)
once a year
Each section may cover one of the following topics: consumer protection, natural resources, criminal justice, environmental protection, science and technology, or theories of public policy. May be repeated for credit when topics vary.
General Studies: SB

M POS 431 Campaigns and Elections. (3)
once a year
Examines campaigns from a multitude of perspectives, including the politician, reporter, campaign strategist, and voter. Lecture, discussion.
General Studies: SB

M POS 433 Money and Politics. (3)
once a year
Role of money and special interests in elections, campaign politics, and public policy-making in American politics. Lecture, discussion.
General Studies: SB

M POS 434 Media and Politics. (3)
once a year
Studies mass media and politics in the United States, e.g., media and elections, media and government. Lecture, discussion.
General Studies: SB

M POS 435 Women and Politics. (3)
selected semesters
Focuses on the uniqueness of women in modern political systems and political thought. Emphasis may vary with instructor.
General Studies: SB, C

M POS 439 Minority Group Politics in America. (3)
selected semesters
Role of minority groups in American politics.
General Studies: SB, C

M POS 442 American Political Thought. (3)
once a year
Political theories and movements from the colonial period to the present.
General Studies: HU

M POS 443 Topics in Contemporary Political Theory. (3)
once a year
Major problems and theories in contemporary political thought.
General Studies: HU

M POS 445 Asian Political Thought. (3)
once a year
Contemporary political ideas and theories in selected Asian countries, including the impact of Marxist and non-Marxist theories on revolutionary processes.
General Studies: SB, G

M POS 451 China, Japan, and the Koreas. (3)
once a year
Comparative analysis of the political modernization experiences of China, Japan, and the two Koreas, focusing on their differing reactions to the West.
General Studies: SB, G

M POS 452 China. (3)
once a year
Background of the Communist revolution, political processes, and developmental problems in China from a comparative perspective.
General Studies: SB, G

M POS 453 South America. (3)
once a year
Political institutions, process, and developmental problems of South American states examined through comparative analysis, novels, and poetry.
General Studies: SB, G

M POS 454 Mexico. (3)
once a year
Mexican federal, state, and local governmental institutions.
General Studies: SB, G

M POS 455 Central America and the Caribbean. (3)
once a year
Governmental institutions, political processes, and developmental problems of the nation-states and dependent areas of Central America and the Caribbean.
General Studies: SB, G

M POS 459 South and Southern Africa. (3)
once a year
Post-apartheid South African government and politics; South Africa and the southern African region; regional security and development.
General Studies: SB, G

M POS 463 Inter-American Relations. (3)
once a year
Diplomatic relations among the Latin American states. Development of U.S. foreign policy toward Latin America.
General Studies: SB, G

M POS 465 International Organization and Law. (3)
once a year
History, practical political significance, and future of international institutions, transnational regimes, and international law.
General Studies: SB, G

M POS 467 International Security. (3)
once a year
Examines issues affecting the international security of states and peoples, e.g., military, economic, technological, environmental, and demographic.
General Studies: SB, G

M POS 468 Comparative Asian Foreign Policies. (3)
once a year
Foreign policies of the Asian states, emphasizing their security relations and movements toward regionalism.
General Studies: SB, G

M POS 471 Constitutional Law I. (3)
once a year
Development of the U.S. Constitution as reflected in decisions of the Supreme Court; jurisdiction and organization of the federal courts; judicial review; separation of powers; federalism; the commerce clause; national taxing and spending power; state police power.
General Studies: SB

M POS 472 Constitutional Law II. (3)
once a year
Development of the U.S. Constitution as reflected in decisions of the Supreme Court; due process; equal protection of laws; individual rights; civil liberties.
General Studies: SB

M POS 484 Internship. (1–12)
selected semesters

M POS 485 Political Economy. (3)
once a year
Problems, policies, and possibilities of various political-economic systems and the interrelationship of capitalism, socialism, and democracy.
General Studies: SB

M POS 486 International Political Economy. (3)
once a year
Contending approaches to historical and contemporary issues of international political economy, including global welfare, equality, ecology, and peace.
General Studies: SB, G

M POS 498 Pro-Seminar. (3)
once a year
Small group study and research for advanced students within their major area. Prerequisite: major in the department or instructor approval.
General Studies: L

M POS 499 Individualized Instruction. (3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Psychology

www.asu.edu/clas/psych
480/965-3326
PSY 237

Keith A. Crnic, Chair

Regents' Professors: Cialdini, Eisenberg, Russo, Sandler

Foundation Professor: Crnic

Professors: Aiken, Barrera, Braver, Castro, Chassin, Goldinger, Gonzales, Homa, Karoly, Kenrick, Killeen, Knight, Lanyon, MacKinnon, Millsap, Neisewander, Neuberg, Okun, Parkinson, Presson, Reich, Sadalla, Somerville, Van Orden, West, Wolchik, Zautra

Associate Professors: Alexander, Castaneda, Conrad, Davis, Fabricius, Leshowitz, McBeath, Nagoshi, Nemeroff, Saenz, Stone

Assistant Professors: E. Amazeen, P. Amazeen, Bimonte-Nelson, Enders, Lemery, Luecken, Piña

Senior Lecturers: Barton, Wosinski

Lecturer: Palmer

The Department of Psychology maintains an undergraduate advising office staffed by trained personnel. All psychology majors are encouraged to meet with an advisor once each semester to ask questions regarding choices of courses. Failure to do so may prevent graduation at the expected time. It is the responsibility of the student to consult with an undergraduate advisor.

PSYCHOLOGY—BA

The BA degree in Psychology consists of 37 semester hours in psychology, including at least 24 upper-division semester hours, and 12 semester hours of related course work. All courses must be passed with a minimum grade of "C" (2.00). The requirements are as follows:

I. Foundations of Psychology (10 semester hours)

PGS 101 Introduction to Psychology *SB* (3)
PSY 230 Introduction to Statistics *CS* (3)
PSY 290 Research Methods *L/SG* (4)

II. Breadth (12 semester hours)

One course from each of four of the following five clusters:

Biological: PSY 325

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Cognitive/Learning: PSY 320, 323, 324
Developmental: PGS 341
Personality/Mental Health: PGS 315, 466
Social: PGS 306, 350, 351

III. Depth (six semester hours)

Two additional courses from one of the clusters used to meet the breadth requirements. At least one of the courses must be at the 400 level.

Biological: PSY 424, 425, 426, 470
Cognitive/Learning: PSY 320, 323, 324, 420, 434, 437
Developmental: PGS 344, 427, 441, 445, 446
Personality/Mental Health: PGS 315, 365, 443, 444, 462, 464, 465, 466, 468, 471, 472
Social: PGS 306, 350 or 351, 430, 451, 452, 458, 461

IV. Additional Psychology Courses (nine semester hours)

Three courses in psychology (two must be in the upper division) excluding PGS 270, 484 and PSY 484. Approved 200-level community college courses may be used in this category. These courses may not be used to also satisfy breadth or depth requirements. Students may count up to six semester hours in PGS or PSY 399 or 499 to satisfy this requirement. Honors students may count up to three semester hours of PSY 492 and three semester hours of PSY 493 (six semester hours total), in lieu of six semester hours of PGS or PSY 399 or 499, to satisfy this requirement.

V. Mathematics Foundation (three semester hours)

MAT 119, 170, 242, 251, or higher than 251.

VI. Foundations of Behavior (nine semester hours)

Any three courses from among the following prefixes: ASB, ASM, BIO, GCU, HPS, PHI, and SOC.

For more information, see "College Graduation Requirements," page 503.

PSYCHOLOGY—BS

The BS degree in Psychology is focused on the science of psychology and is designed specifically for students planning to pursue an advanced degree in psychology or related disciplines. The requirements for the BS degree in Psychology are identical to the requirements for the BA degree with the following three exceptions:

1. PSY 330 must be completed as one of the options in the additional psychology course requirements.
2. At least three semester hours of PSY 390 or PGS or PSY 399 or 499 must be completed as one of the options in the additional psychology course requirements.
3. MAT 251 or higher must be completed for the mathematics foundation requirement.

MINOR IN PSYCHOLOGY

The minor in Psychology consists of completing the 22 semester hours of course work in the foundations of psychology and the breadth categories described above. Students with an appropriate equivalent course may exclude PSY 230 from the requirements but need an additional three hours in psychology to equal the 22 hours minimum. All courses must be passed with a minimum grade of "C" (2.00).

BIS CONCENTRATION

A concentration in psychology is available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

GRADUATE PROGRAMS

The faculty in the Department of Psychology offer a program leading to the PhD degree. See the *Graduate Catalog* for requirements.

PSYCHOLOGY (SOCIAL AND BEHAVIORAL) (PGS)

For more PGS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M PGS 101 Introduction to Psychology. (3)
fall, spring, summer
Major areas of theory and research in psychology. Requires participation in department-sponsored research or an educationally equivalent alternative activity.
General Studies: SB

M PGS 194 Special Topics. (1–4)
selected semesters

M PGS 222 Human Sexual Behavior. (3)
fall and spring
Patterns of sexual behavior, including variations and deviations; theories of sexual attraction, sex differences, and sexual dysfunction and treatment. Prerequisite: PGS 101.
General Studies: SB

M PGS 270 Psychology of Adjustment. (3)
fall, spring, summer
Principles of mental health, adjustment, conflict, stress, and coping processes derived from clinical and experimental research. Intended for nonmajors; cannot be used for major credit. Prerequisite: PGS 101.
General Studies: SB

M PGS 304 Effective Thinking. (3)
once a year
Understanding and improving intellectual and behavioral skills; information analysis, inference, logic, problem solving, and decision making. Prerequisite: MAT 119 (or 170 or higher than MAT 170) or PSY 230 (or their equivalents).
General Studies: L

M PGS 306 Environmental Psychology. (3)
fall, spring, summer
Concepts and research strategies in the study of behavior in interaction with physical environment. Prerequisite: PGS 101.
General Studies: SB

M PGS 315 Personality Theory and Research. (3)
fall, spring, summer
Definition and description of personality in terms of theoretical and methodological approaches. Prerequisites: PGS 101; PSY 290.
General Studies: SB

M PGS 341 Developmental Psychology. (3)
fall and spring
Analyzes behavior development in terms of psychological principles. Current research in human development. Prerequisites: PGS 101; PSY 290.
General Studies: SB

M PGS 344 Directed Child Study. (3–4)
fall, spring, summer
Theories and methods of intervention with preschool children and supervised practicum in the Child Study Laboratory. 1 hour lecture, 6–8 hours practicum. Prerequisites: CDE 232 (or ECD 214 or PGS 341); PSY 290.

M PGS 350 Social Psychology. (3)
fall, spring, summer
Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion. Prerequisite: PGS 101.
General Studies: SB

M PGS 351 Honors Social Psychology. (3)
selected semesters
Critical analysis of human social behavior for honors students; topics include stereotyping, social influence, attraction, aggression, helping, groups, and attitudes. Open only to students without previous credit for PGS 350. Lecture, discussion. Prerequisites: both PGS 101 and admission to the Barrett Honors College or only instructor approval.
General Studies: L/SB

M PGS 365 Community Psychology. (3)
fall and spring
Mental health and psychological well-being in the community, emphasizing current issues and related research. Prerequisites: PGS 315 (or 350 or 351); PSY 290.
General Studies: SB

M PGS 394 Special Topics. (1–4)
selected semesters

M PGS 399 Supervised Research. (1–3)
fall, spring, summer
Experience within the context of current faculty research projects. Responsibility is assigned depending on qualifications. "Y" grade only. May be repeated for a total of 6 hours. Prerequisites: approval of faculty member before registration; 3.00 GPA in major. Pre- or corequisite: PSY 230 (or its equivalent).

M PGS 414 History of Psychology. (3)
fall and spring
Historical development of psychology from its philosophical beginnings to the present. Prerequisites: PGS 101; PSY 230, 290.
General Studies: L/SB

M PGS 427 Psychology of Aging. (3)
selected semesters
Analyzes loss, maintenance, and gain associated with cognitive and affective aging. Individual differences in coping with normative life transitions. Prerequisites: PGS 341; PSY 290.
General Studies: L/SB

M PGS 430 Industrial Psychology. (3)
fall, spring, summer
Organizations and management systems; motivation and work performance; human factors in systems design and evaluation; personnel selection and testing. Prerequisite: PSY 290 or instructor approval.

M PGS 441 Cognitive Development. (3)
fall and spring
Experimental and theoretical literature in child development and behavior. Prerequisites: PGS 341; PSY 290.
General Studies: L/SB

M PGS 443 Abnormal Child Psychology. (3)
fall and spring
Covers major disorders of childhood and adolescence (e.g., autism, hyperactivity, phobias, and delinquency), including cause, diagnosis, treatment, and prevention. Prerequisites: PGS 315 (or 341 or 350 or 351); PSY 290.
General Studies: L/SB

M PGS 444 Adolescent Psychology and Psychopathology. (3)
selected semesters
Advanced-level survey of normal adolescent psychological development and psychological disorders of this age period. Lecture, discussion. Prerequisites: PGS 341; PSY 290.
General Studies: L

M PGS 445 Child Language and Drawing. (3)
fall
Language acquisition and developmental changes in drawing, considered in the context of cognitive developmental stages. Children's representation and communication of knowledge through language and drawing. Prerequisites: PGS 341; PSY 290.
General Studies: SB

M PGS 446 Social Development. (3)
selected semesters
Discusses theory, research, and issues regarding social development. Example topics: formation of attachments, prosocial development, and gender-role development. Lecture, seminar. Prerequisites: PGS 341; PSY 290.
General Studies: L

M PGS 451 Stereotyping, Prejudice, and Discrimination. (3)
selected semesters
Critical investigation of the processes underlying, and the factors contributing to, stereotyping, prejudice, and discrimination. Lecture, discussion. Prerequisites: PGS 350 (or 351); PSY 290.
General Studies: L

M PGS 452 Applied Social Psychology. (3)
fall
Studies applications of social psychological theory and concepts in natural settings; research design and data analysis. Lecture, lab-type activities. Prerequisites: PGS 350 (or 351); PSY 230, 290.
General Studies: L

M PGS 458 Group Dynamics. (3)
fall
Theories and methods of group leadership, group effectiveness, communication within groups, and relations between groups and individual members. Prerequisites: PGS 350 (or 351); PSY 290.

M PGS 461 Interpersonal Influence. (3)
selected semesters
Principles and procedures that affect the process of social influence; consideration of attitudinal, compliance-inducing, and perceptual influences. Prerequisites: PGS 350 (or 351); PSY 290.
General Studies: SB

M PGS 462 Health Psychology. (3)
fall and spring
Contributions of psychology to health promotion and illness prevention, adaptation to acute and chronic illness, and to the health care system. Prerequisites: PSY 230, 290.

M PGS 464 Minority Issues in Psychology. (3)
spring
Psychological issues relating to the diversity of human cultural experiences among ethnic minorities in the U.S. Prerequisite: PSY 290.

M PGS 465 Psychology of Stress and Coping. (3)
fall
Readings in theory and research in the area of stress and coping. Lecture, discussion, class presentations. Prerequisites: PGS 315 (or 350 or 351); PSY 290.
General Studies: L

M PGS 466 Abnormal Psychology. (3)
fall, spring, summer
Historical and current definitions, theory, and research concerning abnormal behavior. Major categories of psychopathology, including related treatment approaches. Prerequisites: PGS 101; PSY 290.
General Studies: SB

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M PGS 467 Psychology of Magical Beliefs. (3)
selected semesters
Psychological nature and bases of magical beliefs and their impact on health behaviors, eating practices, and interpersonal relations. Lecture, seminar. Prerequisites: PGS 315 (or 466 or PSY 434); PSY 290.
General Studies: L

M PGS 468 Psychology and Law. (3)
fall and spring
Theories, research, and practice in psychology as related to law, including criminal, civil, domestic relations, and professional issues. Lecture, discussion. Prerequisite: PSY 290.

M PGS 471 Psychological Testing. (3)
spring
Methods and theory of psychological testing; various types of psychological tests; consideration of ethical, social, and legal aspects of testing. Prerequisite: PSY 290.

M PGS 472 Clinical Psychology. (3)
fall and spring
Clinical psychology as a science and profession. Historical development, methods of interviewing, assessment, and therapeutic intervention. Prerequisites: PGS 443 (or 466); PSY 290.

M PGS 484 Internship. (1–12)
selected semesters

M PGS 494 Special Topics. (1–4)
selected semesters

M PGS 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PSYCHOLOGY (SCIENCE AND MATHEMATICS) (PSY)

For more PSY courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M PSY 230 Introduction to Statistics. (3)
fall, spring, summer
Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology. Self-paced (PSI) and lecture sections. Prerequisites: MAT 119 (or 170 or 242 or 251 or any MAT course higher than MAT 251); PGS 101.
General Studies: CS

M PSY 290 Research Methods. (4)
fall and spring
Planning, execution, analysis, and reporting of experiments. Literature, procedures, and instruments in representative areas of psychological research. 3 hours lecture, 3 hours lab. Prerequisites: ENG 101 (or 105); PSY 230.
General Studies: L/SG

M PSY 320 Learning and Motivation. (3)
fall, spring, summer
Principles of conditioning and motivation; approaches to learning, including acquisition of verbal materials, concepts, and motor skills; memory and transfer. Prerequisite: PSY 290.

M PSY 323 Sensation and Perception. (3)
fall and spring
Underlying processes of vision, audition, and the other senses. Applies current research and theory in a lab environment. Prerequisite: PSY 290.

M PSY 324 Memory and Cognition. (3)
fall, spring, summer
Processes underlying information storage and retrieval, including different kinds of memory, forgetting, depth of processing, and control processes. Prerequisite: PSY 290.

M PSY 325 Physiological Psychology. (3)
fall, spring, summer
Relationships of physiological processes to behavior. Emphasizes nervous system functioning. Prerequisite: PSY 290 or instructor approval.

M PSY 330 Statistical Methods. (3)
spring
Advanced application of statistics to psychology. Highly recommended for students interested in attending graduate school. 3 hours lecture, 1 hour lab. Prerequisite: PSY 230.
General Studies: CS

M PSY 390 Experimental Psychology. (3)
spring
Continuation of concepts in PSY 290, with emphasis on multifactor designs and programmatic sequence of experiments. Lecture, lab. Prerequisite: PSY 290.
General Studies: L

M PSY 399 Supervised Research. (1–3)
fall, spring, summer

M PSY 420 Analysis of Behavior. (3)
selected semesters
Research, applications, and philosophy of the analysis and control of human behavior. Prerequisites: PSY 290, 320.
General Studies: L

M PSY 422 Motor Control in Special Populations. (3)
selected semesters
Discusses principles of motor control theories and related practical applications for certain special developmental populations. Lecture, discussion. Cross-listed as KIN 422. Credit is allowed for only KIN 422 or PSY 422. Prerequisite: KIN 345.
General Studies: L

M PSY 424 Genetic Psychology. (3)
spring
Introduces the concepts, methodologies, and findings of behavioral genetics for Psychology majors. Prerequisites: PGS 101; PSY 230, 290.
General Studies: L

M PSY 425 Biological Bases of Behavior. (3)
selected semesters
Critical study of physiological psychology; brain mechanisms underlying motivation and learning. Prerequisites: PSY 290, 325.
General Studies: L

M PSY 426 Neuroanatomy. (4)
selected semesters
Structure and function of mammalian brain, including sheep brain dissection. 3 hours lecture, 3 hours lab. Prerequisites: PSY 290, 325.

M PSY 434 Cognitive Psychology. (3)
spring
Human organism as a processor of information, from perception to cognition. Abstract concepts, semantic memory, attention, and mental imagery. Prerequisites: PSY 290, 323 (or 324).
General Studies: L

M PSY 437 Human Factors. (3)
fall
Emphasizes human factors in high-technology systems. Specific topics include systems development, systems analysis techniques, displays, and controls. Prerequisite: PSY 290.
General Studies: L

M PSY 470 Psychopharmacology. (3)
fall and spring
Basis of drug action at physiological and behavioral levels. Psychological and medical applications and limitations of drugs used in the treatment of mental illness. Prerequisites: PSY 290, 325.

M PSY 484 Internship. (1–12)
selected semesters

M PSY 492 Honors Directed Study. (1–6)
selected semesters

M PSY 493 Honors Thesis. (1–6)
selected semesters

M PSY 494 Special Topics. (1–4)
selected semesters

M PSY 497 Honors Colloquium. (1–6)
selected semesters

M PSY 498 Pro-Seminar. (1–7)
fall and spring
Topics may include the following:
- Behavioral Neuroscience Research. (3)
  General Studies: L

M PSY 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Religious Studies

www.asu.edu/clas/religious_studies
480/965-7145
ECA 377

Joel D. Gereboff, Chair

Professors: Cady, Feldhaus, Foard, Morrison, Samuelson

Associate Professors: Clay, Fessenden, Gereboff, Henn, Moore, Schober, Swanson, Woodward

Assistant Professors: Aguilera, Carlson, Duncan, Espinosa, Park, Umar, Wenger

Lecturer: Kefeli-Clay

RELIGIOUS STUDIES—BA

The BA degree in Religious Studies consists of 45 semester hours, 30 of which must be in religious studies (including 21 in upper-division courses) and 15 of which must be in related fields. In order for the student to become acquainted with the character and role of religions across a wide spectrum of social and historical contexts, the 30 semester hours in religious studies must include the following courses:

1. REL 305 Ritual, Symbol, and Myth;
2. at least one course from each of the following distribution areas: Religion in the Americas, Religion and Asian Cultures, and Religion and Western Cultures;
3. REL 400 Approaches to Religion; and
4. two research seminars, including REL 405 Problems in Religious Studies, which may be repeated for credit; or
5. in place of a second seminar, a student may take REL 499 to write an undergraduate thesis.

The Religious Studies major is an appropriate choice for students wishing to explore such areas as African or African American studies; Islamic studies; myth, ritual, and the arts; Native American studies; and religion and politics. All majors must plan their programs in consultation with a departmental advisor. A minimum GPA of 2.50 is required in the 30 semester hours of religious studies courses.

MINOR IN RELIGIOUS STUDIES

The minor in Religious Studies consists of 18 semester hours, at least 15 of which must be in the upper division. REL 305 is required. For minor verification, students must consult a department advisor.

BIS CONCENTRATION

A concentration in religious studies is available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

CERTIFICATES AND EMPHASES

The following certificate programs or emphases are offered in conjunction with the BA in Religious Studies. For more information on each, see "Certificate Programs and Areas of Emphasis," page 509, or access the department Web site at www.asu.edu/clas/religious_studies.

Asian Studies Certificate. Students majoring in Religious Studies may elect to pursue an Asian Studies emphasis or East Asian Studies Certificate combining courses from the major with selected outside courses of wholly Asian content.

Islamic Studies Certificate. Students majoring in Religious Studies may elect to earn an Islamic Studies Certificate by successfully completing the requirements mentioned in "Islamic Studies Certificate," page 512.

Jewish Studies Certificate. Students majoring in Religious Studies may elect to pursue a Jewish Studies Certificate combining courses from the major with selected outside courses in the area of Jewish Studies.

Latin American Studies Certificate. Students majoring in Religious Studies may elect to pursue a Latin American Studies certificate combining courses from the major with selected outside courses of wholly Latin American content.

Russian and East European Studies. Students majoring in Religious Studies may elect to earn a Russian and East European Studies Certificate by successfully completing one of the options mentioned in "Russian and East European Studies," page 513.

Southeast Asian Studies Emphasis. Students majoring in Religious Studies may elect to earn a Southeast Asian Studies Certificate by successfully completing the requirements.

Women and Gender Studies. Students majoring in Religious Studies may elect to earn a Women and Gender Studies Certificate by successfully completing the requirements.

GRADUATE PROGRAM

The faculty in the Department of Religious Studies offer a graduate program leading to the MA degree for those who wish to enter a doctoral program in the study of religions, for those who wish to teach at the community college level, and for those in nonacademic careers who desire general competence in the academic study of religions. A doctoral program is offered. See the *Graduate Catalog* for requirements.

RELIGIOUS STUDIES (REL)

M REL 100 Religions of the World. (3)
fall and spring
Introduces the history of religious traditions of the world, including Buddhism, Christianity, Hinduism, Islam, Judaism, and others. Credit is allowed for only REL 100 or 200.
General Studies: HU, G

M REL 200 The Study of Religious Traditions. (3)
selected semesters
Writing-intensive course introducing analytical skills necessary for understanding religious traditions. Beliefs, practices, and communities of several religious traditions of the world. Credit is allowed for only REL 200 or 100. Prerequisite: ENG 101 or 105.
General Studies: L/HU, G

M REL 201 Religion and the Modern World. (3)
once a year
Introduces the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. Prerequisite: ENG 101 or 105.
General Studies: L/HU

M REL 202 Religion and Popular Culture. (3)
once a year
Explores various intersectors between religion and the popular media, including music, news, advertising, the visual arts, literature, performance, and film. Lecture, discussion.
General Studies: HU, C

M REL 203 Saints and Sinners: Explorations in Sacred Biography. (3)
selected semesters
Comparison of the role of biography across religions to examine the process of categorizing people as saints or sinners. Lecture, discussion.
General Studies: HU, H

M REL 210 Introduction to Judaism. (3)
once a year
Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. Prerequisite: ENG 101 or 105.
General Studies: L/HU, H

M REL 225 African American Religion. (3)
selected semesters
Introduces the history and development of the African American religious tradition. Lecture, discussion.
General Studies: HU, C

M REL 240 Introduction to Southeast Asia. (3)
fall and spring
Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. Cross-listed as ASB 240/GCU 240/HST 240/POS 240. Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240.
General Studies: HU/SB, G

M REL 260 Introduction to Islam. (3)
spring
Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. Lecture, discussion.
General Studies: HU, G

M REL 270 Introduction to Christianity. (3)
once a year
Beliefs, ceremonies, festivals, and institutions of Christianity, emphasizing the contemporary era. Assumes no previous knowledge about Christianity.
General Studies: HU

M REL 301 Comparative Mysticism. (3)
once a year
Comparative examination of Eastern and Western mystical traditions from antiquity to the present. Lecture, discussion. Prerequisite: REL 100.
General Studies: HU

M REL 305 Ritual, Symbol, and Myth. (3)
fall and spring
Ritual, symbol, and myth as types of religious expression, with examples selected from the nonliterate religions of the world.
General Studies: L/HU

M REL 310 Western Religious Traditions. (3)
fall and spring
Religious traditions of Judaism, Christianity, and Islam, comparing their doctrinal, institutional, and ritual systems and social histories. Lecture, discussion.
General Studies: HU, H

M REL 315 Hebrew Bible (Old Testament). (3)
once a year
Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation.
General Studies: L/HU, H

M REL 317 Introduction to Rabbinic Judaism. (3)
selected semesters
Historical analysis of the thought, literature, and institutions of rabbinic Judaism.
General Studies: HU, H

M REL 318 Contemporary American Jewish Identities. (3)
spring
Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. Lecture, discussion. Cross-listed as SOC 375. Credit is allowed for only REL 318 or SOC 375.
General Studies: HU/SB, C

M REL 320 American Religious Traditions. (3)
fall and spring
Examines the formation, development, and interaction of major American religious traditions (indigenous, African American, Asian American, and Euro-American).
General Studies: HU, C, H

M REL 321 Religion in America. (3)
fall and spring
History of religion in America with attention to issues of historiography, pluralism, gender, race, ethnicity, politics, and social reform.
General Studies: HU, C, H

M REL 322 Malcolm and Martin. (3)
selected semesters
Examines and contrasts the lives, ministries, contributions, and legacies of Malcolm X and Martin Luther King, Jr.
General Studies: HU, C

M REL 323 Black Religion: A Biographical Approach. (3)
selected semesters
Examines the experiences, motivations, and contributions of a number of figures associated with African American religion.
General Studies: HU, C

M REL 324 Spirituals and the Blues. (3)
spring
Multidisciplinary exploration of the African American religious and musical response to the North American diaspora experience. Lecture, discussion.

M REL 326 U.S. Latino Religion and Culture. (3)
fall
Survey of the formative myths, rituals, and symbols of Mexican Americans, Puerto Ricans, and Cuban Americans. Lecture, discussion.
General Studies: HU, C

M REL 330 Native American Religious Traditions. (3)
once a year
Presents world views and religious thought through the art, architecture, literature, music, mythology, ritual, and folklore of representative tribes in North America.
General Studies: HU, C

M REL 331 History of Native American Religious Traditions. (3)
once a year
Role of religion in Native American history, including missionization; religious adaptation; and prophetic, messianic, and religious revitalization movements.
General Studies: L/HU, C, H

M REL 332 South American Indian Religions. (3)
selected semesters
Introduces the sacred stories, ceremonies, and beliefs of Native South American peoples in their historical contexts.
General Studies: HU, G

M REL 343 Taoism. (3)
fall
Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. Lecture, discussion.
General Studies: L/HU, G, H

M REL 344 Religion and Values in Japanese Life. (3)
once a year
Japanese values expressed in the life and annual cycles of the family, local and national identities, and popular culture. Lecture, discussion.
General Studies: HU, G

M REL 345 Asian Religious Traditions. (3)
once a year
Introduces the major concepts of religious beliefs, rituals, and practices in Hinduism and Buddhism. Lecture, discussion.
General Studies: HU, G

M REL 346 Chinese Religions. (3)
selected semesters
Examines the history and practices of Chinese religions with particular attention to culture, society, and history.

M REL 350 Hinduism. (3)
once a year
Studies diverse forms of Hinduism through its institutions, literature, folklore, art, and architecture.
General Studies: L/HU, G

M REL 351 Buddhism. (3)
once a year
Doctrines, practices, and institutions of the Buddhist religion, emphasizing its role in the history and culture of Asian societies.
General Studies: L/HU, G

M REL 352 Modern Buddhism. (3)
fall
Examines diverse modernities with regard to Buddhist institutions, practices, colonialism and cultural transformations in Asia and the West. Lecture, discussion. Prerequisite: REL 100 or 345 or 351.

M REL 355 Japanese Cities and Cultures to 1800. (3)
once a year
Relations among ideas and literary, visual, and performing arts of the ancient aristocracy, medieval samurai, and early modern townspeople. Cross-listed as HUM 310. Credit is allowed for only HUM 310 or REL 355.
General Studies: L/HU, H

M REL 365 Islamic Civilization. (3)
fall
Global historical survey of Islamic cultures and societies up to the modern period. Lecture, discussion.
General Studies: HU, H

M REL 366 Islam in the Modern World. (3)
spring
Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. Lecture, discussion.
General Studies: HU, G, H

M REL 369 Women in Islam. (3)
fall
Examines the roles women have played through Islamic history (Middle East) and the changing discourse on gender identity. Lecture, seminar.

M REL 371 New Testament. (3)
once a year
Origins and literature of early Christian communities; historical investigations of the types of oral and written tradition in the New Testament.
General Studies: HU

M REL 372 Formation of the Christian Tradition. (3)
once a year
Origins, development, and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages.
General Studies: HU, H

M REL 373 Women in Judaism. (3)
spring
Studies the legal, social, and cultural status of Jewish women in various historical and contemporary societies. Cross-listed as WST 372. Credit is allowed for only REL 373 or WST 372.

M REL 374 Witchcraft and Heresy in Europe. (3)
selected semesters
Background, origins, and development of the Inquisition; persecution of women and marginal groups. Cross-listed as HST 361. Credit is allowed for only HST 361 or REL 374. Prerequisite: upper-division standing or instructor approval.
General Studies: L/HU, H

M REL 377 Religion in Russia. (3)
selected semesters
Examines the history of the various religious traditions of Russia and the former USSR from an interdisciplinary perspective.
General Studies: HU, H

M REL 378 Religion, Violence, and Conflict Resolution. (3)
selected semesters
Presents ambiguous role of religion in conflict; how it can foment violence or serve as a moral guide for principled peace. Discussion, case studies, field trips.

M REL 379 Religion, Nationalism, and Ethnic Conflict. (3)
selected semesters
Examines the role of religion in national and ethnic conflict in the contemporary world.
General Studies: HU, G

M REL 381 Religion and Moral Issues. (3)
once a year
Manner in which human religiousness relates to social concerns, e.g., sexuality, the environment, bioethical issues, and violence.
General Studies: L/HU

M REL 382 Religion, Magic, and Science. (3)
once a year
Relationship and conflict between religion, magic, and science in the West from antiquity to the present. Lecture, discussion.
General Studies: L/HU

M REL 383 Origins, Evolution, and Creation. (3)
selected semesters
Examines scientific, mythic, and religious ideas relating to origins (particularly human). Place of antievolutionism and "scientific creationism" in American culture. Lecture, discussion. Cross-listed as BIO 344/HPS 311/HUM 371. Credit is allowed for only BIO 344 or HPS 311 or HUM 371 or REL 383.

M REL 384 The Bible and Archaeological Discoveries. (3)
spring
Studies the Bible alongside the stories that architecture, pottery, metalwork, sculpture, tombs, and paintings of the ancient Near East have to tell. May be repeated for credit.

M REL 385 Contemporary Western Religious Thought. (3)
selected semesters
Introduces contemporary Jewish and Christian thought. Topics include religion and politics, problem of evil, interpretations of God, and feminist theology.
General Studies: HU

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M REL 386 America and the Holocaust. (3)
fall
Analyzes the historical and sociopolitical factors that shaped U.S. policy decisions regarding Germany's assault on Europe's Jews.
General Studies: HU/SB

M REL 390 Women and Religion. (3)
fall and spring
Role of women in several organized religions and/or religious sects, including a study of myth and symbols as they are used to establish, maintain, and enforce sex roles within specific religions.
General Studies: HU, G

M REL 394 Special Topics. (1–4)
selected semesters

M REL 400 Approaches to Religion. (3)
fall
Examines the intellectual history of academic study of religion through various theoretical approaches, major themes, and thinkers. Seminar. Prerequisite: REL 305.

M REL 405 Problems in Religious Studies. (3)
fall and spring
Selected topics in religious studies; involves students in research interests of instructor. May be repeated for credit when topics vary. Seminar. Prerequisite: at least 9 semester hours of REL courses or instructor approval.

M REL 410 Judaism in Modern Times. (3)
selected semesters
Variety of expressions of Judaism and Jewishness in the modern period. Topics may include American Judaism or religious responses to the Holocaust.
General Studies: HU, H

M REL 420 Religion in American Life and Thought. (3)
selected semesters
Influence of religion on American society, culture, and ideas; the distinctive character of religion in America. Prerequisite: REL 320 or 321 (or its equivalent).
General Studies: HU

M REL 427 American Religious Thought. (3)
selected semesters
Thought of representative American religious thinkers, e.g., Jonathon Edwards, William Ellery Channing, Horace Bushnell, and Reinhold Niebuhr. Prerequisite: REL 320 or 321 (or its equivalent).
General Studies: HU, H

M REL 444 Religion in Japan. (3)
once a year
Religion in Japanese history, especially the development of Japanese Buddhism, and religion in the modern transformation of Japan. Prerequisite: instructor approval.
General Studies: HU, G, H

M REL 460 Studies in Islamic Religion. (3)
selected semesters
Issues in the interpretation and understanding of Islamic texts, history, society, culture, and rituals. May be repeated for credit when topics vary. Prerequisites: both REL 365 and Religious Studies major or only instructor approval.
General Studies: HU, G

M REL 470 Religion in the Middle Ages. (3)
selected semesters
Religious aspects of medieval life and thought; variety of forms of dissent, heresy, and reform movements from the 4th to 13th centuries.
General Studies: HU, H

M REL 471 Reformation and Modern Christianity. (3)
selected semesters
Protestant Reformation to contemporary Christian movements; includes factors in the dissolution of the Medieval Christian synthesis, variety of reform movements and reformation patterns, Catholic counter-reform measures, formation of liberal theology, ecumenical movement, and the World Council of Churches.
General Studies: HU, H

M REL 480 Religion and Global Politics. (3)
once a year
Explores the nature and role of religion in international politics in the modern period. Lecture, discussion.
General Studies: G

M REL 483 Religion and Science. (3)
spring
Investigates the correlation between science and religion as an interdisciplinary study from a historical perspective. Readings, film, lecture, discussion. Prerequisite: junior standing or instructor approval.

M REL 494 Special Topics in Religious Studies. (3)
fall and spring
Open to all students. Topics may be selected from various areas. Prerequisite for freshmen: instructor approval.

M REL 498 Pro-Seminar in Religious Studies. (3)
selected semesters
For students with a major or minor emphasis in Religious Studies.

M REL 499 Individualized Instruction. (1–3)
fall and spring

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Sociology

www.asu.edu/clas/sociology
480/965-3546
COOR 5681

Jennie Jacobs Kronenfeld, Chair

Professors: Cobas, Kronenfeld, Kulis, Weitz

Associate Professors: Agadjanian, Benin, Glick, Keith, Menjívar, Miller-Loessi, Sullivan

Assistant Professor: Yabiku

Senior Lecturer: Fine

Lecturers: Fey, Lewin

SOCIOLOGY—BA

The BA degree in Sociology requires a minimum of 30 semester hours of Sociology course work and 15 hours in closely related fields. Of the 30 required hours, a minimum of 18 hours must be upper-division with at least 12 of the 18 upper-division hours taken in residence at the Tempe campus. All upper-division courses in the major must be completed with a grade of "C" (2.00) or higher. The following courses are required:

SOC	101	Introductory Sociology *SB*	3
		or SOC 301 Principles of Sociology *SB* (3)	
SOC	390	Social Statistics I *CS*	3
SOC	391	Sociological Research *SB*	3
SOC	483	History of Social Thought *SB*	3
		or SOC 486 Contemporary Theory *SB* (3)	
Total			12

Sociology majors may complete the remaining 18 required hours through selecting one of two options. For a general sociology degree, students must choose six courses that sample at least three of the following seven sociology content areas:

1. family;
2. intergroup relations and social psychology;
3. political/comparative-historical;
4. social problems and processes;
5. stratification/occupations/organization;
6. urban sociology/demography; or
7. race and ethnicity.

If majors desire a more focused preparation in a specialized area, they may complete the remaining 18 hours in one of five focus areas: family issues, urban issues, diversity issues, work/organizational issues, and health issues. Students choosing this option must complete one required focus area course. Other requirements include four courses from a list of optional courses within that focus area and one additional sociology course. Internships (SOC 484) are available within the focus area option for those who qualify.

Information concerning the two options for fulfilling major requirements is available in the Department of Sociology office in COOR 5681, and on the Internet at www.asu.edu/clas/sociology/undergraduate/undergraduate.html.

MINOR IN SOCIOLOGY

The minor in Sociology requires 18 hours, of which 12 hours must be upper-division courses, with at least six upper-division hours completed at the Tempe campus. The required courses are as follows:

SOC	101	Introductory Sociology *SB*	3
		or SOC 301 Principles of Sociology *SB* (3)	
SOC	391	Sociological Research *SB*	3
		or SOC 483 History of Social Thought *SB* (3)	
		or SOC 486 Contemporary Theory *SB* (3)	
Total			6

The remaining four courses consist of sociology electives.

BIS CONCENTRATION

A concentration in sociology is available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

GRADUATE PROGRAMS

The faculty in the Department of Sociology offer programs leading to the MA and PhD degrees. See the *Graduate Catalog* for requirements.

SOCIOLOGY (SOC)

For more SOC courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M SOC 101 Introductory Sociology. (3)
fall, spring, summer
Fundamentals of sociology, organization of human groups and society, processes of interaction, and social change. Credit is allowed for only SOC 101 or 301.
General Studies: SB

M SOC 220 Sport and Society. (3)
fall and spring
Examines sports in American society as a source of socialization and an institution where gender, race/ethnicity, and class interact. Prerequisite: SOC 101.
General Studies: SB

M SOC 270 Racial and Ethnic Relations. (3)
fall, spring, summer
Problems of minorities in heterogeneous societies. Evaluates theories of prejudice and research dealing with discrimination, desegregation, and assimilation. Lecture, discussion. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB, C

M SOC 301 Principles of Sociology. (3)
fall, spring, summer
Intensive and critical analysis of the concepts of sociology. Credit is allowed for only SOC 301 or 101.
General Studies: SB

M SOC 312 Sociology of Adolescence. (3)
fall, spring, summer
Cultural values and the social processes that help explain the development of the phenomenon of modern adolescence, including investigation of adolescent subcultures and cross-cultural references. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 315 Courtship and Marriage. (3)
fall, spring, summer
Overview of courtship, marriage, and related processes, focusing on problematic aspects of these institutions from the sociological perspective. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 321 Sociology of Work. (3)
fall and spring
Social and cultural analysis of industry. Occupational roles, status, and social participation of workers. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 331 Environmental Sociology. (3)
fall and spring
Analyzes human organizational responses to population growth, technological change, and environmental stressors on both a national and global scale. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB, G

M SOC 332 Urban Sociology. (3)
selected semesters
Growth, characteristics, and problems of the modern city. Prerequisite: SOC 101 or 301.
General Studies: SB, G

M SOC 333 Population. (3)
fall and spring
Global trends in population growth, composition, and distribution; theories, policies, and impact of population trends on environmental quality and development. Prerequisite: SOC 101 or 301.
General Studies: SB, G

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M SOC 334 Technology and Society. (3)
selected semesters
Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. Lecture, discussion. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 340 The Sociology of Deviance. (3)
fall, spring, summer
Sociological analysis of stigmatized behaviors and conditions, including the causes, effects, and management of stigma. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 341 Modern Social Problems. (3)
fall, spring, summer
Selected issues such as education, poverty, race relations, crime, drugs, and international issues such as population, environment, global inequality, conflict. Prerequisite: SOC 101 or 301.
General Studies: SB

M SOC 352 Social Change. (3)
selected semesters
Patterns of social change, resistance to change, and change-producing agencies and processes. Prerequisite: SOC 101 or 301.
General Studies: SB, G, H

M SOC 360 Sociological Psychology. (3)
fall and spring
Interaction patterns between the sociocultural order and individuals; socialization process; norms, roles, and statuses; collective behavior. Prerequisite: SOC 101 or 301.
General Studies: SB

M SOC 363 Men and Masculinity. (3)
selected semesters
Sociological analysis of how masculine identity is defined, negotiated, and variously constructed depending upon class, ethnicity, age, and sexual orientation. Prerequisites: SOC 101 (or 301); WST 100 (or 300).
General Studies: SB

M SOC 365 Sociology of Mass Communication. (3)
fall and spring
Sociological exploration of the major mass media as a communicative process in American society. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 375 Contemporary American Jewish Identities. (3)
spring
Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. Lecture, discussion. Cross-listed as REL 318. Credit is allowed for only REL 318 or SOC 375.
General Studies: HU/SB, C

M SOC 390 Social Statistics I. (3)
fall, spring, summer
Descriptive and inferential statistical methods for analysis of social data. Computer applications. Prerequisites: SOC 101 (or 301); a General Studies MA course.
General Studies: CS

M SOC 391 Sociological Research. (3)
fall, spring, summer
Methods of sociological research, including the fundamental assumptions underlying research and some practical experience in research design, data collection techniques, and data analysis. Prerequisites: both SOC 101 (or 301) and 390 or only instructor approval.
General Studies: SB

M SOC 415 The Family. (3)
fall and spring
Family considered from the institutional viewpoint; its historical development and its adaptation to a changing culture; the family system in many cultures. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 416 Marriage Problems in Contemporary Society. (3)
spring
Marital and family problems in today's society from the viewpoint of personal and cultural adjustment. Prerequisites: both SOC 101 (or 301) and an additional 3 hours in sociology or only instructor approval.
General Studies: L/SB

M SOC 417 Family Violence. (3)
selected semesters
Current research and theories about domestic violence, including child maltreatment, spousal aggression, and courtship violence. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 418 Aging and the Life Course. (3)
fall and spring
Social aspects of aging. Theoretical and methodological perspectives and problems of aging such as life satisfaction, retirement, and adjustment to role loss. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 420 Sociology of Religion. (3)
selected semesters
Interrelationship of culture, society, and religion; religion and social stratification; religious, economic, and political institutions; social change and religion. Emphasizes American society and institutions. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: L/SB

M SOC 421 Education and Society. (3)
fall
Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 423 Social Class and Stratification. (3)
spring
Classical and contemporary theories about who gets what and why. Examines social and economic inequalities by class, gender, and race/ethnicity. Lecture, discussion. Prerequisites: both SOC 101 (or 301) and an additional 3 hours in sociology or only instructor approval.
General Studies: L/SB

M SOC 424 Women and Health. (3)
selected semesters
Women as health care workers and issues of health, illness, and health care for women. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 427 Sociology of Health and Illness. (3)
fall and spring
Social aspects of illness and sociological analysis of the health care system and its practitioners. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: L/SB

M SOC 429 Sociology of Law. (3)
selected semesters
Examines law as an institution; its origins, operations, and consequences. Emphasizes contemporary legal issues and problems. Prerequisite: SOC 101 or 301.
General Studies: SB

M SOC 433 Applied Demography. (3)
spring
Science of population analysis. Covers techniques for measuring fertility, mortality, migration, and population composition. Lecture, projects. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

M SOC 446 Sociology of Crime. (3)
fall and spring
Process of criminalization, exploring the behavior of the definers of crime, and the behavior of those defined as criminals. Prerequisites: both SOC 101 (or 301) and 340 or only instructor approval.
General Studies: SB

ASU Foundation Building

Tim Trumble photo

M SOC 448 Epidemics and Society. (3)
fall
How epidemics occur: how they are perceived in society; how epidemics affect society. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB, G

M SOC 451 Comparative Sociology. (3)
selected semesters
Cross-cultural study of basic social institutions; the methodology of cross-cultural research. Prerequisite: ASB 102 or SOC 101 (or 301) or instructor approval.
General Studies: SB, G

M SOC 464 Sociology of Women. (3)
spring
Sociological analysis of the development, nature, and consequences of women's position in contemporary society. Lecture, discussion. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: L/SB, C

M SOC 474 African Americans in Modern Society. (3)
selected semesters
Social and cultural heritage of black Americans; achievements and current trends. Lecture, discussion. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB, C

M SOC 483 History of Social Thought. (3)
fall, spring, summer
Social thought in human culture. Background of modern sociology. Prerequisite: SOC 101 or 301.
General Studies: SB

M SOC 484 Internship. (1–12)
fall and spring
See Department of Sociology advisor. Topics may include the following:
- Service Learning
  Fee.

M SOC 486 Contemporary Theory. (3)
selected semesters
Contemporary issues and crises in social theory with major focus on particular theorists. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. Prerequisite: SOC 101 or 301 or instructor approval.
General Studies: SB

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93

Department of Speech and Hearing Science

www.asu.edu/clas/shs
480/965-2374
COOR 2211

Sid P. Bacon, Chair

Professors: S. Bacon, Dorman, D. Ingram, Wilcox

Associate Professors: Azuma, Liss, Restrepo

Assistant Professors: Bian, Gray, Pittman, Wright

Clinical Professors: Mathy, Wiley

Clinical Associate Professors: C. Bacon, Brown, Maxwell, McBride, Mehta

Clinical Assistant Professors: K. Ingram, Wexler, Woods

Senior Lecturer: Forestal

Lecturers: Ammons, Francini, Howard, O'Brien, Quinn

SPEECH AND HEARING SCIENCE—BS

The BS degree in Speech and Hearing Science consists of 40 semester hours of speech and hearing science courses emphasizing the developmental and scientific aspects of language, speech, and hearing. The following courses, or their approved equivalents, are required:

SHS	250 Introduction to Phonetics	3
SHS	310 Anatomical and Physiological Bases of Speech	3
SHS	311 Physical and Physiological Bases of Hearing	3
SHS	367 Language Science *SB*	3
SHS	375 Speech Science	3
SHS	376 Psychoacoustics	3
SHS	401 Introduction to Audiology	3
SHS	402 Modifying Communicative Behavior	3
Choose two from the courses below		6
SHS	431 Developmental Speech Disorders (3)	
SHS	470 Developmental Language Disorders (3)	
SHS	485 Acquired Speech and Language Disorders (3)	
SHS	450 Observation	1
SHS	465 Speech and Language Acquisition *SB*	3
SHS	496 Aural Rehabilitation	3
Total		37

The remaining speech and hearing science courses to complete the major are determined by the students in consultation with an advisor. A list of approved electives is available through the department. Supporting courses from related fields must include the following or their equivalents:

BIO	201 Human Anatomy and Physiology I *SG*	4
MAT	170 Precalculus *MA*	3
PGS	101 Introduction to Psychology *SB*	3
PHY	101 Introduction to Physics *SQ*	4
PSY	230 Introduction to Statistics *CS*	3

PSY 290 Research Methods is strongly recommended.

MINOR IN SPEECH AND HEARING SCIENCE

The minor in Speech and Hearing Science consists of 24 semester hours with the following classes required:

SHS	105 Introduction to Human Communication Disorders	3
SHS	250 Introduction to Phonetics	3
SHS	310 Anatomical and Physiological Bases of Speech	3
SHS	311 Physical and Physiological Bases of Hearing	3
Choose one from the courses below		3
SHS	367 Language Science *SB* (3)	
SHS	375 Speech Science (3)	
SHS	376 Psychoacoustics (3)	

The remainder of the 24 credits must come from the following courses:

SHS	320 Facilitating Speech and Language Development in Early Childhood	3
SHS	401 Introduction to Audiology	3
SHS	402 Modifying Communicative Behavior	3
SHS	431 Developmental Speech Disorders	3
SHS	465 Speech and Language Acquisition *SB*	3
SHS	470 Developmental Language Disorders	3
SHS	485 Acquired Speech and Language Disorders	3
SHS	496 Aural Rehabilitation	3

BIS CONCENTRATION

A concentration in speech and hearing science is available under the Bachelor of Interdisciplinary Studies (BIS) degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

GRADUATE PROGRAMS

The faculty in the Department of Speech and Hearing Science offer programs leading to the MS degree in Communication Disorders, the AuD degree in Audiology, and the PhD degree in Speech and Hearing Science. See the *Graduate Catalog* for requirements.

SPEECH AND HEARING SCIENCE (SHS)

M SHS 101 American Sign Language I. (4)
fall and spring
Basic receptive/expressive conversational skills; basic grammar and syntax rules. Orientation to deafness and deaf culture. Lecture, drill, practice, lab.

M SHS 102 American Sign Language II. (4)
fall and spring
Further development of receptive/expressive conversation skills in ASL; finger spelling. Continued exploration of deaf culture. Lecture, drill, practice, lab. Prerequisite: SHS 101.

M SHS 105 Introduction to Human Communication Disorders. (3)
fall and spring
Introduces hearing, language, and speech problems in children and adults. Lecture, demonstration.

M SHS 201 American Sign Language III. (4)
fall and spring
Continued development of fluency in ASL with emphasis on more abstract concepts and the ability to narrate events. Lecture, discussion, drill, lab. Prerequisite with a grade of "C" (2.00) or higher: SHS 102.

M SHS 202 American Sign Language IV. (4)
fall and spring
Further development of fluency in ASL with emphasis on literature, folklore, and signing narratives with multiple characters. Lecture, discussion, drill, lab. Prerequisite with a grade of "C" (2.00) or higher: SHS 201.

M SHS 250 Introduction to Phonetics. (3)
fall
Introduces English phonetics with emphasis on phonetic transcription, articulation, phonology, and disorders of speech.

M SHS 310 Anatomical and Physiological Bases of Speech. (3)
fall
Noncadaveric study of anatomical systems that underlie human speech and language, including respiration, phonation, articulation, and related nervous system processes. Prerequisite: BIO 201.

M SHS 311 Physical and Physiological Bases of Hearing. (3)
fall
Studies the physical characteristics of sound and of the structure and function of the human auditory system. Prerequisites: BIO 201; PHY 101.

M SHS 320 Facilitating Speech and Language Development in Early Childhood. (3)
fall and spring
Speech and language development and strategies for facilitating communication skills in early childhood educational settings.

M SHS 350 Brain Memory and Language. (3)
fall
Covers memory and language and their associated brain areas, and the resulting behavioral consequences of injury and disease. Lecture, discussion, case studies, demonstrations. Prerequisite: PGS 101 or SHS 105.

M SHS 367 Language Science. (3)
fall
Normative aspects and integration of language structure, comprehension, and production in children and adults.
General Studies: SB

M SHS 375 Speech Science. (3)
spring
Normative aspects of speech, hearing, and language. Prerequisites: SHS 310, 311.

M SHS 376 Psychoacoustics. (3)
spring
Introduces acoustics, cochlear anatomy and physiology, and the perception of sound. Prerequisite: SHS 311 or instructor approval.

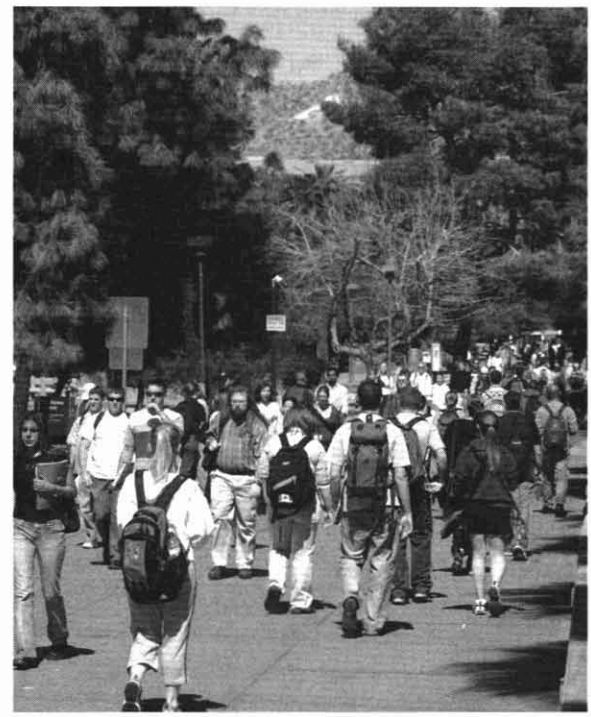
M SHS 394 Special Topics. (1–4)
selected semesters

M SHS 401 Introduction to Audiology. (3)
fall
Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. Credit is allowed for only SHS 401 or 501. Prerequisites: both SHS 311 and 376 or only instructor approval.

M SHS 402 Modifying Communicative Behavior. (3)
fall
Principles and techniques of modifying speech and language behavior. Prerequisite: SHS 250 (or its equivalent).

M SHS 431 Developmental Speech Disorders. (3)
fall
Introduces the nature of articulation, fluency, resonance, and voice disorders in childhood. Prerequisites: SHS 250 and 310 (or their equivalents).

M SHS 450 Observation. (1)
fall and spring
Opportunity to obtain observation experience at the ASU Speech and Hearing Center or at external sites. Prerequisite: instructor approval.



A view of Cady Mall with "A Mountain" in the background

Tim Trumble photo

M SHS 465 Speech and Language Acquisition. (3)
spring
Speech and language development in the normal child. Prerequisite: SHS 367 (or its equivalent).
General Studies: SB

M SHS 470 Developmental Language Disorders. (3)
fall
Introduces the nature and treatment of language disorders in children. Prerequisite: SHS 465 or instructor approval.

M SHS 485 Acquired Speech and Language Disorders. (3)
spring
Introduces acquired speech and language disorders across the lifespan. Prerequisites: SHS 250, 310.

M SHS 494 Special Topics. (1–4)
fall and spring
May be repeated for credit. Topics may include the following:
- Hearing Disorders. (3)
- Research. (3)
- Speech and Language Disorders. (3)

Prerequisite: instructor approval.

M SHS 496 Aural Rehabilitation. (3)
spring
Approaches to aural rehabilitation of children and adults. Introduces educational audiology and assistive listening devices. Prerequisites: SHS 375 and 376 and 401 (or their equivalents).

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Women and Gender Studies Program

www.asu.edu/clas/womens_studies
480/965-2358
ECA 209

Mary Margaret Fonow, Director

CORE FACULTY

Professors: Fonow, Koblitz, Rothschild, Weitz

Associate Professors: Anderson, Cruz-Torres, Leong, Scheiner Gillis

Assistant Professors: Durfee, Fisher, Katsulis

Lecturer: McGibbney Vlahoulis

AFFILIATED FACULTY

African and African American Studies
Professor: Reyes
Assistant Professor: Robillard

American Indian Studies
Assistant Professor: Vicenti Carpio

Architecture and Landscape Architecture
Associate Professor: Fish Ewan

Art
Professors: Codell, Fahlman, Magenta, Schleif, Wolfthal
Assistant Professor: Mesch

Chicana and Chicano Studies
Regents' Professor: Candelaria
Associate Professor: Magaña
Assistant Professors: Danielson, Szkupinski-Quiroga

Community Resources and Development
Professor: Allison

Curriculum and Instruction
Professors: Cannella, Edelsky, Guzzetti

Educational Leadership and Policy Studies
Professor: Turner
Faculty Associate: Ewing

English
Professors: Adams, Crowley, Hogue, Horan, Lester, Nilsen, Pritchard, Rhodes
Associate Professor: Tohe
Assistant Professors: Fox, Parchesky, Sadowski-Smith, Thompson
Senior Lecturers: Heenan, Norton
Service Professional: McNeil

Exercise and Wellness (Polytechnic campus)
Associate Professor: Swan

Family and Human Development
Professor: Martin

History
Professors: Fuchs, Green, Lavrin, Warnicke
Associate Professors: Gray, Gullett, Stoner

Human Communication
Professors: Carlson, Nakayama
Associate Professors: Davis, De la Garza, Martinez
Assistant Professor: Park-Fuller

Human Evolution and Social Change
Professor: Brandt

Interdisciplinary Studies
Senior Lecturer: Nelson
Lecturer: Lattouf

Justice and Social Inquiry
Lincoln Professor: Walker
Professors: Jurik, Provine, Romero, Zatz
Associate Professors: Adelman, Menjívar

Kinesiology
Professor Emerita: Wells

Languages and Literatures
Regents' Professor: Foster
Professors: Losse, Sanchez, Williams
Associate Professors: Choi, Orlich, Tompkins
Assistant Professors: Ali, Duncan, George, Gruzinska

Mathematics and Statistics
Professor: Barcelo
Research Professor: Greenwood

Music
Professor: Williamson
Associate Professor: Norton
Assistant Professor: Sullivan

Philosophy
Associate Professor: McGregor

Psychology
Regents' Professors: Eisenberg, Russo
Professor: Chassin
Associate Professor: Saenz

Psychology in Education
Professors: Arredondo, Bernstein, Hackett, Moore

Religious Studies
Professor: Feldhaus
Associate Professor: Fessenden

Social and Behavioral Sciences (West campus)
Professor: Mueller
Associate Professor: Vaughan
Assistant Professor: Guevarra

Social Work
Professor: Segal
Associate Professors: Brzuzy, Gerdes, Stromwall
Assistant Professor: Larson

Sociology
Professors: Kronenfeld, Kulis
Associate Professors: Agadjanian, Benin, Miller-Loessi, Sullivan

Theatre and Film
Professors: Honegger, Knapp
Assistant Professor: Woodson

Women's Studies (West campus)
Professor: Stage

The Women and Gender Studies Program is an interdisciplinary university program housed in the College of Liberal Arts and Sciences. Information on faculty affiliation is provided for reference.

WOMEN AND GENDER STUDIES—BA

Women and Gender Studies provides students with an intensive interdisciplinary liberal arts education that enables them to write well, think critically, and analyze problems effectively. Students take a variety of courses, including a capstone seminar requiring original research and writing, and an internship that helps them prepare for life after college. Original undergraduate research is encouraged, and some courses involve students in studying community problems and formulating policy solutions.

The BA degree in Women and Gender Studies consists of 45 semester hours (with a grade of "C" [2.00] or higher), of which 30 must be taken from WST or WSH prefixes or from other prefixes designated as part of the major. The other 15 must be in closely related fields chosen in consultation with an academic advisor. At least 36 of the 45 hours required for the major must be completed in upper-division courses.

Required Courses. Students must complete these courses:

WST 100	Women and Society *SB, C*	3
	or WST 300 Women in Contemporary Society *SB, C* (3)	
WST 377	History of American Feminist Thought *L, C*	3
WST 378	Global Feminist Theory *L, C*	3
WST 380	Gender, Race, and Class *L/SB, C*	3
WST 484	Internship	3
WST 498	PS: Theoretical Issues in Women's Studies	3
Total		18

Electives. Students majoring in Women and Gender Studies must complete four courses (12 semester hours) chosen from the WST or WSH course list.

Related Fields. Students majoring in Women and Gender Studies must complete five courses (15 semester hours) in closely related fields from the WST or WSH course list, cross-listed or interdisciplinary courses, or other courses selected in consultation with a academic advisor.

Students must complete one course chosen from the electives or related fields on nonwestern women. A second course chosen from these same areas must also be completed on either nonwestern, racial or sexual minority women in the U.S. For more information, see an academic advisor.

MINOR IN WOMEN AND GENDER STUDIES

The Women and Gender Studies minor consists of 18 semester hours, 12 of which must be in the upper division. The following courses are required:

WST 100	Women and Society *SB, C*	3
	or WST 300 Women in Contemporary Society *SB, C* (3)	
WST 377	History of American Feminist Thought *L, C*	3
	or WST 378 Global Feminist Theory *L, C* (3)	
Total		6

Twelve additional hours of approved women and gender studies courses must be taken after consultation with the Women and Gender Studies advisor.

Students pursuing a minor must register at least one semester before graduation and are encouraged to meet with the Women and Gender Studies academic advisor early in their course of studies.

CERTIFICATE PROGRAM IN WOMEN AND GENDER STUDIES

The certificate program is equivalent to an interdisciplinary minor, consisting of 18 semester hours, and is open to graduate as well as undergraduate students. Students pursuing a certificate must consult with the Women and Gender Studies advisor. See "Women and Gender Studies," page 514, for a description of the certificate program.

BIS CONCENTRATION

A concentration in women and gender studies is available under the Bachelor of Interdisciplinary Studies degree, a program intended for the student who has academic interests that might not be satisfied with existing majors. Building on two academic concentrations (or one double concentration) and an interdisciplinary core, students in the BIS program take active roles in creating their educational plans and defining their career goals. For more information, see "School of Interdisciplinary Studies," page 139.

GRADUATE STUDIES

The Women and Gender Studies Program plans to offer a graduate degree program within the next two years. In the interim, it is possible to pursue a graduate degree in some existing programs with a thesis or dissertation topic related to women's studies. For more information, contact a Women and Gender Studies academic advisor.

WOMEN'S STUDIES HUMANITIES (WSH)

M WSH 330 Women, Film, and Culture. (3)
fall
Explores how narrative films portray women, romantic relationships, and the possibilities for social change in gender relationships. Prerequisite: WST 100 or 300.

M WSH 413 Lesbian, Gay, and Gender Studies. (3)
spring
Explores lesbian, gay, bisexual, transgender, and queer experiences in the U.S. and globally, from sociological, psychological, historical, and literary perspectives. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: HU, C

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

M WSH 421 Girlhood and Adolescence. (3)
spring
Examines the changing construction of girlhood and female adolescence through history, memoir, fiction, myth, music, and media. Lecture, discussion.

M WSH 464 Voices and Visions. (3)
fall and spring
Explores the contributions of visionary women in the humanities; topics vary from semester to semester. May be repeated for credit when topics vary. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: HU, C

M WSH 470 Women and Popular Culture. (3)
spring
Interdisciplinary examination of how gender is constructed in popular cultural forms. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: HU, C

M WSH 494 Special Topics. (1–4)
fall and spring
Topics include a wide variety of interdisciplinary courses. Check department for current semester offerings.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

WOMEN'S STUDIES (WST)

For more WST courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

M WST 100 Women and Society. (3)
fall, spring, summer
Interdisciplinary introduction examining critical issues in women's studies. Credit is allowed for only WST 100 or 300.
General Studies: SB, C

M WST 191 First-Year Seminar. (1–3)
selected semesters
Restricted to freshmen. Pass/fail. Topics may include the following:
- All About Feminism. (1)

M WST 294 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Women and Social Action
  Fee.

M WST 300 Women in Contemporary Society. (3)
fall, spring, summer
Intensive interdisciplinary examination of such topics as gender roles, work, education, sexuality, politics, health, and law. Credit is allowed for only WST 300 or 100.
General Studies: SB, C

M WST 313 Women and Sexuality. (3)
fall and spring
Explores feminist theories about women's sexuality and the relationship of these theories and related research to women's experience. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: SB

M WST 360 Women as Healers. (3)
spring
Examines the role of women as caregivers, healers, physicians, midwives, and nurses in different cultures and historical periods. Lecture, discussion.
General Studies: SB, G

M WST 372 Women in Judaism. (3)
spring
Studies the legal, social, and cultural status of Jewish women in various historical and contemporary societies. Cross-listed as REL 373. Credit is allowed only for REL 373 or WST 372.

M WST 373 Latina/Chicana Issues. (3)
selected semesters
Examines the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: SB, C

M WST 375 Women and Social Change. (3)
spring
Combines research and theory on a contemporary social problem with a community action experience focusing on women's social change initiatives. Lecture, field placement. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: SB, C

M WST 377 History of American Feminist Thought. (3)
fall
Explores the development of American feminist theory from its roots to 1975. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: L, C

M WST 378 Global Feminist Theory. (3)
spring
Global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis. Prerequisite: WST 100 or 300.
General Studies: L, C, G

M WST 380 Gender, Race, and Class. (3)
fall and spring
Explores cultural diversity, class, and gender issues in American social life. Lecture, seminar, analysis papers, and writing. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: L/SB, C

M WST 394 Special Topics. (1–4)
fall and spring
Topics may include the following:
- Feminist Voices of Color
- Gender and Performance
- Girlhood and Adolescence
- Women and Religion
- Women Warriors

M WST 457 Gender, Culture, and Development. (3)
fall or spring
Economic, cultural, and sociopolitical contexts for understanding women's roles related to health, family, work, education, and politics in developing countries. Prerequisite: 6 hours in social science or instructor approval.
General Studies: L/SB, G

M WST 460 Women and the Body. (3)
fall or spring
Interdisciplinary look at how representations of woman as body permeate culture and affect a woman's sense of self. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: SB, C

M WST 477 Women and Violence. (3)
fall or spring
Global examination of forms of violence against women at the individual, institutional, and cultural levels, and efforts to control it. Lecture, discussion. Prerequisite: WST 100 or 300 or instructor approval.
General Studies: SB, C

M WST 484 Internship. (1–3)
fall and spring
Practical experience to enhance the academic perspectives that emerge from women's studies instruction. Prerequisite: internship coordinator approval.

M WST 494 Special Topics. (1–4)
fall and spring
Topics may include the following:
- Women, Science, and Technology

M WST 498 Pro-Seminar. (1–7)
fall and spring
Topics may include the following:
- Theoretical Issues in Women's Studies. (3)
  Reading and research on important theoretical issues in women's studies. Prerequisite: WST 100 or 300 or instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

West Campus

www.west.asu.edu **Mark S. Searle, PhD, Vice President, ASU; Provost, West Campus**

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ASU at the West campus, a community-focused metropolitan campus of Arizona State University located in Phoenix, serves the community and nearly 8,000 residential and commuter students of diverse ages, ethnic backgrounds, and experiences through 32 baccalaureate programs, one doctoral program, nine master's programs, and eight certificate programs. The West campus focuses on developing a learning community that addresses the needs of a dynamic metropolitan environment. The campus does this by offering learner-centered academic programs that enhance learning through teaching, service, and enrichment opportunities; promoting discovery and innovation; pursuing new knowledge; introducing insights and creative ideas through instruction; encouraging direct involvement in new fields of inquiry; investigating important community-based issues; and integrating with the community through service. The vision of the West campus is to enhance the intellectual, social, cultural, and economic qualities of its urban environment through research and creative activity and to provide access to a quality liberal arts education for undergraduates, professional programs grounded in the liberal arts, and an array of graduate programs.

The West campus commitment to integrated learning extends to Las Casas, an apartment-style, living-learning–based housing facility. Las Casas features faculty and academic advisors who live in the residence, faculty mentors, courses taught on site at the community center, and student affinity groups focusing on topics such as global awareness, leadership, and the arts.

Faculty and staff are dedicated to serving the evolving needs of high school graduates, working adults, and returning and continuing students. Expanding campus facilities and programs, along with a diverse student body, faculty, and staff, contribute to a culturally rich academic and social campus environment.

The West campus offers many on-campus services and facilities, all fully accessible for those with disabilities. These include a multimedia resource library, state-of-the-art computer classrooms and labs, housing facilities, tutoring services, a disability resource center, bookstore, cafeteria, credit union, fitness center, recreational facilities, child care, and post office, plus many student activities, clubs, and organizations. Classes are offered days, evenings, and weekends and via television and the Internet.

The West campus occupies approximately 300 square acres between 43rd and 51st Avenues on West Thunderbird Road in Phoenix, easily accessed from Interstate 17 and Loop 101. Its architecture and courtyards are modeled on those of the University of Oxford in England, enhanced by a beautifully landscaped natural environment featuring widely acclaimed public art.

HISTORY

The year 2004 marked the 20th anniversary of the West campus. Governor Bruce Babbitt signed legislation officially establishing the campus on April 18, 1984. Two years later members of several western Maricopa County communities, legislators, and the Arizona Board of Regents (ABOR) joined in the ground-breaking ceremony for the West campus, which culminated more than 10 years of intensive effort by numerous citizens' groups working to establish educational facilities in western Maricopa County. This grass-roots effort began in 1972 with the formation of the West Side Citizens' Committee for Higher Education. Citizens and legislators in western Maricopa County worked with officials at ASU and the ABOR to demonstrate

the need for higher education facilities beyond those offered by the community colleges.

In 1982, the legislature provided an exchange of 171.66 acres of general revenue lands for "approximately 300 acres of state trust land located in Maricopa County." These 300 acres constitute the permanent site of the West campus. The first permanent building, Fletcher Library, opened in March of 1988, and the first classroom building, Sands Classroom Building, opened in 1989 for spring semester classes. Shortly thereafter, the legislature authorized a lease purchase agreement to fund construction of additional buildings. The first phase, consisting of seven buildings and 600,000 gross square feet, opened in the spring of 1991.

The West campus received its initial accreditation from North Central Association of Colleges and Secondary Schools in August 1992. In fall 2001, ASU at the West campus became a four-year university campus with the addition of freshman and sophomore classes. Student housing facilities opened in August 2003.

For more than two decades, the campus has demonstrated responsiveness to the community, providing an ethos of resolving social issues, creating an involved citizenry, and ultimately creating a better quality of life for all. The West campus vision is to build on its successful past in ways that enhance the intellectual, social, cultural and economic qualities of a diverse, urban environment, through research and quality programs. This commitment to the community is punctuated by the economic vitality that the West campus contributes.

ACCREDITATION

ASU at the West campus is accredited by the Higher Learning Commission and is a member of the North Central Association. For more information, call 312/263-0456, access the Web site at www.ncahigherlearningcommission.org, or write

HIGHER LEARNING COMMISSION
30 N LaSALLE ST
SUITE 2400
CHICAGO IL 60602-2504

Professional programs in various academic areas are also accredited.

The Business and Accountancy degree programs in the School of Global Management and Leadership are accredited by AACSB International—The Association to Advance Collegiate Schools of Business. The Accountancy program is also an Endorsed Internal Auditing Program by the Institute of Internal Auditors. In the College of Human Services, the Department of Recreation and Tourism Management is accredited by the National Recreation and Park Association/American Association for Leisure and Recreation Council on Accreditation, and the Bachelor of Social Work and Master of Social Work programs are accredited by the Council on Social Work Education.

See the "Academic Accreditation at the West Campus" table, page 857.

ACADEMIC ORGANIZATION AND ADMINISTRATION

The provost provides executive leadership for the continuing development and management of the campus and reports to the executive vice president and provost of ASU. The provost is aided in the administration of the campus by vice provosts, deans, directors, department chairs, faculty, and other officers. There are four schools and colleges at the West campus administered by deans:

College of Human Services
College of Teacher Education and Leadership
New College of Interdisciplinary Arts and Sciences
School of Global Management and Leadership

These academic units develop and implement the teaching, research, and service programs of the institution, aided by the Fletcher Library and other student services.

The faculty and students of the institution play an important role in campus governance, with the Academic Senate, Associated Students of the West Campus, and numerous cross-campus and joint West campus–Tempe campus–Polytechnic campus committees serving the needs of a rapidly growing institution. For more information, see "West Campus," page 837, and "West Campus," page 854.

ADMISSION

Nondegree Students

Nondegree students may take courses at the West campus according to the special provisions under "Admission of Undergraduate Nondegree Applicants," page 74.

Degree-Seeking Students

Any student admitted to ASU may take courses at the West campus. To be admitted to a West campus degree program, the student must meet university admission requirements and the specific admission requirements of the West campus program. A student who is admitted to a West campus degree program is defined as a West campus student.

Prospective students should access the Web site at www.west.asu.edu/gowest for information on admission requirements and processes. The fastest, most efficient way to apply for admission is online at www.west.asu.edu/gowest/apply.htm. Printable applications are available at the same site. These applications can be completed and submitted by mail to

ADMISSION SERVICES
ARIZONA STATE UNIVERSITY
PO BOX 37100
PHOENIX AZ 85069-7100

The Arizona Board of Regents establishes undergraduate admission standards for state universities. Particular colleges, schools, academic units, programs or departments may impose additional requirements. These are explained later in this catalog under the appropriate section. For admission information and procedures, access the Web site at www.asu.edu/graduate/admissions. Students are encouraged to apply via the Web. If students cannot access the Internet, they may call the Division of Graduate Studies at 602/543-4567 or send e-mail to asuwgrad@asu.edu.

West Campus Academic Advising

College or School	Phone	Location
Barrett Honors College	602/543-4503	UCB 201
College of Human Services	602/543-6600	FAB S105A
College of Teacher Education and Leadership	602/543-6354	FAB S210
New College of Interdisciplinary Arts and Sciences	602/543-6052	FAB N201
School of Global Management and Leadership	602/543-6200	FAB N101

Change of Major from Tempe Campus or Polytechnic Campus to West Campus

Currently enrolled Polytechnic campus or Tempe campus degree-seeking students who want to relocate to a West campus degree program should contact Admissions Services at the West campus for the appropriate procedures. Acceptance to a West campus degree program requires the student to meet the prerequisites for entry to the student's choice of major as stated in the appropriate catalog. Students should be aware that requirements may differ between the West campus and the Tempe campus for the same major.

Application of Course Credit. The application of transfer course credit to the degree program is determined by the department of the student's major. Because of these constraints, students should seek advice from the appropriate advisor for their major before registering for classes at another university or ASU campus.

ACADEMIC ADVISING

Prospective Students

Effective academic advising is an essential aspect of the educational experience at the West campus. Prospective students seeking help with the application and admission process should call an admissions counselor as a first step at 602/543-8550 or visit the Recruitment and Outreach office in UCB 105. Prospective students can find a variety of information on the "GoWest" Web site at www.west.asu.edu/gowest.

Exploratory Freshmen and Transfer Students

Exploratory freshmen and transfer students who have not declared a major should call the University College Academic Advising Office for assistance at 602/543-9222 or visit UCB 201.

For community college students, a convenient alternative is to meet with an outreach advisor at one of the Transfer Centers shown in the "Transfer Centers" table below.

Transfer Centers

College	Phone
Estrella Mountain Community College	623/935-8826
Glendale Community College	623/845-3090
Paradise Valley Community College	602/787-7060
Phoenix College	602/285-7110
South Mountain Community College	602/243-8154

Students Admitted to Academic Programs

To assure timely and accurate advising for their majors, each academic unit has advisors to assist students in developing programs of study and understanding rules, procedures, and curriculum requirements. See the "West Campus Academic Advising" table, on this page.

FRESHMAN ORIENTATION

To ease the transition from high school to the West campus, University College (UC) offers several programs for freshman students. The UC offers online and on-campus orientations designed to familiarize new students with university and campus programs and services and to assist them with registering for classes. For more information, call 602/543-4600, or access the Web site at www.west.asu.edu/uc/orientation.htm.

DEGREE PROGRAMS

For more information on West campus undergraduate degree requirements, see the specific college, school, or program description in this catalog.

For information on West campus graduate degrees see the *Graduate Catalog*.

Minors and Certificates

The West campus offers an extensive selection of minors and certificate programs that may be taken in conjunction with a major. Other certificate programs may be taken independently. See the "West Campus Minors" table, page 654, and the "West Campus Certificates" table, page 655.

For information on the minor and certificate program requirements, see the specific college, school, or program description in this catalog.

Programs Hosted at West Campus

Courses for the Bachelor of Science in Nursing (BSN) degree are offered at the West campus. For specific information on requirements, see "College of Nursing," page 174.

UNIVERSITY GRADUATION REQUIREMENTS

In addition to fulfilling college and major requirements, each student must meet all university graduation requirements. For complete information, see "University Graduation Requirements," page 89.

GENERAL STUDIES REQUIREMENT

All Students enrolled in a baccalaureate degree program must satisfy the university requirement of a minimum of 35 hours of approved course work in General Studies, as described in "General Studies," page 93.

West Campus Minors

Minor	Administered By
American Studies	Department of Language, Cultures, and History
Communication Studies	Department of Communication Studies
English	Department of Language, Cultures, and History
Ethnic Studies	Ethnic Studies Program
Film and Video Studies	Department of Interdisciplinary Arts and Performance
Gerontology	Gerontology Program
History	Department of Language, Cultures, and History
Interdisciplinary Arts and Performance	Department of Interdisciplinary Arts and Performance
Interdisciplinary Organizational Studies	Department of Social and Behavioral Sciences
Life Sciences	Department of Integrated Natural Sciences
Mathematics	Department of Integrative Studies
Philosophy	Department of Integrative Studies
Political Science	Department of Social and Behavioral Sciences
Prelaw	College of Human Services
Psychology	Department of Social and Behavioral Sciences
Public Relations and Strategic Communications	Department of Communication Studies
Recreation Management	Department of Recreation and Tourism Management
Religious Studies	New College of Interdisciplinary Arts and Sciences
Social and Behavioral Sciences	Department of Social and Behavioral Sciences
Sociocultural Anthropology	Department of Social and Behavioral Sciences
Sociology	Department of Social and Behavioral Sciences
Spanish	Department of Language, Cultures, and History
Special Events Management	Department of Recreation and Tourism Management
Tourism Management	Department of Recreation and Tourism Management
Women's Studies	Women's Studies Program
Youth Services Leadership	Department of Recreation and Tourism Management

General Studies courses are listed in the "General Studies Courses" table, page 96, in the course descriptions, and in the *Schedule of Classes*. General Studies credit for a course may vary by campus; however, General Studies credit granted at one campus is honored at all campuses. Students should seek advice from the appropriate academic advisor for their major before registering for classes on another ASU campus.

CAMPUS GRADUATION REQUIREMENTS

Some graduation requirements are specific to the campus of enrollment. The following requirements apply to baccalaureate programs offered at the West campus.

Declaration of Graduation Requirements

A student must file a Declaration of Graduation (DOG) form no later than the semester he or she earns his or her 81st semester hour. The intention of the policy is to help the student successfully complete degree requirements in a timely manner. Students who fail to submit the DOG by completion of the 81st semester hour are prevented from further registration.

Any student wishing to have a college or university requirement variance must petition the appropriate standards committee of the academic unit in which the student is enrolled. All petitions must originate with the student's advisor, see "Student Grievances," page 655.

Credit Requirements

A minimum of 120 semester hours is required for graduation with a baccalaureate degree. A minimum of 50 semester hours in upper-division courses is required for graduation.

Graduation with Academic Recognition

An undergraduate student must have completed at least 50 semester hours of resident credit at ASU to qualify for graduation with academic recognition for a baccalaureate degree. A student with a cumulative GPA of 3.40 to 3.59 graduates *cum laude*, 3.60 to 3.79 graduates *magna cum laude*, or 3.80 to 4.00 graduates *summa cum laude*. The cumulative GPA for these designations is based solely on ASU resident course work. For example, ASU correspondence course grades are not calculated in the honors GPA. All designations of graduation with academic recognition are indicated on the diploma and the ASU transcript.

West Campus Certificates

Certificate	Administered By
Accountancy, Postbaccalaureate Certificate in	Department of Accounting
Communication and Human Relations, Postbaccalaureate Certificate in	Department of Communication Studies
Ethnic Studies, Certificate in	Ethnic Studies Program
Film and Video Studies, Certificate in	Department of Interdisciplinary Arts and Performance
Gerontology, Certificate in	Gerontology Program
Professional Accountancy, Postbaccalaureate Certificate in	Department of Accounting
Women's Studies, Certificate in	Women's Studies Program
Writing, Certificate in	Department of Language, Cultures, and History

Graduation with academic recognition applies only to undergraduate degrees.

Minors

A minor is an approved, coherent concentration of academic study in a single discipline, involving substantially fewer hours of credit than the corresponding major.

Students in most majors may pursue one or more minors and, upon successful completion of the prescribed course work, have that accomplishment officially recognized on the ASU transcript at graduation if (1) the academic unit/department of the minor officially certifies, through established verification procedures, that all requirements for the minor have been met, and (2) the academic unit (and, in certain academic units, the department) of the student's major allows the official recognition of the minor. A student wishing to pursue a specific minor should consult an academic advisor in the unit offering that minor to ensure that an appropriate set of courses is taken.

A minor consists of a minimum of 18 hours of course work. For any minor offered at the West campus, a minimum of nine upper-division hours in the minor must be taken in residence at the West campus. All upper-division courses in the minor must be completed with a minimum grade of "C" (2.00). Counting courses in the major and the minor is allowed; however, certain major and minor combinations may be deemed inappropriate by the academic unit or department of the major or minor. Inappropriate combinations include (but would not be limited to) ones in which an excessive number of courses in the minor are simultaneously being used to fulfill requirements of the student's major (e.g., major in Integrative Studies with a concentration in sociology and a minor in Sociology). Some West campus departments may have more specific or stringent requirements for minors.

For a list of the minors available at the West campus, refer to the "West Campus Minors" table, page 654.

Certificates

Students may pursue some certificate programs along with a major and other certificate programs independently.

For certificate programs offered at the West campus, at least 50 percent of the semester hours required to earn a certificate must be West campus resident credit. All course work in the certificate must be completed with a minimum grade of "C" (2.00) or higher. Some departments may have more specific or stringent requirements for certificates.

University-wide ASU programs (e.g., Certificate in Gerontology) are the only exceptions to this policy. Courses completed on any ASU campus fulfill the resident credit requirements for the certificate.

For a list of the certificates available at the West campus, refer to the "West Campus Certificates" table, on this page.

STUDENT GRIEVANCES

Appeal procedures vary from one ASU campus to another. The following procedures apply to students enrolled in West campus degree programs and courses.

Petition for Variance from University-Wide Academic Requirements

The Campus Standards Committee advises the vice president and provost for the West campus regarding undergraduate student petitions that concern university-wide academic requirements. These requirements include but are not limited to requirements on the amount of transfer credit, undergraduate admissions decisions, graduation requirements, resident credit requirements, and general studies requirements. To petition for a variance of such university requirements, students should discuss the matter with an academic advisor and complete a petition form. The petition is reviewed by the relevant unit-level administrator and committee before being forwarded to the Office of the Associate Vice Provost for Academic Programs and Graduate Studies.

Grade Appeals

The professional responsibility for assigning grades is vested in the instructor of the course, and requires the careful application of professional judgment. However, the following grievance process allows deans to change a particular grade if evidence presented in the process warrants such a change.

It is university policy that students filing grievances and those who provide support for the student are protected from retaliation. Students who feel that they are victims of retaliation should immediately contact the dean of the academic unit in which the course is offered.

The grade appeal process follows the steps described below. "Day" is defined as a normal business day, not including Saturday, Sunday, or any officially recognized university employee holiday or campus closure.

1. A student wishing to appeal a grade must first meet with the instructor who assigned the grade to try to

resolve the dispute. The instructor must review the matter in good faith, explain how the original grading decision was made, and decide whether to change the grade in response to the student's appeal. The instructor must respond to the student's request for a meeting in writing, via phone, or by e-mail within 10 days. If the grade dispute is not or cannot be resolved to the satisfaction of the student via this meeting, within 10 days after receiving the instructor's response the student may appeal to the program chair/director. (If the program chair/director is also the instructor and/or responsible for the disputed grade, the student may appeal directly to the campus Academic Grade Appeals Committee.)

2. Within 10 days after receiving the appeal, the program chair/director confers with the student and the instructor to try to work out a mutually acceptable resolution to the dispute. If the grading dispute is not resolved to the satisfaction of the student, within 10 days after receiving the program chair/director's response the student may appeal to the Academic Grade Appeals Committee. Appeals must be made in writing, with a separate document submitted for each grade being contested. Each appeal must provide the name of instructor, course section, semester taken, grade received, and attempts made to resolve the situation.
3. Both the student and the instructor are invited to appear before the committee within 20 days after the committee receives the appeal. The committee shall operate under written procedures that satisfy due process requirements. The committee considers all of the evidence bearing on the dispute and then decides by majority vote whether the grade should be changed. The committee then sends its recommendation to the dean of the academic unit where the course was offered.
4. Within 15 days of receiving the committee's recommendation, the dean makes the final decision in the case after full consideration of the recommendation and a review of pertinent materials. If the dean determines that a grade change is warranted, the grade change may be made either by the instructor or by the dean. The dean notifies the student, instructor, program chair/director, and the Academic Grade Appeals Committee of the final outcome of the case.

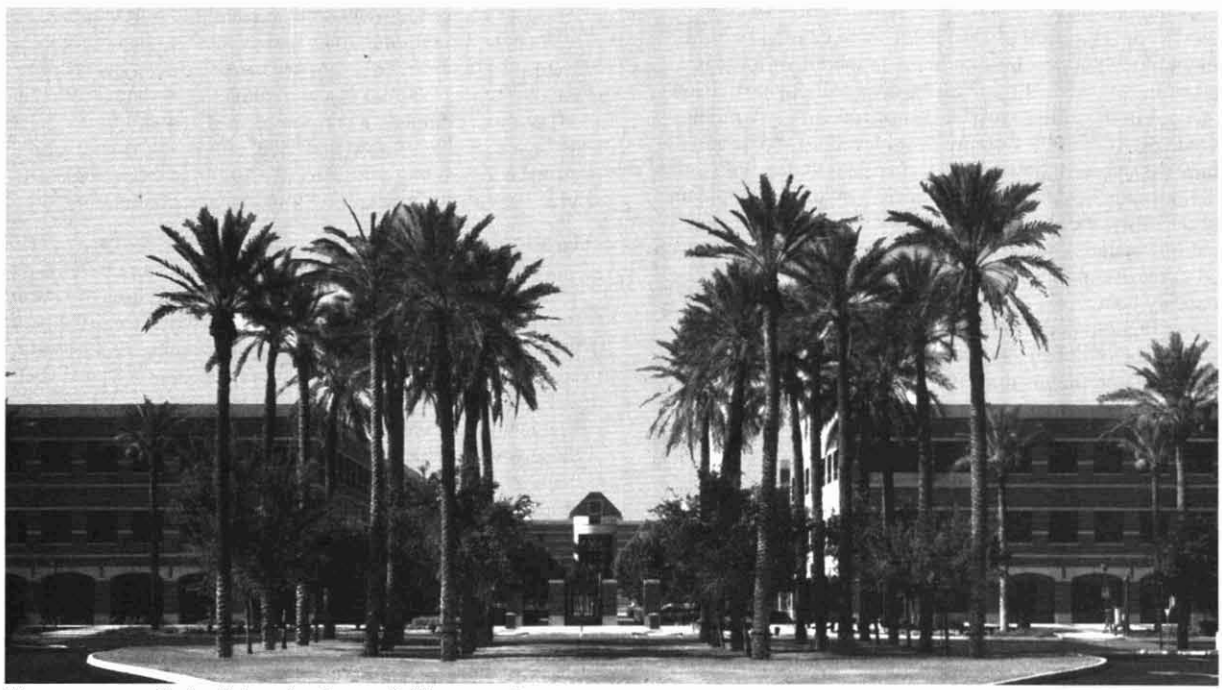
For summer session or fall semester grade appeals, the student must contact the course instructor within 60 days after the last day of instruction of the session or semester. To appeal a spring semester grade, the student must contact the instructor within 60 days after the first day of instruction of the following fall semester.

For more information, regarding the campus Academic Grade Appeals Committee, call 602/543-4567, or visit the Academic Programs and Graduate Studies Office, FAB S301.

SCHOOL OF EXTENDED EDUCATION

The university-wide School of Extended Education provides an interactive link between ASU and the diverse communities it serves. The college assesses lifelong learning requirements and works in partnership with campuses, other colleges, and the community to serve learners, using a network of locations, programs, schedules, and technologies.

For more information, see "School of Extended Education," page 134, or access the Web site at www.asu.edu/xed.



West campus with the University Center Building and Faculty and Administration Building in the foreground Mark Boisclair photo

West Campus and Student Services

Campus and Student Services 657
Campus Facilities 662
West Campus Housing 662

CAMPUS AND STUDENT SERVICES

Admissions and Registration Services

Admission and Registration Services, located in UCB 120, provides students with a central location for all admission, academic records-related functions, and class registration processes.

For more information or assistance, call 602/543-8203, or access the Web site at www.west.asu.edu/registrar.

ASU Alumni Association—West Campus Chapters

Staying involved with the ASU Alumni Association helps preserve your lifelong connection to the university that honors your past, respects your present and supports your future. By joining the association you can stay in touch with friends, build career connections, network within your profession and serve your community. Most major academic areas are represented with alumni chapters. At the West campus, there are several alumni chapters, including College of Teacher Education and Leadership Alumni Chapter; Communication Studies Alumni Chapter; Criminal Justice and Criminology Alumni Chapter; Department of Social Work Alumni Chapter; New College Alumni Chapter; School of Global Management and Leadership Alumni Chapter; and MBA Alumni Chapter.

Students can enjoy the benefits of joining an alumni chapter before graduation. Call 602/543-ALUM (2586), or access the Web site at www.west.asu.edu. Click on "Alumni" for more information.

Associated Students

Associated Students of ASU at the West campus is the student government of the campus. It is the official representative of the student body in matters of campus governance. Programs and services include the promotion of campus clubs and organizations, active participation in political activities affecting the university, provision of student representation on campus committees, and the sponsorship of cultural, educational, and social activities. For more information, call 602/543-8186 or access the Web site at www.west.asu.edu/asasuw.

ASU Shuttle Service

The ASU Express is a shuttle bus that makes regular trips between the Tempe campus and West campus and between the Tempe campus and Polytechnic campus during regular semesters. Trips are scheduled Monday to Thursday between 6:10 A.M. and 9:45 P.M. and on Friday between 6:10 A.M. and 5:45 P.M. Books of ten tickets are available from the West campus Cashier's Office and Parking Services. For more information, and ticket prices, call 602/543-PARK or access the Web site at westcgi.west.asu.edu/adaff/auxs/parking.

Bookstore

The West campus Bookstore offers new and used textbooks, course packets, computer hardware and software, general books, magazines, newspapers, general supplies, ASU insignia clothing and gifts, class rings, and graduation supplies. As a complimentary service, merchandise may be transferred from the Tempe campus Bookstore upon request.

The bookstore is located in the UCB 140. Regular hours are Monday - Thursday, 9 A.M. to 6 P.M. and Friday, 9 A.M. to 5 P.M. The bookstore is open for extended hours at the beginning of each semester. For more information, call 602/543-6800 or access the Web site at bookstore.asu.edu.

Career Services

Students are encouraged to acquire skills, knowledge, and support for their career planning and personal development, thus enhancing chances of success in life.

A wide variety of workshops, groups, and special events are offered throughout the year. Resource room materials and self-paced computerized career guidance tools are available. The Sun Devil Career Link Program offers students job and internship interviews. For more information, call 602/543-8124, visit UCB 320, or access the Web site at www.west.asu.edu/cspc.

Child Development and Family Studies Center

In partnership with Phoenix Headstart and West campus, the Child Development and Family Studies Center's Lab School integrates full-time and part-time preschool child care and education into the research, teaching and service missions of the campus. The children's educational enrichment program incorporates features of the most successful national preschool education programs and promotes the experience and expression of cultural diversity. The center is an important adjunct to faculty research and teaching activities in psychology, family studies, early childhood development, curriculum, and education.

The Child Development and Family Studies Center's Lab School is accredited by the National Association for the Education of Young Children (NAEYC). NAEYC accreditation is a rigorous, voluntary process by which early childhood education programs demonstrate that they consistently meet national standards of excellence.

For more information, call 602/543-5437, visit UCB 190, or access the Web site at www.west.asu.edu/cdc.

Computing Facilities and Services

Information Technology offers state-of-the-art computing facilities for use by students, faculty, and staff. A pervasive high-speed communications network provides access to

university servers and to the Internet. Classrooms are equipped with DVDs/VCRs, access to television and satellite broadcasts, projectors, and networked computers for presenters. Some classrooms are equipped with computers for every student.

Technopolis, a student computing access center located on the lower level of Fletcher Library, contains networked PC and Macintosh microcomputers and high-quality peripherals such as laser printers and scanners. Adaptive technology for students with disabilities is available. A wide variety of software is provided. Information and help for computer users are available at the center. For more information, call Technopolis at 602/543-8278 or access the Web site at www.west.asu.edu/it.

Consortium for Interdisciplinary Projects and Residencies in the Arts

The Department of Interdisciplinary Arts and Performance (IAP) sponsors Interdisciplinary Projects and Residencies in the Arts. Under this sponsorship, practicing professional artists engage their creative work with the curriculum and share their perspectives with the public through courses, workshops, and performances. The IAP department also produces numerous artistic events each year, which are open to the public, featuring artist/faculty, visiting artists, students, and regional artists. For more information about performance events, call 602/543-ARTS.

Copy Services

A variety of services are available from the Copy Center, located in the lower level of the FAB B23. The Copy Center has high speed, high quality multifeatured photocopy machines and is able to provide high quality images, digital printing, duplexing, saddlestitching, covers, and tab inserts with minimal turnaround time. The center provides course packets and copyright permission acquisition services. Other services include spiral binding, steel back binding, padding, laminating, custom cutting, poster making, color copies, shrink-wrapping, thermal transfers, personalized mouse pads, puzzles and T-shirts, and FAX service. Copy Center hours are 7 A.M. to 6 P.M. Monday to Thursday and 8 A.M. to 5 P.M. Friday. For more information, call 602/543-5575 or access the Web site at westcgi.west.asu.edu/adaff/auxs/copyservices/index.cfm.

Credit Union

The Arizona State Savings and Credit Union has a branch office located in the Welcome and Information Building. The organization offers a full range of services, including savings and checking accounts, loans, insurance, Costco memberships, a vehicle buying assistance service, a telephone account access system, automated teller machines and more. All ASU students, employees and their families are eligible for membership. For more information, call 602/644-4620 or access the Web site at www.azstcu.org.

Devils' Den Game Room

The Devils' Den is located in the second floor Student Lounge of the University Center Building. It is furnished with air hockey, foosball, ping-pong, and pool tables. Equipment for these games may be checked out through the ASASUW office located in UCB 226. A current ASU ID card is required to check out equipment. For more information, call 602/543-8186.

Margaret Francis Disability Resource Center (DRC)

ASU is committed to providing a fully integrated and accessible environment for students with disabilities. Professional staff assist students in obtaining the services and support needed to succeed at the university. The following are examples of academic accommodations which may be secured through the DRC, as appropriate: testing accommodations (including proctors, readers, and scribes), interpreters, notetakers, adapted course materials, and adaptive technology.

Students with disabilities are encouraged to contact the DRC at the beginning of the admission process to discuss service needs. Disclosure of a disability to the university is optional and confidential. However, for students requesting accommodations, qualifying documentation must be provided to the DRC to substantiate the need for these accommodations. The Disability Resource Center is located in the UCB 130.

For more information, call 602/543-8145, TDD 602/543-4327, or access the Web site at www.west.asu.edu/drc.

Event Scheduling

An event is any meeting, seminar, or activity that is not an ASU credit course. Reservation forms for registered student organizations are available at Student Life, UCB 221, 602/543-8200. Event requests for other on-campus groups should be sent by e-mail to eventschedule@asu.edu at least five working days in advance of the event. Space is available on a first-come, first-serve basis. For more information, call Events and Meeting Services at 602/543-7740. AV/media support is provided through Event Scheduling.

Campus catering services must be used for all activities held on campus or paid for with university funds. For more information and help in planning food events, call 602/543-3663.

Financial Aid Services

The Financial Aid Services office, located in the University Center Building 120, provides information and services about need based and non–need-based grants, scholarships, loans, and employment opportunities.

All students seeking financial assistance must complete the FAFSA (Free Application for Federal Student Aid) annually. See the "Financial Aid" section of this catalog. For more information, call 602/543-8178 or access the Web site at www.west.asu.edu/financialaid or asu.edu/fa

Food Services

Food service is provided at Cafe West on the first floor of the UCB west wing. A diversified menu is available for breakfast, lunch, and dinner Monday through Friday. Normal hours of operation are 7 A.M. to 6:30 P.M. Monday through Thursday and 7 A.M. to 3 P.M. Friday. Catering services are available for functions held on campus. For more information, call 602/543-3663 or access the Web site at westcgi.west.asu.edu/adaff/auxs/foodservices.

The Sand Trap, located in SANDS 115, provides grab and go drinks, sandwiches, salads, and snacks plus a Starbucks coffee bar. Hours are Monday to Thursday 9 A.M. to

8:30 P.M., Friday 9 A.M. to 2 P.M., and Saturday 9 A.M. to 2 P.M.

Graduate Studies

The Graduate Studies Office provides students and faculty with application materials, information regarding academic programs, assistance with the application process, and information on Graduate Studies policies and procedures. Information on hiring and management of graduate assistants, program of study, faculty serving on thesis and dissertation committees, graduate academic and tuition scholarships, graduate assistants orientations, and information workshops can also be obtained through the Graduate Studies Office. For more information, call 602/543-4567, visit the office, FAB S301, or access the Web site at westcgi.west.asu.edu/acadaffairs/gradstudies.

International Programs Office/Study Abroad and Exchange Programs

ASU offers study abroad and exchange programs in nearly 50 countries. Information on study abroad is available through Multicultural Student Services (see, "Multicultural Student Services," on this page). Study Abroad 101 information sessions are offered each semester. Students can also call the International Programs Office (IPO) at 480/965-5965 or access the IPO Web site at ipo.asu.edu. Application deadlines are generally March 1 for fall and October 1 for spring programs. The *Summer Sessions Bulletin* is available in March and includes information about summer and winter study abroad programs.

Learning Enhancement Center

The Learning Enhancement Center's peer tutors and writing coaches offer collaborative support to promote students' academic success. LEC resources include a walk-in lab for studying and completing homework for math, science, and business classes. Lab tutors respond to questions or offer clarification for course material. Tutors also conduct small group tutoring and workshops for some classes. In addition, LEC writing coaches offer students an opportunity to discuss writing conventions for application to their own written communication. The LEC is located in FLHLB LL2. For more information, call 602/543-6151 or access the Web site at www.west.asu.edu/lec.

Library Services

Fletcher Library provides resources that support the curriculum of the West campus with a collection of 335,000 volumes, 1.5 million microforms, 9,600 videos and DVDs, and 15,000 slides. As participants in the shared resources environment of ASU libraries, users may access more than 50,000 print and e-journals and nearly 4.1 million monographic titles. Approximately 95 percent of electronic databases are available to ASU registered users from home computers.

The Library is open seven days a week to meet the informational needs of the campus community. Knowledgeable staff members are available to provide reference service and instruction in the use of the Library's considerable resources. Individual consultations with subject specialist librarians are available by appointment. The library instruction program provides introduction to the tools and resources available for research in an academic discipline, including Internet resources.

A wide range of information and research tools, most accessible from off-campus, are available through the Fletcher Library Web site at library.west.asu.edu. For library hours and information, call 602/543-8501.

Mail/Postal Services

In addition to processing incoming and outgoing university mail and providing an inter-campus courier service, first class, priority mail, parcel post, certified, registered, and special delivery services are also provided by Mail Services. Padded manila and utility mailing envelopes and U.S. postage stamps are available for purchase through the Mail Services station as are fax transmissions and receipts. Mail Services hours are 9 A.M. to 4 P.M. Monday through Friday. They are located in CSC. For more information, call 602/543-POST or access the Web site at westcgi.west.asu.edu/adaff/auxs/property/mail.cfm.

Multicultural Student Services

Multicultural Student Services (MSS) provides programs that help build a greater understanding and appreciation of cultural diversity. New student orientation, cultural activities, workshops and opportunities for student involvement in campus life assist students to achieve personal, educational, and developmental goals. The Multicultural Student Services Office is located in the UCB 220. For more information, call 602/543-8148 or access the Web site at www.west.asu.edu/multicultural.

International Student Services. The mission of the International Student Services is to provide support services that meet the unique needs of international students throughout their academic program and to support campus and community activities that promote international awareness and enrich the educational experiences of all students.

Services include advising international students on immigration and visa matters, admission procedures and credentials evaluation, international student orientation, information workshops, and cultural activities. Undergraduate students may contact Multicultural Student Services at 602/543-8201 or visit UCB 220. Graduate students should call 602/543-4567 or stop by the FAB S301E. For more information, access the Web site at www.west.asu.edu/international.

Kids' Evening Enrichment Program. Kids' Evening Enrichment Program offers learning enrichment activities for children, ages six to 12, of West campus evening students. For more information, call 602/543-8010 or access the Web site at www.west.asu.edu/multicultural/KEEP.

Native American Student Services. Native American Student Services (NASS) assists Native American students to obtain a university education by providing outreach and retention services and activities which facilitate their academic success and graduation. Student services include assisting with the transition into the university by providing one-to-one information and support regarding tribal financial aid opportunities, communication resources, and referrals to campus services. For more information, call

602/543-8138 or access the Web site at www.west.asu.edu/nativeamerican or UCB 220C.

Parking Services

Parking permits. All students, faculty and staff are required to have a current West campus parking permit in order to utilize the parking lots on campus. West campus parking permits may be purchased at www.west.asu.edu/adaff/auxs/parking or at the Parking Services office in WIB. The annual cost for a parking permit is $75. The cost is prorated if purchased after September 7th. Payment for permits may be made by cash, check, VISA, or MasterCard. New permits are required for each academic year.

Prorated refunds will be given upon request if permits are returned before the close of business on the last business day of April. Photo ID will be required for refunds.

West campus permits are valid in Lot 59 at the Tempe campus and in some lots at the Polytechnic campus. Tempe campus and Polytechnic campus parking permits are valid in student lots at West campus.

Parking lots are designated for specific types of permits. Parking maps (available at the Information Desks and Parking Services) and signage at each lot indicate which type of permit is appropriate for each lot. Visitors are encouraged to park in the visitor lot west of 47th Avenue, north of WIB.

For more information, on parking services, call 602/543-PARK (7275) or access the Web site at westcgi.west.asu.edu/adaff/auxs/parking.

Residential Life

Residential Life is committed to establishing a living and learning environment by developing programs that promote academic success and personal development while providing attractive, accessible facilities that meet the needs of the campus community.

The 400-bed residential community, Las Casas, features two 3-story buildings of apartment-style residential units with full kitchens, laundry facilities, a multipurpose room and computer lab, sand volleyball, a swimming pool, and parking. Amenities include tutoring services, in-room Internet access, coordinated educational and social activities, and easy access to campus resources. For more information, call 602/543-CASA (2272), or access the Web site at www.west.asu.edu/lascasas.

Statistics Laboratory

The Statistics Laboratory (Stat Lab) provides support and supplementary instruction for students who are involved in courses or projects requiring the use of quantitative research methods. The Stat Lab provides access to statistical software and technical assistance in the application of the software for West campus students. The Stat Lab is located in CLCC 107. For more information, call 602/543-6117, or access the Web site at www.west.asu.edu/statlab.

Student Accounts

Fee payment and cashiering are services of Student Accounts, located in the UCB 101. Student Accounts is open for business 9 A.M. to 6 P.M. Monday to Thursday and 9 A.M. to 4 P.M. on Friday.

The Fee Payment section is responsible for the acceptance of tuition payments from registered students, assistance with accounts receivable matters and disbursement of pre-approved financial aid checks.

The Cashier's Office handles all cash transactions, graduate application and graduation fees, plus requests for official transcript payments and shuttle tickets. In addition, a personal check can be cashed for up to $50 per student per day. For more information, call 602/543-6709, or access the Web site at westcgi.west.asu.edu/adaff/fss/fssstudent.cfm.

Student Affairs

Student Affairs is responsible for the delivery of a variety of enrollment and student development services and programs in support of students' educational pursuits and extracurricular needs. Special attention is given to the enrollment and retention of a culturally diverse student population. Student Affairs' stated mission is to assess and respond to the enrollment, support, and development needs of students and to contribute to the learner-centered environment of the campus. The Dean of Student Affairs Office is located in the UCB 301. For more information, access the Student Affairs Web site at www.west.asu.edu/sa.

Student Counseling Services

Confidential professional counseling services are available to help ASU students achieve their academic goals by addressing a variety of problems and issues often faced in college. Professional help is offered in the following areas: psychological issues, personal concerns, relationship issues, career/life decision making, and crisis intervention. Individual and group sessions are available at no cost. To schedule an appointment or for more information, call 602/543-8124, or visit USB 320, or access the Web site at www.west.asu.edu/cspc.

Student Employment

Student Employment provides job opportunities, both on and off campus, for students who desire to work to meet their educational expenses. Students may be eligible for student hourly or Federal Work Study positions.

For more information about student employment or to view the jobs currently available, visit UCB 120, call 602/543-8178, or access the Web site at www.west.asu.edu/financialaid/stdemply.htm.

Student Health Insurance

Students have the option to purchase health insurance through the university. Specific information regarding the insurance, including cost and coverage, is available in Student Health Services located in UCB 170, at www.west.asu.edu/studenthealth, or by calling Student Health Services at 602/543-8019.

Student Health Services

All registered students are eligible to use Student Health Services, located in UCB 170. Services include, but are not limited to the areas of general medicine, women's health, mental health, health promotion and education, nursing triage, laboratory testing, immunizations, and limited pharmacy services. Contact Student Health at 602/543-8019 to schedule an appointment, or to receive information about student health insurance. For more information, access the Web site at www.west.asu.edu/studenthealth.

West campus, located in northwest Phoenix, serves more than 7,700 residential and commuter students. Tim Trumble photo

Student Life

The Student Life office encourages students to enhance their education by being actively involved in campus life. Several events and activities are held by Student Life to provide a holistic program that meets the social and co-curricular needs of students in the residence halls and on campus. The office also serves as a resource for student clubs and organizations and the Associated Students of ASU's West campus (ASASUW). Information about student rights and responsibilities and the ASU Student Code of Conduct can also be obtained in Student Life. Additionally, resources and information are available for off-campus housing, leadership training, and campus posting guidelines. For more information, call 602/543-8200, visit UCB 221, or access the Web site at www.west.asu.edu/studentlife.

Sun Card

The Sun Card office in UCB 140C provides ID cards for students and university employees. The fee for a Sun Card is $25.

Sun Dollars. Sun Dollars is a prepaid services account managed by the Sun Card office. It works as a bank debit card except that cash cannot be withdrawn (however, refunds are available when the card holder leaves ASU). Deposits are made to the account and then accessed by presenting the Sun Card to make purchases at the Bookstore, Food Services, Copy Center, and Fletcher Library. For more information, visit UCB 140C, call 602/543-5000, or access the Web site at www.suncard1.com.

Testing Services

Testing Services, located in the WIB 102, offers information on national and state qualifying examinations such as the GRE, GMAT, MAT, CLEP, LSAT, and MCAT. Regularly scheduled exams include CLEP and MAT. For more information or assistance, call 602/543-8136, or access the Web site at www.west.asu.edu/testing.

TRiO Academic Achievement Center

The TRiO Program provides undergraduate degree-seeking students with a comprehensive system of learning assistance resources. The resources are designed to strengthen academic success as well as complement a student's overall educational experience. Personalized assistance such as math and writing tutoring, career and graduate school advising cultural enrichment, faculty-student and community mentorships, and learning strategies for students, is offered to meet the diverse needs of our student population. Participation in the program is voluntary and free of charge.

Students must meet U.S. Department of Education eligibility requirements. For more information, call 602/543-8121, visit the program office, UCB 220, or access the Web site at www.west.asu.edu/trio.

Veteran Services

Veteran Services, located in the University Center Building 120, assists veterans eligible for VA educational benefits. Services include enrollment certification, benefits advising and assistance with the university admission and registration process. For more information, call 602/543-8220 or access the Web site at www.west.asu.edu/veteran.

Wellness and Fitness Facility

The Wellness and Fitness Facility, located in the lower level of the University Center Building, is available to students, faculty/staff, family members, and alumni on a fee for service basis. Students also have the option of taking credit classes in a variety of fitness programs. Non ASU-affiliated individuals may use the facility on a monthly or multiple monthly fee basis.

The 6,000 square-foot facility houses a fully equipped weight room, aerobics room, men's and women's locker rooms, and is accessible to individuals with disabilities. Amenities at the center include elliptical trainers, lifecycles, treadmills, stairclimbers, weight machines/free weights, and the capability to do fitness assessments and body composition analysis. A variety of specialty classes, including yoga and aerobics, are offered each semester.

The facility also lends recreation equipment to individuals with an ASU ID card for use on campus basketball courts, racquetball courts, sand volleyball courts, and the multipurpose soccer/football field. These facilities, located west of SANDS and south of UCB, are available at no charge to ASU and University-College Center faculty, staff, and students. For more information or to make reservations, call 602/543-3488, visit UCB B119, or access the Web site at westcgi.west.asu.edu/fitness.

Women's Studies Resource Center

As a multicomponent program of Women's Studies, the Women's Studies Resource Center supports research pertaining to local, national, and global issues in women's studies. The Center also promotes leadership opportunities, serves as a resource and action center, and acts as an advocate for women both within the university and in the larger community. The Women's Studies Resource Center is located in the UCB 323. For more information, call 602/543-3426 or access the Web site at www.west.asu.edu/ws/wrc.

CAMPUS FACILITIES

The West campus occupies 300 acres between 43rd and 51st Avenues on West Thunderbird Road in Phoenix. Its architecture and courtyards are modeled after those of the University of Oxford in Great Britain, enhanced by a beautifully landscaped natural environment featuring widely acclaimed public art. The core campus includes the following facilities:

Fletcher Library. With a seating capacity of 600 and space for 450,000 volumes, the 106,000 square-foot facility is a state-of-the-art information access center designed to take full advantage of electronic technology.

Sands Classroom Building. Containing 38 class and seminar rooms, the building provides an intimate atmosphere in which to exchange ideas.

Kiva Lecture Hall. The Kiva seats 100 to 200 and serves as an auditorium for a variety of programs, faculty lectures, and public forums.

Classroom Laboratory/Computer Classroom Building. Classroom Laboratory/Computer Classroom Building contains computer classrooms, science laboratories, studios for art, dance and music, a 150-seat lecture hall, and an astronomy platform located on the roof.

Faculty and Administration Building. Most faculty and administrative offices are located in this building. Classrooms are located in the basement of the east wing.

Faculty and Administration Building Annex. This temporary facility houses Human Resources and other administrative offices.

Las Casas Residence. Located in the northwest corner of the campus, the Las Casas student housing facility includes two three-story residential units, a community hall with dining and meeting facilities, and a swimming pool.

University Center Building. This facility houses admissions and records, an array of student assistance programs, health services, a preschool, and student activities. Other building facilities include food service, a bookstore, cashier and fee payment services, student lounges, an art gallery, a wellness/fitness facility, a black box theater, meeting rooms, and a divisible, multipurpose auditorium.

Welcome and Information Building. Located west of the 47th Avenue entrance, the Welcome and Information Building houses parking services, testing services, and a branch office of the Arizona State Savings and Credit Union.

WEST CAMPUS HOUSING

Residential Life at the West campus is committed to establishing a living and learning environment by developing programs that promote academic success and personal development while providing attractive, accessible facilities that meet the needs of the campus community. The living and learning program offers tutoring and other support services designed to assist all residents with their academic development. The 400-bed residential community, Las Casas, features two three-story buildings of apartment-style residential units with full kitchens, laundry facilities, a multipurpose room, a computer lab, a swimming pool, and sand volleyball. Amenities include basic cable, in-room Internet access, coordinated educational and social activities, and easy access to campus resources. For more information, call 602/543-CASA (2272), or access the Web site at www.west.asu.edu/lascasas.

The Barrett Honors College

westcgi.west.asu.edu/honors **Andrew Kirby, PhD, Associate Dean**

Benefits **663**
Admission **663**
Retention **663**
Course Requirements **663**
Honors Transcript Recognition **664**
Faculty and Courses **664**

The Craig and Barbara Barrett Honors College serves students seeking degrees at the Downtown Phoenix campus, the Polytechnic campus, the Tempe campus, and the West campus. For more information, see "The Barrett Honors College," page 145. Students take advantage of the university's full resources with the assurance of consistently distinguished teaching and research and with commensurately rigorous expectations for performance.

Participants in the Barrett Honors College have diverse interests and strong records of success. Many go on to the nation's finest graduate and professional programs.

The first two years of the honors curriculum typically focus on general studies. The second two years of upper-division study concentrate on the student's academic major and lead to graduation from both a disciplinary college and the Barrett Honors College. Participating in the upper-division curriculum involves the creation of an honors thesis. In conceiving and completing this project, each student works closely with a faculty mentor to identify and develop an original concept.

BENEFITS

Honors students working on the West campus enjoy the benefits of a smaller program and all the resources of the entire Barrett Honors community, including study abroad, research, and internship opportunities. College advisors help students plan individualized programs of study, and they receive priority at preregistration. Honors courses are normally limited to 20 students.

The Office of National Scholarship Advisement assists honors and other high-achieving students by identifying nationally competitive programs appropriate to each person's intellectual and career goals, nurturing these prospective applicants, and advancing their candidacy. Students who meet all requirements of the Barrett Honors College receive transcript recognition of their accomplishment as well as special acknowledgment in graduation ceremonies and honors convocations.

ADMISSION

Students who have demonstrated high levels of academic achievement at the high school, community college, or university level are encouraged to apply for admission to the Barrett Honors College. All candidates for admission must file a separate application to the college at honors.asu.edu.

Applicants to the West campus are evaluated on the basis of high school GPA and class rank, performance on the SAT or ACT, and other talents that constitute academic leadership and community service. Continuing ASU or transfer students are evaluated on their college GPA.

For more information, call Barrett Honors College at the West campus at 602/543-3410, or access the Web site at westcgi.west.asu.edu/honors.

RETENTION

Honors students must maintain high standards of academic performance and show progress toward completion of graduation requirements in their disciplinary majors and the Barrett Honors College. Students who fail to complete an average of one honors course in two semesters may be placed on inactive status. A student on inactive status within the college is not eligible for extended library privileges, early registration, or honors internship placement. Reinstatement to active status requires a formal application and an appointment with an honors advisor.

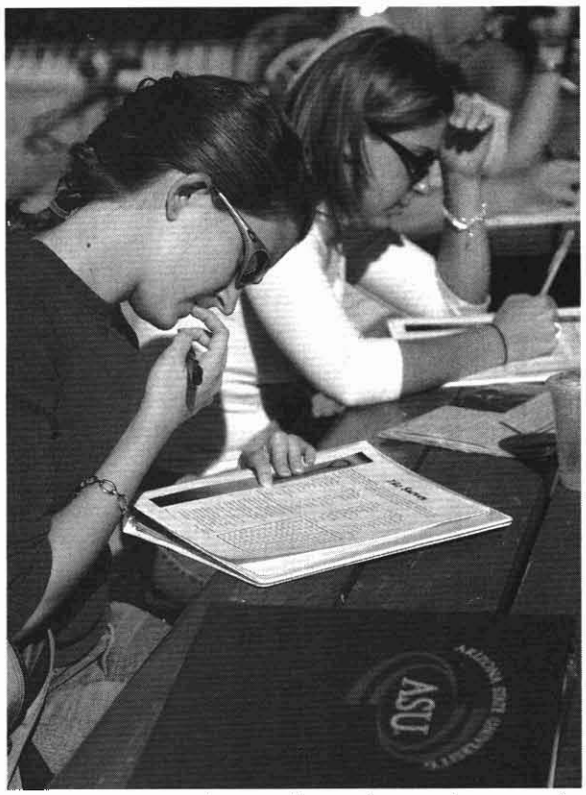
COURSE REQUIREMENTS

Only courses in which a student earns at least a grade of "C" (2.00) may be used to meet Barrett Honors College requirements.

Freshmen and students entering the college with fewer than 45 semester hours of course work must take HON 171 and 172 The Human Event. This cross-disciplinary seminar acquaints students with ideas that form the foundation of a university education and emphasize critical thinking, discussion, and writing.

Transfer students with 45 or more semester hours entering the college must take HON 394, a junior-level seminar that introduces them to critical thinking, discussion, and writing in an area chosen by the instructor. Honors students may also contract with instructors for honors credit in departmental courses by pursuing enrichment activities. When several students in the same section arrange such contracts, the instructor may require them to meet for supplemental sessions. These footnote 18 contracts must be filed

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.



The Phoenix area's pleasant climate allows students to study outside most days of the year. Tim Trumble photo

during the first four weeks of class during the semester in which the course is offered, or the first week of a summer session.

Departmental courses carrying footnote number 19 in the *Schedule of Classes* are limited to honors students and others who receive special permission from the instructor to enroll. Enrollment in these courses is limited to 25 students.

Departmental courses with the number 492 or 493 are reserved for honors students completing their honors theses or creative projects. A student may enroll for these courses only with the approval of the sponsoring academic department and of the faculty member who serves as the student's thesis director. Students may receive a maximum of six semester hours credit for an honors thesis or project, three semester hours of which may fulfill the student's literacy and critical inquiry (L) General Studies requirement.

All courses a student takes for honors credit count toward graduation, even if the student does not graduate from the Barrett Honors College.

HONORS TRANSCRIPT RECOGNITION

All courses used to fulfill graduation requirements for the Barrett Honors College must carry earned letter grades of "C" (2.00) or higher. A "Y" grade does not meet college requirements.

Lower Division. To receive transcript recognition for lower-division honors work, students must complete 18 semester hours of honors course work within 60 earned semester hours with a cumulative ASU GPA equal to or greater than 3.40 (4.00 = A). Courses *must* include HON 171 and 172 The Human Event. Courses that earn automatic honors credit, although not carrying a footnote number 19 in the *Schedule of Classes*, include any section of ENG 105, CHM 117 and 118, and MAT 290 and 291. *Note*: CHM 117 and 118, and MAT 290 and 291 are Tempe campus courses.

Students may apply upper-division honors course work toward lower-division requirements; however, those classes may not also be used to meet Barrett Honors College upper-division/graduation requirements.

Upper-Division/Graduation Requirements. To graduate from the Barrett Honors College, students must complete HON 171 and 172 The Human Event for continuing ASU or transfer students with fewer than 45 semester hours or HON 394 Special Topics for continuing or transfer students with 45 or more semester hours, and complete 18 additional semester hours of upper-division honors course work for an earned letter grade, which must include three to six semester hours of Honors Thesis and six semester hours outside the academic major and may include graduate courses.

The Barrett Honors College

westcgi.west.asu.edu/honors
602/543-3410
UCB 201

Andrew Kirby, Associate Dean

Professor: Kirby

Associate Professor: Ramsey

HONORS (HON)

For more HON courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W HON 171 The Human Event. (3)
fall
Landmarks in the social and intellectual development of the human race, with emphasis on Western civilization. Enrollment restricted to members of the Barrett Honors College.
General Studies: L/HU, H

W HON 172 The Human Event. (3)
spring
Continuation of HON 171, with emphasis on the Renaissance through the modern period. Prerequisite: HON 171.
General Studies: L/HU, H

W HON 394 Special Topics. (3)
fall and spring
Junior-level seminar that introduces students to critical thinking, discussion, and writing in various content areas.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

University College

www.west.asu.edu/uc **Afsaneh Nahavandi, PhD, Director**

Academic Advising **665**
Student Success and Engagement Programs . **665**
University Success Courses **665**
Student Development Workshops..... **666**
Peer-2-Peer Program **666**
Campus Match **666**
Summer Academy Program..... **666**
Orientation and Parent Programs **666**
GCC-ASU Partnership at the West Campus ... **666**

Academic discovery and community engagement are distinguishing characteristics of the University College at the West campus of ASU. The college extends university access to exploratory freshmen, transfer, and reentry students, and provides an opportunity to consider many academic options. High academic standards and individualized attention are hallmarks of University College academic advising, student success and engagement programs, and campus orientation and parent programs.

The University College includes these units at the West campus:

Academic Advising Office
Student Success and Engagement Programs
Orientation and Parent Programs
GCC-ASU Partnership at the West campus

ACADEMIC ADVISING

The Academic Advising Office provides professional academic advising for the following types of students:

1. exploratory freshmen who have not declared a major;
2. exploratory transfer students who have not declared a major;
3. all students in transition who have left a professional program and are exploring majors across the university; and
4. students who are part of the GCC-ASU Partnership at the West campus.

STUDENT SUCCESS AND ENGAGEMENT PROGRAMS

The Student Success and Engagement Programs unit is designed to support the success of all students through university academic success courses (such as UNI 101), student development workshops, Peer-2-Peer mentoring and advising, tutoring, and other programs such as Campus Match and Summer Academy.

The goal of Student Success and Engagement Programs is to actively involve students in their education and with the community in which they live and work by connecting them to the multitude of service and experiential learning opportunities offered at the West campus.

University Success Courses

The purpose of the UNI course is to assist first-year, transfer, and reentry students in making a successful transition to the university. Students learn about university resources, policies and procedures, study skills, values and goal setting, human diversity, academic and career planning, and other skills.

UNIVERSITY ACADEMIC SUCCESS (UNI)

For more UNI courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

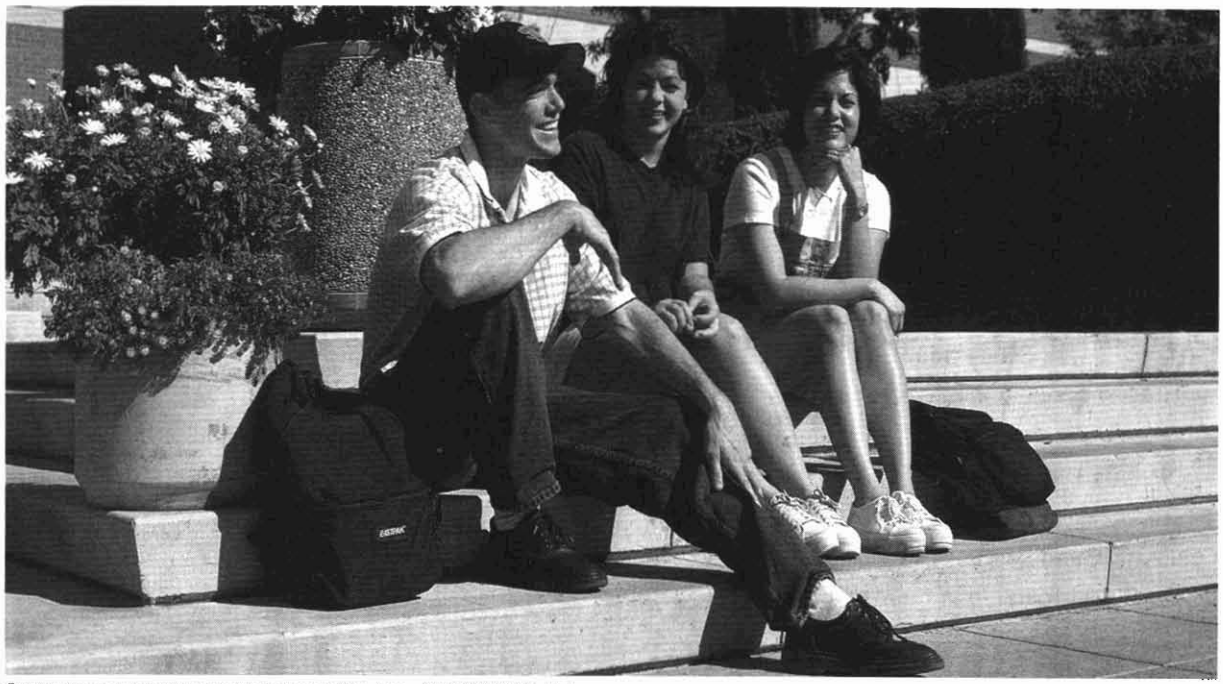
W UNI 101 Student Success Seminar. (1)
fall and spring
Understanding human diversity, perspectives, and values as they relate to student success. Orientation to ASU resources, study skills, and academic and social issues for students. Seminar, discussion.

W UNI 194 Special Topics. (1–4)
selected semesters
Topics may include the following
- Career/Major Exploration. (1)
  fall
  Topics include identifying personal and professional interests, exploring majors and occupations, developing self-marketing skills, and designing an effective academic and career strategy.
- Peer Program. (1)
  fall and spring
  Topics include understanding the purpose and role of peer mentors and advisors in other students' success, understanding the university catalog, developing skills to assist other students during orientation and registration.
- Tutor Training. (1)
  fall and spring
  Topics include effective tutoring strategies for various disciplines.

W UNI 294 Special Topics. (1–4)
fall
Topics may include the following
- Student Development Workshop. (1)
  Topics may include stress management, time management, financial planning, goal setting, cultural diversity.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.



Students relax between classes on the beautiful ASU West campus.

Scott Baxter photo

Student Development Workshops

Noncredit seminars are offered in the fall to support freshmen with their transition to university life. Topics include study skills, diversity, career exploration, stress and time management, goal setting, and financial management.

Peer-2-Peer Program

The Peer-2-Peer program provides an opportunity for upper-division students to work with freshmen and help them make a successful transition to the West campus. Participants can become either peer mentors and work with students on an informal basis, or peer advisors who are formally trained to provide basic academic advising. For more information or to become a peer advisor or peer mentor, call the University College at the West Campus at 602/543-4360.

Campus Match

Campus Match offers freshmen who are enrolled in large introductory classes the opportunity to register for a matching University Academic Success (UNI 101) course of no more than 15 students. The goal of the UNI course is to provide students with support and to build a sense of community in a smaller class environment. For more information, access the Web site at www.west.asu.edu/uc/campus-mat.htm.

Summer Academy Program

The Summer Academy Program was developed to address the needs of incoming freshmen who may be underprepared for the rigors of university classes. The program focuses on enhancing students' English and math skills. Students are invited to the Academy based on their high school GPA or ACT/SAT scores. For more information about the program, call 602/543-4600.

ORIENTATION AND PARENT PROGRAMS

Freshman Orientation provides a comprehensive online and on-campus program for all freshmen beginning their education at the West campus in the fall. Orientation programs begin in March and continue through August and are aimed at connecting new freshmen and their parents with university and campus resources as well as with the faculty, administration, and advisors from their colleges. For more information about freshman orientation, call 602/543-4600, or access the Web site at www.west.asu.edu/uc/orientation.

The Parent Programs unit offers a series of opportunities designed to connect parents to the life of the university, to one another, and to the campus through workshops, receptions and organized group activities. For more information about Parent Programs, call 602/543-4300, or access the Web site at www.west.asu.edu/uc/parent.htm.

GCC-ASU PARTNERSHIP AT THE WEST CAMPUS

Glendale Community College and ASU at the West campus have joined hands to create a partnership that offers freshman and sophomore GCC courses on the West campus. The partnership provides students who are thinking about completing a bachelor's degree the courses and information they need to make a seamless and efficient transition to the university in the shortest period of time.

In addition to offering classes that meet a variety of university general studies requirements, the GCC-ASU Partnership provides students access to all university support services such as the library, tutoring, the Las Casas residence halls, and student employment. For information, call 602/543-4222, or access the Web site at www.west.asu.edu/uc/ucc.htm.

School of Global Management and Leadership

www.west.asu.edu/sgml **Leanne Atwater, PhD, Interim Dean**

Accounting, Department of **671**
Economics, Finance, Marketing, and Quantitative Business Analysis, Department of **675**
Management, Department of **676**

PURPOSE

The School of Global Management and Leadership prepares students to become innovative and skilled business leaders in today's dynamic and global business economy, whether in their own community or elsewhere in the world. Faculty are experts in their fields who bring international research and current events into the classroom. The school's programs are accredited by AACSB International—The Association to Advance Collegiate Schools of Business—a distinction achieved by fewer than 350 schools around the world.

ORGANIZATION

The school houses the following academic units and the Institute for International Management:

Department of Accounting
Department of Economics, Finance, Marketing, and Quantitative Business Analysis
Department of Management

DEGREE PROGRAMS

See the "School of Global Management and Leadership Baccalaureate Degrees and Majors" table, page 668. The faculty of the School of Global Management and Leadership offer the Master of Business Administration degree program. For more information, see the *Graduate Catalog*, or access the school's Web site at www.west.asu.edu/sgml.

CERTIFICATES

See the "West Campus Certificates" table, page 655.

BACCALAUREATE DEGREE PROGRAMS

The school offers baccalaureate programs in Accountancy, Global Business, and Leadership in International Management (LIM). The Accountancy program provides the foundational requirements for professional certification in accounting. The BS in Global Business and the BS in LIM provide two very different learning experiences for West campus students. Students in the new LIM program are drawn to the advantages of the foreign language component and international exposure for their career preparation. For other students, the flexibility of being able to attend part-time and not being away from family make the Global Business program a better match. The goal of the SGML is to provide programs that meet student needs as well as the demands of the industry.

Nature of Program

The undergraduate curriculum has been devised so that the student completes 50 percent of work in general education and other nonbusiness courses and 45 percent in courses offered by the School of Global Management and Leadership, with the remaining 5 percent selected from either area by the student in consultation with his or her advisor.

Admission to the Professional Programs

The School of Global Management and Leadership offers the upper-division level of the undergraduate curriculum. Admission is awarded to those applicants demonstrating the highest promise for professional success.

The admission requirements for the professional programs in Accountancy, Global Business, and LIM are enumerated in each program section.

For more information, call the school's Undergraduate Program Advising Office at 602/543-6200.

To be accepted for credit as part of the academic program in business, all courses transferred from other institutions must carry prerequisites similar to those of the courses they are replacing at ASU.

Nondegree and Nonbusiness Students

Nondegree and nonbusiness students may be permitted to enroll in selected 300-level business courses only during online registration and only if, (1) the student has an ASU cumulative GPA of at least 2.50 and an ASU cumulative business GPA of at least 2.50 at the time of online registration, or (2) the student has never attended ASU, in which case he or she is given a one-semester period to register during online registration and to establish a GPA at ASU. Students must meet all prerequisites and course requirements as listed in the catalog. Course registration must be approved by a school representative.

Nondegree and nonbusiness students are limited to a maximum of 15 semester hours of selected upper-division business courses (excluding economics courses).

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

School of Global Management and Leadership Baccalaureate Degrees and Majors

Major	Degree	Concentration*	Administered By
Accountancy	BS	—	Department of Accounting
Global Business	BS	Financial management, leadership and management, or marketing	School of Global Management and Leadership
Leadership in International Management	BS	—	School of Global Management and Leadership

* If a major offers concentrations, one must be selected unless noted as *optional.*

Transfer Credit

Freshman- and sophomore-level courses (numbered 100 to 299) at a community college or another four-year university will not be accepted as transfer credit in the upper-division program.

Professional business courses taught in the junior or senior year in the three state universities may not be completed at a two-year college for transfer credit in the business core or major. A maximum of nine semester hours of upper-division business credits may, upon approval, be transferred from the Tempe campus or from another AACSB-accredited four-year institution.

An Associate in Transfer Partnership Degree is available to Maricopa County Community College students who wish to complete their first two years of course work at a Maricopa County Community College and transfer to the School of Global Management and Leadership without loss of credit. The Arizona Associate in Business degree is also available for transfer to any business program at an Arizona state-funded university without loss of credit. A student should consult with an academic advisor in the School of Global Management and Leadership to assist in planning his or her program.

Degree Requirements

Students seeking a Bachelor of Science (BS) degree in the School of Global Management and Leadership must satisfactorily complete a curriculum of 120 semester hours.

Specific requirements for the BS degree in Accountancy, Global Business, and LIM are explained under the respective academic program sections.

University General Studies Requirements

All students pursuing a baccalaureate at ASU must successfully complete a minimum of 35 semester hours of approved general studies courses. Courses completed in the business major, as well as selected courses required for admission to the BS degree program can be applied toward meeting the university General Studies requirement. Students should consult with their advisor when selecting courses to fulfill the General Studies requirement.

Additional Graduation Requirements

In addition to completion of the courses outlined above, to be eligible for a BS degree in the School of Global Management and Leadership, a student must have

1. attained a cumulative GPA of 2.00 or higher for all business courses taken at this university and for all courses for the concentration/major taken at this university;
2. earned at least 50 percent of the business semester hours required for the business degree in resident credit at the West campus; and
3. earned a grade of "C" (2.00) or higher in all upper-division business courses required for the major or concentration.

Pass/Fail

School of Global Management and Leadership undergraduate students may not include among the semester hours required for graduation any courses taken at this university on a pass/fail basis. This policy excludes some courses such as internship, which may be offered only for satisfactory/fail credit.

ACADEMIC STANDARDS

The following are minimum academic standards applicable to all degree and certificate programs offered by the School of Global Management and Leadership. Some programs may have more specific or more stringent requirements.

Probation

Students are placed on probation when their GPA for all courses taken at ASU drops below a 2.00 minimum.

Disqualification

Probationary students have at most the next two consecutive semesters to raise their ASU GPA to the minimum 2.00 or higher. In the first semester of probation the student must receive a grade of "C" (2.00) or higher in all courses and have a GPA of at least 2.50 for the semester. Immediate disqualification occurs if either of these conditions are not met. If both are satisfied but the GPA for ASU courses still remains below 2.00, then the student may be given a second semester under probation to raise the GPA to the minimum. The student is disqualified from the business program if the ASU GPA has not been restored to at least 2.00 after the two semesters.

Reinstatement

The School of Global Management and Leadership does not accept applications for reinstatement until the disqualified student has remained out of the college for at least a 12-month period. Merely remaining in a disqualified status for the above period of time does not, in itself, constitute a basis for reinstatement. Evidence of ability to do satisfactory academic work is required.

Students who have been academically disqualified are permitted to enroll in courses during summer sessions in

order to raise their ASU GPA. Disqualified students may not enroll in upper-division business courses until they have been reinstated in a business program.

Academic Dishonesty

School of Global Management and Leadership students are expected to adhere to the ASU Academic Integrity Policy. A copy of the policy may be obtained from the school's Advising Office.

GLOBAL BUSINESS—BS

Nature of Program

The Global Business degree program establishes the foundation for understanding the entire business enterprise operating in a global economy. The program emphasizes real-world skills, such as conflict management, team building, diversity awareness, and problem solving, by integrating innovative courses into its curriculum.

The Global Business curriculum is composed of a global business core, a business concentration, and focused liberal studies courses. The core courses integrate concepts to develop the understanding of how businesses operate and how to make decisions in the global marketplace.

Each student's degree program includes courses in a specialized area of interest in business. The focused liberal studies courses are directly linked to global awareness, understanding diverse customers and markets, communication, and problem solving skills.

Career Outlook

The Global Business major is designed for students seeking careers in a variety of domestic business organizations as well as those focused on worldwide business activity. Opportunities for graduates exist with both large and small employers. Most career-related positions tend to be in private firms, followed by government agencies, and by nonprofit organizations. The program emphasizes the analysis of business environments, and related business practices and issues. In addition, the global business program serves as an excellent foundation for graduate study in business and for the study of law.

To further enhance the program of study, the ASU Global Business major provides a professional career development component that is integrated into the degree program and requires each student to participate in several workshops/seminars each semester.

Admission

To be considered for admission to the Global Business program, the student must be admitted to the West campus and must have

1. completed a minimum of 57 semester hours of the lower-division requirements for the degree at ASU or a regionally accredited college or university, or the Arizona Associate of Business degree, or the Associate in Transfer Partnership degree;
2. attained a minimum cumulative GPA of 2.50; and
3. completed the following required courses with a grade of "C" (2.00) or higher in each course:
   a. ACC 230 Uses of Accounting Information I or a Financial Accounting course (3 hours)
   b. ACC 240 Uses of Accounting Information II or a Managerial Accounting course (3 hours)
   c. CSE 180 Computer Literacy *CS*
   d. ECN 211 Macroeconomic Principles *SB*
   e. ECN 212 Microeconomic Principles *SB*
   f. ENG 101, 102 First-Year Composition
   g. MAT 119 Finite Mathematics *MA*
   h. MAT 210 Brief Calculus *MA*
   i. PGS 101 Introduction to Psychology *SB*
   j. QBA 221 Statistical Analysis *CS*
   k. SOC 101 Introductory Sociology *SB*
   l. two SQ laboratory science courses or an SQ and an SG laboratory science course (8 hours)
   m. a course in oral communication (3 hours).

Major Requirements

Upper-Division Business Core

ACC	346	Information Systems Management	3
FIN	301	Fundamentals of Finance	3
GLB	301	Business in the Global Environment *G*	4
GLB	302	Culture and Diversity Management	3
GLB	303	Relationship Management	3
GLB	401	Global Business Integration *L*	4
MGT	301	Principles of Management	3
MKT	301	Fundamentals of Marketing	3
OPM	301	Operations Management	3
Business elective or internship			4
Total core			33

Focused Liberal Studies. Select 15 upper-division semester hours from the following areas.

Ethics

Choose one of these two 3

- PHI 306 Applied Ethics *HU* (3)
- PHI 360 Business and Professional Ethics *HU* (3)

Creativity

Choose one of the following courses 3

- COM 422 Argumentation, Critical Reasoning, and Public Communication *L* (3)
- IAP 331 Performance, Acting, and the Individual (3)
- IAP 335 Vocalization and Movement (3)
- IAP 352 Seeing and Drawing (3)
- IAP 442 Movement and Music (3)

Writing

Choose one of the following courses 3

- ENG 301 Writing for the Professions *L* (3)
- ENG 311 Persuasive Writing *L* (3)
- ENG 323 Rhetoric and Grammar *L* (3)

Global/Regional/American Studies

Choose one global/regional studies course and one American studies course from the following courses 6

- AMS 311 History of American Systems since 1865 *H* (3)
- AMS 321 American Cultural History II *SB, H* (3)
- AMS 330 Introduction to American Lives *HU* (3)
- ASB 340 Migration and Culture *SB, G* (3) or SOC 328 Migration *SB, G* (3)
- ASB 440 Women in the Global Factory *SB, G* (3)
- HIS 356 World History Since 1500 *G, H* (3)

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

HIS 394 ST: Japan (3)
HIS 423 Mexico *SB, H* (3)
LSC 330 Pollution vs. Protection: Counting the Cost *G* (3)
POL 350 Comparative Politics *SB, G* (3)
POL 360 World Politics Theory *SB, G* (3)
POL 361 American Foreign Policy *SB* (3)
POL 430 Race and Politics in the Americas *SB, C* (3)
POL 435 Women, Power, and Politics *SB, C* (3)
POL 453 Latin American Cities *SB, G* (3)
POL 454 Mexico: Politics, Economy, Cultures *SB, G* (3)
POL 460 Politics of Globalization *SB, G* (3)
or SOC 457 Social Movements and Social Change *SB, G* (3)
POL 464 Border Cities: Action Research on Globalization *SB, G* (3)
POL 486 Global Political Economy *SB, G* (3)
SBS 450 Topics in Local/Global *SB, G* (3)
SOC 352 Social Change *SB, G, H* (3)
SOC 364 Popular Culture *SB* (3)
WST 487 Gender and International Development *SB, G* (3)

Total focused liberal studies 15

Concentrations

Each student's degree program includes one of the following areas of concentration: financial management, leadership and management, or marketing. Each concentration consists of 12 semester hours.

Honors Thesis

With the approval of the thesis advisor, honors students may substitute the Honors Thesis for one course in the concentration.

Financial Management Concentration

The objective of the financial management concentration is to prepare students to enter a career in finance. Students will get an in-depth look at the quantitative and qualitative aspects of the analytical tools needed to make financial decisions. Emphasis is on domestic and global capital market institutions and securities.

The financial management concentration consists of four required courses as follows:

ACC 410 Contemporary Financial Reporting 3
FIN 410 Investments 3
FIN 411 International Finance 3
FIN 412 Financial Management 3

Total 12

Leadership and Management Concentration

The leadership and management concentration provides students with a broad introduction to principles and practices relevant in today's complex business world. Emphasis is placed on leadership applications and development and on management of human resources in a domestic and global business environment. This concentration is designed for students who seek a challenging and rewarding management position.

MGT 411 Leading Organizations 4
MGT 412 Managing Human Resources 4
MGT 494 Special Topics in Leadership and Management 4

Total 12

Marketing Concentration

Study in the field of marketing involves analysis of how organizations design, distribute, price, and promote products and services that satisfy customer needs as well as meet organizational objectives. Marketing students prepare for careers in general marketing management, brand management, advertising, marketing research, international marketing, distribution, retail sales, and sales management.

The marketing concentration consists of three required courses as follows:

MKT 410 Consumer Behavior 4
MKT 413 Marketing Research Concepts and Practice 4
MKT 414 Global Strategic Marketing 4

Total 12

LEADERSHIP IN INTERNATIONAL MANAGEMENT —BS

Nature of Program

The School of Global Management and Leadership offers a new bachelor's degree in Leadership in International Management (LIM) beginning fall 2006. The LIM program offers a more extensive international curriculum and greater multicultural experiences than the Global Business program. The new program requires a cohort learning experience for all upper-division core courses, a foreign language (Spanish), a semester of upper-division study at a university in Mexico, and a partnership with international exchange students who are in residence at ASU on the West campus. As a border state to Mexico, the number two global trading partner of the U.S., Arizona offers students a rich opportunity to learn the language while studying in a key trading partner country.

Career Outlook

The ultimate outcome of the LIM program is to develop graduates who possess the knowledge, skills and techniques necessary to significantly participate in international business operations. Trade with Central American countries is expected to increase in the near future. The Central American Free Trade Agreement (CAFTA), signed into law in August 2005, will create opportunities for U.S.-based businesses to export goods with reduced tariffs, and eventually many goods will become duty-free. To be successful in this new environment, businesses will need a workforce that understands the Central American business environment, its cultures, and how to communicate and develop relationships with such businesses. This program is helping to provide such a workforce.

Admission

Because of the cohort nature of the program, students are admitted to the program only for the fall semester. To be considered for admission to the LIM program, the student must be admitted to the West campus and must have

1. completed a minimum of 44 semester hours of the lower-division requirements for the degree (excluding language) at ASU or a regionally accredited college or university, or the Arizona Associate of Business degree, or the Associate in Transfer Partnership degree;

2. attained a minimum cumulative GPA of 3.50 and completed the following required courses with a grade of "C" (2.00) or higher in each course:
   a. ACC 230 Uses of Accounting Information I or a Financial Accounting course (3 hours)
   b. ACC 240 Uses of Accounting Information II or a Managerial Accounting course (3 hours)
   c. CSE 180 Computer Literacy *CS*
   d. ECN 211 Macroeconomic Principles *SB*
   e. ECN 212 Microeconomic Principles *SB*
   f. ENG 101, 102 First-Year Composition
   g. MAT 119 Finite Mathematics *MA*
   h. MAT 210 Brief Calculus *MA*
   i. PGS 101 Introduction to Psychology *SB*
   j. QBA 221 Statistical Analysis *CS*
   k. two SQ laboratory science courses or an SQ and an SG laboratory science course (8 hours)
   l. a course in oral communication (3 hours); and
3. submitted an admission essay and participate in an on-campus interview. Out-of-state students may fulfill this with a phone interview.

Acceptance is contingent upon the fulfillment and assessment of these activities by a LIM program committee composed of two LIM faculty members, an academic advisor, and the SGML undergraduate program director.

Major Requirements

Upper-Division Business Core

ACC	346 Information Systems Management	3
FIN	301 Fundamentals of Finance	3
GLB	301 Business in the Global Environment *G*	4
GLB	302 Culture and Diversity Management	3
GLB	401 Global Business Integration *L*	4
MKT	301 Fundamentals of Marketing	3
OPM	301 Operations Management	3
Focused liberal studies		9
LIM courses at West campus*		14
Semester of course work at a Mexican University		15

* These courses are under development.

Language Requirement. To enrich the experiences of the senior semester of study in a Latin American country, each student is required to demonstrate knowledge of Spanish at the intermediate level by the middle of the junior year. Although the students take their courses in English during their semester of study in Latin America, familiarity and comfort with Spanish enhances their out-of-class interactions and cultural experiences. This language requirement may be satisfied through one of the following:

1. completion of secondary education at a school in which the language of instruction is Spanish; or
2. completion of 16 semester hours of Spanish (through the second intermediate Spanish course, equivalent to SPA 202) or an equivalent score earned on a standardized proficiency exam, such as the CLEP test.

For more information, call 602/543-6200, or access the SGML Web site at www.west.asu.edu/sgml.

GRADUATE DEGREE

The faculty of the School of Global Management and Leadership offer the professional Master of Business Administration (MBA) degree. The MBA program is accredited by AACSB International—The Association to Advance Collegiate Schools of Business. For more information, see the *Graduate Catalog*.

Department of Accounting

www.west.asu.edu/sgml/accountancy
602/543-6275
FAB S190

William Duncan, Chair

Professor: Vickrey

Associate Professors: Duncan, Lowe, Prosch, Swenson

Assistant Professors: Chen, Chung, Samuels

Senior Lecturer: Muller

Lecturers: Dallmus, Finger, Wood

Three accounting programs are available at the West campus. The BS degree in Accountancy is available for students pursuing an undergraduate degree. The Postbaccalaureate Certificate in Accountancy is available for those already possessing a bachelor's degree who seek a career change to accounting or upgraded accounting skills. The Postbaccalaureate Certificate in Professional Accountancy is designed to allow BS in Accountancy graduates to meet the educational requirements for CPA licensure.

Either certificate program can be used as a foundation to pursue professional certification as a Certified Public Accountant (CPA), Certified Management Accountant (CMA), or Certified Internal Auditor (CIA).

ACCOUNTANCY—BS

Nature of Program

The faculty of the Accountancy Program is dedicated to improving the quality of accounting practice. This objective is achieved primarily through offering rigorous and relevant educational experiences through the bachelor's program. The complexity of the modern business world and its growing interaction with social, political, and economic environments is reflected in the revised accountancy program with its emphasis on a solid foundation of accounting and business courses with a selection from a number of optional courses for specialized career development. Students who

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

study accountancy aspire to enter a challenging professional environment. An accounting professional in today's environment must possess technical expertise and excellent communication, analytical, and interpersonal skills.

Career Outlook

Graduates of the Accountancy Program accept positions as accountants, auditors, and internal auditors, while some students pursue business careers outside traditional accounting roles. Students are recruited by CPA firms, banks, other financial institutions, manufacturing companies, utilities, and government agencies. The curriculum in the undergraduate accountancy program provides the foundational requirements for professional certification as a CPA, CMA, or CIA. Additional course work may be necessary for licensure.

Admission

To be considered for admission to the Accountancy program, the student must be admitted to the West campus and must have

1. completed a minimum of 57 semester hours of the lower-division requirements for the degree at ASU or a regionally accredited college or university, or the Arizona Associate of Business degree, or the Associate in Transfer Partnership degree;
2. attained a minimum cumulative GPA of 2.50;
3. completed the accounting core with a grade of "B" (3.00) or higher in each course:
   a. ACC 230 Uses of Accounting Information I or a Financial Accounting course (3 hours)
   b. ACC 240 Uses of Accounting Information II or a Managerial Accounting course (3 hours)
   c. ACC 250 Introductory Accounting Lab (0–1 hour)*; and
4. completed the following required courses with a grade of "C" (2.00) or higher in each course:
   a. CSE 180 Computer Literacy *CS*
   b. ECN 211 Macroeconomic Principles *SB*
   c. ECN 212 Microeconomic Principles *SB*
   d. ENG 101, 102 First-Year Composition
   e. MAT 119 Finite Mathematics *MA*
   f. MAT 210 Brief Calculus *MA*
   g. PGS 101 Introduction to Psychology *SB*
   h. QBA 221 Statistical Analysis *CS*
   i. SOC 101 Introductory Sociology *SB*
   j. two SG laboratory science courses or an SQ and an SG laboratory science course (8 hours)
   k. a course in oral communication (3 hours).

* This course is required for those completing the ACC 230 and 240 sequence.

Major Requirements

Upper-Division Business Core

ACC	346	Information Systems Management 3
FIN	301	Fundamentals of Finance 3
GLB	401	Global Business Integration *L* 4
MKT	301	Fundamentals of Marketing 3
OPM	301	Operations Management 3
Choose one of the following management courses 3–4		
GLB	303	Relationship Management (3)
MGT	301	Principles of Management (3)
MGT	412	Managing Human Resources (4)
Total upper-division business core 19–20		

Accounting Core

ACC	326	External Financial Reporting I 3
ACC	327	External Financial Reporting II 3
ACC	336	Cost Management and Control 3
ACC	356	Income Tax Accounting 3
ACC	361	Accounting Technology 3
Total accounting core 15		

Career Focus

Choose three from the following courses, at least two of which must be ACC 9

ACC	426	Advanced Reporting: Consolidation, International and Not-for-Profit Topics (3)
ACC	436	Advanced Topics in Cost Management (3)
ACC	456	Advanced Taxation (3)
ACC	476	External Auditing (3)
ACC	477	Internal Auditing (3)
ACC	478	Governmental and Not-for-Profit Accounting (3)
ACC	484	Accounting Internship (3)
FIN	410	Investments (3)
FIN	411	International Finance (3)
FIN	412	Financial Management (3)
LES	306	Business Law (3)

General Studies Requirements

COM	100	Introduction to Human Communication *SB* 3
		or COM 230 Small Group Communication *SB* (3)
COM	259	Communication in Business and the Professions 3
ENG	301	Writing for the Professions *L* 3
PHI	306	Applied Ethics *HU* 3
		or PHI 360 Business and Professional Ethics *HU* (3)
General Studies curriculum course* 3		
Total 15		

Total major requirements 58–59

* This course must be approved by a business advisor and must have subject matter in political science, government, or business and society.

Academic Good Standing

Accountancy majors must receive grades of "C" (2.00) or higher in the required upper-division accounting courses to be in good standing. If an Accountancy major receives a grade below "C" (2.00) in any required course, this course must be repeated before any other upper-division accounting course can be taken. If a second grade below "C" (2.00) is received in an upper-division accounting course already taken, the student is no longer eligible to take additional upper-division accounting courses.

POSTBACCALAUREATE CERTIFICATE IN ACCOUNTANCY

Nature of the Program. The Postbaccalaureate Certificate in Accountancy is a flexible 30-semester-hour program designed for students already possessing an undergraduate degree. The undergraduate degree may be in any field, business related or not.

The certificate program is particularly useful for persons seeking a career change to accounting or upgrading existing

accounting skills. The program involves undergraduate course work in accounting and related fields and prepares a student to sit for the Certified Public Accountant examination or other professional accounting certification such as the Certified Management Accountant or Certified Internal Auditor.

The curriculum is designed to provide students with a solid foundation, teaching students the technical accounting expertise they need while learning the communication, analytical, and interpersonal skills necessary to succeed in today's business world. Classes are conveniently offered during day and evening hours. Students also have the opportunity to receive work experience through internship programs with local firms and governmental agencies. Students who complete the certificate are highly sought after by employers because of their practical work experience and strong communication skills.

Admission. To be admitted to the Postbaccalaureate Certificate in Accountancy program, an individual must

1. possess a four-year baccalaureate degree with a minimum GPA of 2.50 from an accredited college or university;
2. be admitted to West campus as a nondegree graduate student; and
3. have completed Financial and Managerial Accounting (six semester hours) with a grade of "B" (3.00) or higher and the prerequisite Business core with a minimum GPA of 2.50 and a grade of "C" (2.00) or higher in each course:
   a. Computers in Business (three hours)
   b. Finite Mathematics (three hours)
   c. Microeconomic Principles and Macroeconomic Principles (six hours)
   d. Statistical Analysis (three hours).

Program Requirements

Accounting Core

W	ACC	326	External Financial Reporting I	3
W	ACC	327	External Financial Reporting II	3
W	ACC	336	Cost Management and Control	3
W	ACC	346	Information Systems Management	3
W	ACC	356	Income Tax Accounting	3
W	ACC	361	Accounting Technology	3
			Core total	18

Career Focus

Choose two from the following courses, at least one of which must be ACC 6

W	ACC	426	Advanced Reporting: Consolidation, International, and Not-for-Profit Topics (3)
W	ACC	436	Advanced Topics in Cost Management (3)
W	ACC	456	Advanced Taxation (3)
W	ACC	476	External Auditing (3)
W	ACC	477	Internal Auditing (3)
W	ACC	478	Governmental and Not-for-Profit Accounting (3)
W	ACC	484	Accounting Internship (3)
W	ACC	494	Special Topics (3)
W	FIN	410	Investments (3)
W	FIN	411	International Finance (3)
W	FIN	412	Financial Management (3)
W	LES	306	Business Law (3)

Business Electives

Choose two from the following courses 6

W	FIN	301	Fundamentals of Finance (3)
W	GLB	303	Relationship Management (3) or W MGT 301 Principles of Management (3)
W	MKT	301	Fundamentals of Marketing (3)
W	OPM	301	Operations Management (3)

Program minimum total 30

Students admitted to the Postbaccalaureate Certificate in Accountancy program are permitted to enroll in courses other than those listed above only with the written permission of the accountancy director.

At least 21 of the upper-division semester hours for the certificate and 18 of the upper-division semester hours in accounting must be taken in residence at West campus. Candidates must achieve a grade of "C" (2.00) or higher in each course presented for the postbaccalaureate certificate.

Academic Good Standing. Postbaccalaureate Certificate students must receive grades of "C" (2.00) or higher in the required upper-division accounting courses to be in good standing. If a postbaccalaureate certificate student receives a grade below "C" (2.00) in any required accounting course, this course must be repeated before any other upper-division accountancy course can be taken. If a second grade below "C" (2.00) is received in an upper-division accountancy course already taken, the student is no longer eligible to take additional upper-division accountancy courses.

POSTBACCALAUREATE CERTIFICATE IN PROFESSIONAL ACCOUNTANCY

Nature of the Program. The Postbaccalaureate Certificate in Professional Accountancy is designed for students who have earned a Bachelor of Science in Accountancy and need additional college course work to meet the educational requirements for Certified Public Accountant (CPA) licensure in the State of Arizona. Upon completion of the Postbaccalaureate Certificate in Professional Accountancy, students will have met the 150 semester hour requirement for CPA certification in Arizona that took effect June 30, 2004.

Admission. To be admitted to the Postbaccalaureate Certificate in Professional Accountancy program, an individual must possess a four-year baccalaureate degree in Accountancy with a minimum GPA of 2.50 from ASU or the equivalent from another regionally accredited university or college with a minimum of 120 semester hours.

Program Requirements. In consultation with a program advisor, students design individualized programs of study that enable them to meet the educational requirements for certification as CPAs in Arizona. Certificates are awarded to students who have completed at least 150 semester hours of college-level course work, including at least 36 semester hours of accounting courses, of which at least 30 semester

hours must be in the upper division. Thirty semester hours of related business courses acceptable for certification must also be completed. All course work presented for the certificate must be completed with a minimum grade of "C" (2.00) and be earned at regionally accredited universities or colleges. At least 18 semester hours must be taken in residence at West campus.

Academic Good Standing. Postbaccalaureate certificate students must complete all courses used to fulfill the certificate requirements with a grade of "C" (2.00) or higher.

ACCOUNTANCY (ACC)

For more ACC courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ACC 230 Uses of Accounting Information I. (3)
fall and spring
Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. Prerequisite: sophomore standing.

W ACC 240 Uses of Accounting Information II. (3)
fall and spring
Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. Prerequisite: sophomore standing. Prerequisite with a grade of "C" (2.00) or higher: ACC 230.

W ACC 250 Introductory Accounting Lab. (1)
fall and spring
Procedural details of accounting for the accumulation of information and generation of reports for internal and external users. Lab.

W ACC 326 External Financial Reporting I. (3)
fall and spring
Theory, U.S. standards, and practice applicable to financial statements, revenue recognition, and assets. Prerequisite: 250 (or its equivalent).

W ACC 327 External Financial Reporting II. (3)
fall and spring
Theory, U.S. standards, and practice applicable to equities, cash flow statement, earnings per share, leases, pensions, and other essential topics. Prerequisite: ACC 326.

W ACC 336 Cost Management and Control. (3)
fall and spring
Concepts and principles for product costing, planning and control, and internal decision making. Prerequisite: previous course work in managerial accounting or director approval.

W ACC 346 Information Systems Management. (3)
fall, spring, summer
Information requirements and transaction processing for integrated accounting systems emphasizing database systems analysis and design, controls, and computer processing. Prerequisite: previous course work in information systems or director approval.

W ACC 356 Income Tax Accounting. (3)
fall and spring
Public policy concepts and rules of federal income tax for all taxpayers. Individual tax returns and use of tax software. Prerequisite: ACC 326.

W ACC 361 Accounting Technology. (3)
fall and spring
Use and understanding of a computerized accounting package and other software for accounting applications. Prerequisites: ACC 326, 336, 346.

W ACC 410 Contemporary Financial Reporting. (3)
fall and spring
Topics include financial statements, roles and effects of accounting information in society, policy setting, managers' choice of accounting techniques. Cannot be used for major credit in Accountancy. Prerequisite: FIN 301.

W ACC 426 Advanced Reporting: Consolidation, International, and Not-for-Profit Topics. (3)
fall and spring
Consolidated financial statements, not-for-profit accounting, and international accounting standards and topics including foreign currency transactions and translation. Prerequisite: ACC 326.

W ACC 436 Advanced Topics in Cost Management. (3)
selected semesters
Issues in contemporary manufacturing environments. Topics include cost estimation, activity-based management, just-in-time inventories, budgeting, and variances. Prerequisites: ACC 326, 336.

W ACC 446 Advanced Topics in Information Systems. (3)
fall and spring
Use of contemporary technology in modern organizations. Topics include analysis and design, advanced database design, and electronic commerce. Prerequisite: ACC 346.

W ACC 456 Advanced Taxation. (3)
spring
Advanced problems in business and fiduciary income tax. Formation, operation, and liquidation of corporation and partnerships. Use of research software. Prerequisite: ACC 356.

W ACC 476 External Auditing. (3)
fall and spring
Theory and standards underlying the attestation process. Topics include evidence gathering, analysis, reporting, and development of professional judgement skills. Prerequisites: ACC 327, 346.

W ACC 477 Internal Auditing. (3)
spring
Contemporary issues and practices of internal auditing. Standards and process of management/operation audits. Prerequisites: ACC 326, 346.

W ACC 478 Governmental and Not-for-Profit Accounting. (3)
selected semesters
Accounting and reporting systems for governmental entities, health-care organizations, colleges and universities, and other nonprofit organizations. Prerequisite: ACC 326.

W ACC 484 Accounting Internship. (3)
fall, spring, summer
Undergraduate and postbaccalaureate students are eligible to apply for internship positions designed to provide experience in the areas of accounting, tax, and internal and external auditing. Placements are made in organizations throughout the metropolitan Phoenix area. Prerequisites: vary depending on the nature of the internship.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

LEGAL AND ETHICAL STUDIES (LES)

For more LES courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W LES 306 Business Law. (3)
spring
Legal and ethical aspects of contracts, sales, commercial paper, secured transactions, documents of title, letters of credit, and bank deposits and collections.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Economics, Finance, Marketing, and Quantitative Business Analysis

www.west.asu.edu/sgml
602/543-6101
FAB N120A

Joseph Bellizzi, Chair

Professor: Bellizzi

Associate Professors: Anderson, Greenhut, Mizzi

Assistant Professors: Bristol, McCabe, Mola, Zhang

Visiting Assistant Professor: Oke

Lecturers: Macfie, Olander, Singh

ECONOMICS (ECN)

For more ECN courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ECN 211 Macroeconomic Principles. (3)
fall and spring
Basic macroeconomic analysis. Economic institutions and factors determining income levels, price levels, and employment levels.
General Studies: SB

W ECN 212 Microeconomic Principles. (3)
fall and spring
Basic microeconomic analysis. Theory of exchange and production, including the theory of the firm.
General Studies: SB

W ECN 494 Special Topics. (3)
selected semesters
Current topics of interest in economics, e.g., managerial economics, microeconomic policy issues. Prerequisite: instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

FINANCE (FIN)

For more FIN courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W FIN 301 Fundamentals of Finance. (3)
fall, spring, summer
Introduces the basic concepts, principles, and tools of financial management. Prerequisites: ACC 240 (or its equivalent); ECN 212; QBA 221.

W FIN 410 Investments. (3)
fall and spring
Strategies and mechanics of investing in stocks, bonds, and derivatives. Topics include investment selection, portfolio management, financial markets, and institutions. Prerequisite with a grade of "C" (2.00) or higher: FIN 301.

W FIN 411 International Finance. (3)
fall and spring
Explores the environmental challenges facing financial managers in global financial markets and develops tools and techniques to meet such challenges. Prerequisites: FIN 301; GLB 301.

W FIN 412 Financial Management. (3)
fall and spring
In-depth extension of core finance course. Typical topics include financial planning/control, risk and valuation, capital budgeting. Prerequisite: FIN 301. Pre- or corequisite with a grade of "C" (2.00) or higher: ACC 326 or 410.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

MARKETING (MKT)

For more MKT courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W MKT 301 Fundamentals of Marketing. (3)
fall, spring, summer
Examines the role and process of marketing within the society, economy, and business organization. Prerequisite: ECN 212.

W MKT 410 Consumer Behavior. (4)
fall and spring
Applies social, cultural, and behavioral concepts for analyzing consumer behavior, with implications for marketing strategy and marketing communication strategy. Prerequisite: MKT 301.

W MKT 413 Marketing Research Concepts and Practice. (4)
fall and spring
Research techniques for collecting, analyzing, and interpreting marketing information. Includes design and completion of a client-sponsored, industry-based research project. Prerequisites: MKT 301; QBA 221.

W MKT 414 Global Strategic Marketing. (4)
fall and spring
Examines marketing and marketing communication strategy development, and evaluation in the context of global markets and organizational objectives. Prerequisites: GLB 301; MKT 301.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

QUANTITATIVE BUSINESS ANALYSIS (QBA)

For more QBA courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W QBA 221 Statistical Analysis. (3)
selected semesters
Methods of statistical description. Applies probability theory and statistical inference in business. Prerequisite: MAT 119.
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Management

www.west.asu.edu/sgml/glb
602/543-6204
FAB N120D

David Waldman, Interim Chair

Professors: G. Anders, Atwater, Nahavandi, Van Fleet, Waldman

Associate Professors: Balthazard, Brett, Carey, Gopalakrishnan, Meznar

Assistant Professors: Mesquita, Mohan, Peterson, Printezis, Walumbwa

Visiting Associate Professor: Cabrera

Lecturers: K. Anders, Goldman, Washburn

BUSINESS (BUS)

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

COMPUTER INFORMATION SYSTEMS (CIS)

For more CIS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W CIS 200 Computer Applications and Technology. (3)
selected semesters
Introduces business information systems and the uses of business application software. Fee. Prerequisite: MAT 117 or higher.
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

GLOBAL BUSINESS (GLB)

W GLB 301 Business in the Global Environment. (4)
fall and spring
Discusses multinational corporate strategy, structure, operations, and the social and economic factors affecting global business.
General Studies: G

W GLB 302 Culture and Diversity Management. (3)
fall and spring
Develops an understanding of culture (individual, organizational, national, subcultural, transnational, and global) and change and interaction applied to management decisions. Prerequisite: MGT 301.

W GLB 303 Relationship Management. (3)
fall and spring
Overviews types of relationships found in organizations, then trains students in the interpersonal skills necessary to effectively manage those relationships.

W GLB 401 Global Business Integration. (4)
fall and spring
Provides an integrative framework for global corporate strategic analysis and opportunities for integrated decision making in actual and simulated businesses. Prerequisites: all 300-level business core courses (GLB 302 and 303 may be taken concurrently); ENG 101 (or 105).
General Studies: L

W GLB 411 Global Competitiveness. (4)
fall and spring
Discusses factors contributing to international competitive success of nation-states, national industries, and specific firms. Includes detailed analysis of actual firms. Prerequisite with a grade of "C" (2.00) or higher: GLB 301.

W GLB 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

MANAGEMENT (MGT)

For more MGT courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W MGT 301 Principles of Management. (3)
fall and spring
Introduces the theoretical and practical foundations of organizations with a focus on individuals, groups, and organizational systems. Prerequisites: one course in psychology (social and behavioral); one course in sociology.

W MGT 411 Leading Organizations. (4)
fall, spring, summer
Comprehensive overview of leadership in organizations. Provides students with understanding of leadership research and its applications to global organizations and the development of leaders.

W MGT 412 Managing Human Resources. (4)
fall, spring, summer
Overview of domestic and global human resources management topics pertinent to managers and first-line supervisors, as well as those with interest in human resources management.

W MGT 494 Special Topics. (3)
fall and spring
Chosen from topics in human resources, strategic management, and international management, including seminars in international management in Asia or Europe.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

OPERATIONS AND PRODUCTION MANAGEMENT (OPM)

W OPM 301 Operations Management. (3)
fall and spring
Introduces the management of service and manufacturing conversion processes, with emphases on quality management and computer applications. Prerequisites: ACC 240 (or its equivalent); ECN 212; QBA 221.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

College of Human Services

www.west.asu.edu/chs **John R. Hepburn, PhD, Dean**

Communication Studies, Department of 678
Criminal Justice and Criminology, *Department of* 683
Gerontology 686
Nursing Program 687
Recreation and Tourism Management, Department of 688
Social Work, Department of 692
Prelaw Minor 695

PURPOSE

The College of Human Services serves students and the community by combining forward-reaching education with world-class faculty in a number of service areas. The college focuses on expanding research and influence in areas of violence prevention, lifelong learning, quality of life issues, communication assessment, and advocacy and leadership effectiveness.

ORGANIZATION

The college houses the following academic units:

Center for Violence Prevention and Community Safety
Department of Communication Studies
Department of Criminal Justice and Criminology
Department of Recreation and Tourism Management
Department of Social Work
Gerontology Program
Nursing Program (ASU College of Nursing)
Partnership for Community Development

DEGREE PROGRAMS

See the "College of Human Services Baccalaureate Degrees and Majors" table, page 678, and the "College of Human Services Graduate Degrees and Majors" table, page 679.

Baccalaureate Degree Programs

Admission. Admission to programs in Communication Studies, Criminal Justice and Criminology, Recreation and Tourism Management, or Social Work requires a minimum cumulative GPA of 2.00, and any additional requirements the respective programs impose.

Transfer Students. Any person applying for admission or transfer to the Communication Studies or Criminal Justice and Criminology programs is admitted as a major of that program. A student applying for admission to the Recreation and Tourism Management or Social Work programs must fulfill additional requirements identified in the respective academic program sections that follow.

Degree Requirements. Students seeking a baccalaureate in a College of Human Services major must successfully complete 120 semester hours of college course work, fulfill all university degree requirements, and complete the specific requirements of the degree program. Specific degree requirements are explained under the respective academic program sections that follow.

Graduate Degree Programs

Information regarding university requirements, including admission policies and procedures are explained in the *Graduate Catalog*.

MINORS AND CERTIFICATES

See the "West Campus Minors" table, page 654, and the "West Campus Certificates" table, page 655.

SPECIAL GRADING OPTIONS

The College of Human Services grades some courses, internships, field experiences, and individualized instruction on a satisfactory/fail basis. Students who successfully complete these experiences receive a "Y" grade. Such grades are acceptable for meeting program requirements, but these grades are not computed in the GPA.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

College of Human Services Baccalaureate Degrees and Majors

Major	Degree	Concentration*	Administered By
Communication Studies	BA, BS	—	Department of Communication Studies
Criminal Justice and Criminology	BS	—	Department of Criminal Justice and Criminology
Nursing	BSN	—	College of Nursing (Downtown Phoenix campus)
Recreation and Tourism Management	BS	—	Department of Recreation and Tourism Management
Social Work	BSW	—	Department of Social Work

* If a major offers concentrations, one must be selected unless noted as *optional.*

Department of Communication Studies

www.west.asu.edu/chs/comm
602/543-6606
FAB S141C

J. Macgregor Wise, Chair

Professors: Morris, Waldron

Associate Professors: Di Mare, Kassing, Kelley, Nadesan, Ramsey, Shome, Wise

Assistant Professor: Meân

Lecturers: Burk, French, Gruber

The Department of Communication Studies prepares professionals with highly effective communication skills—speaking, writing, cultural sensitivity, critical thinking, problem solving, and conflict management—through a number of academic program options. The department offers BA and BS degrees in Communication Studies, undergraduate minors in Communication Studies and Public Relations and Strategic Communication, the MA degree in Communication Studies, and a postbaccalaureate certificate in Communication and Human Relations.

COMMUNICATION STUDIES—BA AND BS

Nature of Program

The Department of Communication Studies prepares students to enter the global age with competencies necessary to become active participants in democratic life. Because few phenomena are as central to society as communication, students in the program have the opportunity to achieve critical understanding of their increasingly international, multicultural, gendered worlds. Using scientific, interpretive, rhetorical, and critical research approaches, graduates learn to produce, analyze, and critique social and cultural information created by the practices of communication. Understanding communication's centrality in human experience brings a rich variety of material into the student's view. Contexts for studying communication include diversity, media, public influence, critical/rhetorical inquiry, personal relationships, and social organizations.

Career Outlook

The academic and scholarly focus on the criticism of communicative practices across various conditions prepares students well for a multitude of vocations in an increasingly complex world. Conceptualizing the world as one overflowing with meanings related to diverse social groups, identities, and relationships, students of communication are able to think critically about how meaning is made, how meaning can be made to change, and how communication fosters democratic ideals for the workplace and the world. The successful graduate will be able to work productively with other people; assimilate, organize, and analyze information; solve problems; make effective presentations; and show potential for leadership. The program prepares students for advanced education; advancement toward careers in teaching, counseling, law, and medicine; and various careers and professions, including

1. training and development,
2. public relations,
3. public administration,
4. public office,
5. public advocacy,
6. speech writing,
7. lobbying,
8. research,
9. advertising,
10. mediation,
11. customer relations,
12. human resources,
13. health and human services,
14. international service,
15. fund-raising, and
16. the ministry.

College of Human Services Graduate Degrees and Majors

Major	Degree	Concentration*	Administered By
Communication Studies	MA	—	Department of Communication Studies
Criminal Justice	MA	—	Department of Criminal Justice and Criminology
Social Work	MSW	Advanced generalist practice	Department of Social Work

* If a major offers concentrations, one must be selected unless noted as *optional*.

ADMISSION REQUIREMENTS

A minimum GPA of 2.00 is required for entrance into the major and for enrollment in all upper-division courses.

MAJOR REQUIREMENTS

Of the minimum required 48 semester hours, majors must complete nine semester hours of program core courses, 18 semester hours of selected course work across competency-based categories (all of which must be upper division, and nine hours of which must be at the 400-level), and 21 semester hours of elective course work (up to nine hours of which may be lower division). COM 484 and 499 may not be used to satisfy selected course work requirements but may fulfill elective course work requirements. Students seeking the BS degree must complete one lower-division statistics course and one additional upper-division statistics course. All courses must be completed with a minimum grade of "C" (2.00).

Required Course Work

COM 225 Public Speaking *L* 3
COM 308 Empirical Research Methods in Communication *L* 3
COM 309 Rhetorical, Interpretive, and Critical Methods in Communication 3
Total 9

Selected Upper-Division Course Work

Students are required to complete one course from each of the six categories below, nine hours of which must be at the 400-level.

Diversity

Choose one of the following 3
- COM 316 Gender and Communication *C* (3)
- COM 371 Cross-Cultural Communication Perspectives *G* (3)
- COM 394 Special Topics[1] (3)
- COM 416 Gender, Race, Colonialism, and Media (3)
- COM 463 Cultural and Intercultural Communication Theory and Research SB, *G* (3)
- COM 465 Intercultural Communication Workshop (3)
- COM 471 International Communication *G* (3)
- COM 494 Special Topics[1] (3)

Media Literacy

Choose one of the following 3
- COM 324 Rhetoric and Media Criticism (3)
- COM 394 Special Topics[1] (3)
- COM 424 Television Studies and Criticism (3)
- COM 429 Semiotics and Visual Communication (3)
- COM 457 New Media (3)
- COM 494 Special Topics[1] (3)

Public Influence Processes

Choose one of the following 3
- COM 325 Advanced Public Speaking (3)
- COM 329 Persuasion (3)
- COM 353 Professional Communication (3)
- COM 394 Special Topics[1] (3)
- COM 414 Crisis Communication (3)
- COM 454 Rhetorical and Critical Approaches to Public Relations (3)
- COM 494 Special Topics[1] (3)

Critical/Rhetorical Inquiry

Choose one of the following 3
- COM 321 Rhetorical Theory and Research *L/HU* (3)
- COM 394 Special Topics[1] (3)
- COM 421 Rhetoric of Social Issues *HU* (3)
- COM 422 Argumentation, Critical Reasoning, and Public Communication *L* (3)
- COM 456 Political Communication (3)
- COM 494 Special Topics[1] (3)

Relational Interaction

Choose one of the following 3
- COM 310 Relational Communication (3)
- COM 312 Communication, Conflict, and Negotiation (3)
- COM 394 Special Topics[1] (3)
- COM 410 Interpersonal Communication Theory and Research *SB* (3)
- COM 411 Communication in the Family *SB* (3)
- COM 417 Communication and Aging (3)
- COM 475 Nonverbal Communication Theory and Research (3)
- COM 494 Special Topics[1] (3)

Social Organizations

Choose one of the following 3
- COM 320 Communication and Consumerism *SB* (3)
- COM 394 Special Topics[1] (3)
- COM 430 Leadership in Group Communication (3)
- COM 450 Theory and Research in Organizational Communication *SB* (3)
- COM 451 Employee Participation Processes in Organizations (3)
- COM 453 Communication Training and Development (3)
- COM 494 Special Topics[1] (3)

Selected upper-division total 18

Communication Electives

COM electives[2] 21

Program total 48

[1] The topic must be designated as an appropriate course by the instructor.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

[2] Select COM electives in consultation with a faculty advisor. A maximum of nine hours may include COM 100 and courses at the 200 level.

Other Requirements

In addition to the above listed requirements, students must satisfy the General Studies Program requirements. Students should consult their advisors for current information concerning College of Human Services and the Communication Studies courses applicable to General Studies requirements.

MINOR IN COMMUNICATION STUDIES

The minor consists of 18 semester hours of Communication Studies courses. Students wishing to pursue a minor must meet with a Communication Studies faculty advisor to construct a minor that reflects a particular area of specialty and interest. At least 12 semester hours must come from upper-division courses. To graduate with the minor, students must earn a minimum cumulative GPA of 2.00 in Communication Studies courses. All courses must be passed with a minimum grade of "C" (2.00).

MINOR IN PUBLIC RELATIONS AND STRATEGIC COMMUNICATIONS

The Public Relations and Strategic Communications minor will provide students with professional and academic expertise in persuasion and campaign communication, public relations, crisis communication, special events planning, marketing, professional writing, and editing (among other areas). Additionally, students will have the opportunity to refine the presentation skills needed for public and community relations.

Program Requirements

The minor consists of 18 semester hours upper-division course work, including nine semester hours of required course work and nine semester hours of electives.

Required Core Courses

Choose three of the following courses 9
- COM 320 Communication and Consumerism *SB* (3)
- COM 329 Persuasion (3)
- COM 353 Professional Communication (3)
- COM 454 Rhetorical and Critical Approaches to Public Relations (3)

Electives

Select three of the following courses[1] 9–10
- COM 414 Crisis Communication (3)
- COM 453 Communication Training and Development (3)
- COM 484 Communication Internship[2] (3)
- ENG 301 Writing for the Professions *L* (3)
- ENG 311 Persuasive Writing *L* (3)
- ENG 412 Writing for Publication (3)
- MKT 301 Fundamentals of Marketing (3)
- MKT 410 Consumer Behavior (4)
- RTM 404 Marketing Recreation and Tourism (3)
- RTM 486 Special Events Management (3)
- Or other approved courses

Program total 18–19

[1] Electives or other approved courses must be chosen in consultation with an advisor.

[2] Communication internships are limited to students with senior status and a cumulative GPA of 2.80 or higher.

POSTBACCALAUREATE CERTIFICATE IN COMMUNICATION AND HUMAN RELATIONS

Nature of the Program. The contemporary workplace increasingly requires employees to develop advanced knowledge and skill in the processes of communication.

The certificate program is designed for working professionals in communication-intensive fields such as public affairs, employee relations, mediation, organizational development, public relations, training and development, community relations, customer relations, media relations, change management, sales and sales management, marketing, public administration, event planning, and health communication.

Admission Requirements. To be admitted to the Postbaccalaureate Certificate in Communication and Human Relations program, an individual must

1. possess a four-year baccalaureate degree from a regionally accredited college or university;
2. be admitted to West campus as a nondegree graduate student; and
3. have completed the following college-level courses with a grade of "C" (2.00) or higher in each course:
   a. quantitative, qualitative, or critical research methods (three semester hours), and
   b. oral communication performance (200 level or above) (three semester hours).

Program Requirements. The certificate requires completion of 18 semester hours of upper division course work in communication studies and related disciplines.

Focused Course Work. In consultation with a faculty advisor, students design a program of study composed of five courses (15 semester hours) focused in an area of human relations, such as employee communications, interpersonal relations, or community relations. Course selections are made from the following:

- COM 410 Interpersonal Communication Theory and Research *SB* 3
- COM 411 Communication in the Family *SB* 3
- COM 414 Crisis Communication 3
- COM 417 Communication and Aging 3
- COM 421 Rhetoric of Social Issues *HU* 3
- COM 430 Leadership in Group Communication 3
- COM 450 Theory and Research inOrganizational Communication *SB* 3
- COM 451 Employee Participation Processes in Organizations 3
- COM 453 Communication Training and Development 3
- COM 456 Political Communication 3
- COM 457 New Media 3
- COM 494 Special Topics 3
- Other approved substitution 3

Capstone Project. Students are required to complete an independent research project (supervised by a faculty member) on a communication topic related to their professional or research interests. The project should reflect the integration and application of course work to a social or organiza-

tional problem. The scope and quality of the written report must be appropriate for postbaccalaureate students. A minimum of three semester hours of COM 499 Individualized Instruction is required.

GRADUATE DEGREE

The faculty in the Department of Communication Studies offer a professional Master of Arts degree in Communication Studies. For more information, see the *Graduate Catalog*.

COMMUNICATION STUDIES (COM)

For more COM courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W COM 100 Introduction to Human Communication. (3)
fall and spring
Topics-oriented introduction to basic theories, dimensions, and concepts of human communicative interaction and behavior. Fee.
General Studies: SB

W COM 124 Intercultural Issues in Mediated Communication. (3)
selected semesters
Introduces contemporary intercultural issues as expressed through various media in American society.
General Studies: C

W COM 222 Argumentation. (3)
once a year
Philosophical and theoretical foundations of argumentation, including a comparison of models of advocacy and evidence. Prerequisite: ENG 101 or 105.
General Studies: L

W COM 225 Public Speaking. (3)
fall and spring
Verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and purposeful organization of public communication. Fee. Prerequisite: ENG 101 or 105.
General Studies: L

W COM 230 Small Group Communication. (3)
spring
Principles and processes of small group communication, attitudes and skills for effective participation and leadership in small groups, small group problem solving, and decision making.
General Studies: SB

W COM 259 Communication in Business and the Professions. (3)
fall
Interpersonal, group, and public communication in business and professional organizations. Fee.

W COM 308 Empirical Research Methods in Communication. (3)
fall and spring
Examines social science approaches to the study of communication, including experimental, survey, descriptive, and other quantitative approaches. Prerequisite: ENG 101 or 105.
General Studies: L

W COM 309 Rhetorical, Interpretive, and Critical Methods in Communication. (3)
fall and spring
Examines humanistic and qualitative approaches to communication. Introduces textual, interactional and ethnographic methods.

W COM 310 Relational Communication. (3)
once a year
Examines communication processes as they relate to relationship development, maintenance, and termination.

W COM 312 Communication, Conflict, and Negotiation. (3)
once a year
Theories and strategies of communication relevant to the management of conflicts and the conduct of negotiations.

W COM 316 Gender and Communication. (3)
once a year
Introduces gender-related communication. Examines verbal, nonverbal, and paralinguistic differences and similarities within social, psychological, and historic perspectives.
General Studies: C

W COM 320 Communication and Consumerism. (3)
once a year
Critical evaluation of messages designed for public consumption. Perceiving, evaluating, and responding to political, social, and commercial communication.
General Studies: SB

W COM 321 Rhetorical Theory and Research. (3)
once a year
Historical development of rhetorical theory and research in communication, from classical antiquity to the present. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W COM 324 Rhetoric and Media Criticism. (3)
once a year
Critical examination of media arts, including cinema, television, and video. Applies rhetorical, textual, and interpretive methods of criticism.

W COM 325 Advanced Public Speaking. (3)
selected semesters
Social and pragmatic aspects of public speaking as a communicative system; strategies of rhetorical theory and the presentation of forms of public communication.

W COM 329 Persuasion. (3)
once a year
Variables that influence and modify attitudes and behaviors of message receivers, including analysis of theories, research, and current problems.

W COM 353 Professional Communication. (3)
once a year
Introduces both verbal and written professional communication styles and technologies in preparation for communication-related internships and careers.

W COM 371 Cross-Cultural Communication Perspectives. (3)
selected semesters
Explores different cultures' approaches to theories of and practices in social interaction and public discourse.
General Studies: G

W COM 382 Classroom Apprenticeship. (1–3)
fall and spring
Nongraded credit for students extending their experience with a content area by assisting with classroom supervision in other COM courses. Maximum 3 semester hours each semester. Prerequisite: instructor approval.

W COM 394 Special Topics. (1–3)
selected semesters
Variable topics course designed around specific themes, concepts, and questions central to the study of communication. Prerequisite: instructor approval.

W COM 410 Interpersonal Communication Theory and Research. (3)
selected semesters
Survey and analysis of major research topics, paradigms, and theories dealing with message exchanges between and among social peers. Prerequisite: COM 308 or 309 or instructor approval.
General Studies: SB

W COM 411 Communication in the Family. (3)
selected semesters
Broad overview of communication issues found in marriage and family life, focusing on current topics concerning communication in the family.
General Studies: SB

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W COM 414 Crisis Communication. (3)
selected semesters
Role of communication in crisis development and intervention.

W COM 416 Gender, Race, Colonialism, and Media. (3)
once a year
Explores how the mass media constructs gender and race and perpetuates colonial views of minorities and varied nationalities.

W COM 417 Communication and Aging. (3)
once a year
Critical study of changes in human communicative patterns through the later adult years, with attention on intergenerational relationships and self-concept functions.

W COM 421 Rhetoric of Social Issues. (3)
selected semesters
Critical rhetorical study of significant speakers and speeches on social issues of the past and present. Prerequisite: COM 321 or instructor approval.
General Studies: HU

W COM 422 Argumentation, Critical Reasoning and Public Communication. (3)
fall and spring
Advanced study of argumentation theories and research as applied to public forums including: political, business, and legal contexts. Prerequisite: COM 222 or instructor approval.
General Studies: L

W COM 424 Television Studies and Criticism. (3)
once a year
Surveys critical and historical approaches to television as a medium; to television research; and to television's effects. Prerequisite: COM 309 or instructor approval.

W COM 429 Semiotics and Visual Communication. (3)
selected semesters
Semiotic analysis of mediated forms of communication, including film, television, and photography. Includes the political and aesthetic dimensions of images. Prerequisite: COM 309 or instructor approval.

W COM 430 Leadership in Group Communication. (3)
selected semesters
Theory and process of leadership in group communication, emphasizing philosophical foundations, contemporary research, and applications to group situations.

W COM 450 Theory and Research in Organizational Communication. (3)
once a year
Critical review and analysis of the dominant theories of organizational communication and their corollary research strategies. Prerequisite: COM 308 or 309, or instructor approval.
General Studies: SB

W COM 451 Employee Participation Processes in Organizations. (3)
selected semesters
Communication principles and practices associated with employee empowerment, team-based organizing, and similar employee involvement processes. Prerequisite: COM 308 or 309 or instructor approval.

W COM 453 Communication Training and Development. (3)
selected semesters
Examines the procedures and types of communication training and development in business, industry, and government. Prerequisite: COM 308 or instructor approval.

W COM 454 Rhetorical and Critical Approaches to Public Relations. (3)
once a year
An historical and contemporary account of how public relations messages build corporate identities and persuade audiences by shaping public values. Prerequisite: COM 309 or instructor approval.

W COM 456 Political Communication. (3)
selected semesters
Theory and research related to political campaign communication. The persuasive process of political campaigning, the role of the media, the candidate and image creation.

W COM 457 New Media. (3)
once a year
Explores how new communication and information technologies affect communication and culture. Prerequisite: COM 308 or 309.

W COM 463 Cultural and Intercultural Communication Theory and Research. (3)
once a year
Survey and analysis of major theories and research dealing with communication within cultures and between people of different cultural backgrounds. Prerequisite: COM 308 or 309 or instructor approval.
General Studies: SB, G

W COM 465 Intercultural Communication Workshop. (1–3)
selected semesters
Experientially based study of communication among members of different cultures designed to help students improve their intercultural communication skills.

W COM 471 International Communication. (3)
selected semesters
Explores the political, economic, sociocultural, and communicative dimensions of mediated communication across borders and the processes of globalization. Prerequisite: COM 463 or instructor approval.
General Studies: G

W COM 475 Nonverbal Communication Theory and Research. (3)
selected semesters
Critical study of theories and research concerning nonlinguistic aspects of communication. Examines functions of nonverbal behaviors in various communication contexts.

W COM 484 Internship. (1–12)
fall and spring
Supervised field experience. Fee. Prerequisites: 2.80 GPA; senior status; internship director approval; Communication Studies major or Public Relations and Strategic Communications minor.

W COM 494 Special Topics. (1–4)
fall, spring, summer
Topics may include the following:
- Special Events Management

Prerequisite: minimum cumulative ASU GPA of 2.50.

W COM 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Criminal Justice and Criminology

www.west.asu.edu/chs/aoj
602/543-6607
FAB S323

Scott Decker, Chair (beginning fall 2006)
Chester Britt III, Chair (through spring 2006)

Professor: Hepburn

Associate Professors: Bernat, Britt, Decker, Katz, Rodriguez

Assistant Professors: Griffin, Shaffer, Schnebly, Whitlock

The Department of Criminal Justice and Criminology offers the Bachelor of Science degree in Criminal Justice and Criminology and the Master of Arts degree in Criminal Justice to accommodate the needs of one of the most rapidly growing academic and professional fields in the United States.

CRIMINAL JUSTICE AND CRIMINOLOGY—BS

Nature of Program

The program provides a social science, interdisciplinary perspective to the study of the administration of justice. The focus is on the policies and practices of criminal justice system components, including law enforcement, corrections, and the courts. Students are exposed to the criminal law and its origins, patterns, and theories of crime and crime analysis, and to the body of research-based literature that examines and evaluates contemporary criminal justice practice.

The Criminal Justice and Criminology curriculum offers students a solid foundation of courses that provide the content, analytical, and communication skills required for working in complex criminal justice occupations. The program also prepares students to enter into graduate studies and exposes students considering law school to substantive and procedural criminal law.

During their senior year, students are encouraged to complete an internship in a justice-related placement. CRJ 484 Internship in Criminal Justice and Criminology has been designed to provide the student with a well-rounded learning experience in an experiential setting. It involves a three-way partnership among students, the department, and cooperating institutions. It is guided by goals and objectives that are based on the needs and resources of those involved. The intern's goals and objectives are developed with the assistance of the internship coordinator and the cooperating agency supervisor. They represent skills and competencies that can be reasonably accomplished during the internship period.

Career Outlook

The Criminal Justice and Criminology Department provides an interdisciplinary approach to understanding issues related to the field of criminal justice. Societal concern about issues of crime, crime prevention, and victimization necessitate that state and federal money be devoted to the field of criminal justice. Consequently, this field is one of the fastest growing areas of employment.

Graduates of the Criminal Justice and Criminology program find employment in the public and private sectors. Employment opportunities exist in the areas of law enforcement, probation, parole, corrections, private security, court personnel, legal offices, and victim witness advocate agencies. Graduates may also pursue advanced degrees in law and in social science disciplines.

Major Requirements

The 51-semester-hour Bachelor of Science degree program in Criminal Justice and Criminology consists of 24 hours of major core courses, 21 hours of major elective courses, and six hours in a related field. A student must attain a grade of "C" (2.00) or higher in all courses credited toward the major, including courses in the related area. A minimum of 24 upper-division semester hours of course work toward the major must be completed at West campus.

Criminal Justice and Criminology Core Courses

CRJ	100	The Justice System SB	3
CRJ	230	The Police Function	3
CRJ	240	The Correctional Function	3
CRJ	302	Research Methods	3
CRJ	303	Statistical Analysis CS	3
CRJ	304	Criminology	3
CRJ	305	Women, Crime, and Justice C	3
CRJ	306	Race, Ethnicity, and Justice C	3
CRJ	485	Student Assessment	0
Total			24
Electives*			21
Related field courses*			6
Program total			51

* The 21 semester hours of elective courses in the major and the six hours of courses in related fields must be strategically assembled with appropriate advising to make up a specialty area consistent with the student's intellectual and career interests and objectives.

Community College Courses

Many Criminal Justice and Criminology courses are taught at Arizona community colleges. The transferability of these courses is governed by the course equivalency in effect when the course was taken. This information is maintained in the Course Applicability System–CEG function at az.transfer.org/cas. Community college courses that are equivalent to upper-division CRJ courses apply to the program, if completed with a grade of "C" (2.00) or higher, and should not be repeated at West campus; however, these

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

courses do not count toward the required upper-division semester hours.

West campus courses may have Tempe campus or community college transfer equivalents and should not be repeated at West campus, as shown in the "Criminal Justice Equivalent Courses" table below.

Criminal Justice Equivalent Courses

West Campus	Course Title	Tempe Campus
CRJ 100	The Justice System	—
CRJ 200	Topics in Concepts and Issues of Justice	JUS 200
CRJ 230	The Police Function	JUS 306
CRJ 240	The Correctional Function	JUS 310
CRJ 360	Substantive Criminal Law	—
CRJ 410	Procedural Criminal Law	—
CRJ 442	Community Relations in the Justice System	JUS 320

Other Requirements

Students must complete all university degree requirements (including General Studies program requirements). For descriptive information on these requirements, refer to the "General Studies," page 93.

GRADUATE DEGREES

The faculty in the Department of Criminal Justice and Criminology offer a professional Master of Arts degree in Criminal Justice. For more information, see the *Graduate Catalog*.

CRIMINAL JUSTICE (CRJ)

W CRJ 100 The Justice System. (3)
fall and spring
Overview of the justice system. Roles of law enforcement personnel, the courts, and correctional agencies. Philosophical and theoretical views in historical perspective.
General Studies: SB

W CRJ 200 Topics in Concepts and Issues of Justice. (3)
fall
Uses critical thinking skills to analyze and comprehend controversial social issues. May be repeated for credit when topics vary.
General Studies: SB

W CRJ 230 The Police Function. (3)
fall and spring
Introduces policing in the United States covering the history of police, contemporary police work, and problems in policing.

W CRJ 240 The Correctional Function. (3)
fall and spring
Introduces the structure and function of the corrections system from historical and contemporary perspectives.

W CRJ 302 Research Methods. (3)
fall and spring
Focuses on developing and evaluating research designs, data collection, and the relationship between validity and reliability. Also stresses methods for conducting research. Pre- or corequisite: CRJ 100 or instructor approval.

W CRJ 303 Statistical Analysis. (3)
fall and spring
Introduces the fundamentals and application of descriptive and inferential statistics, with emphasis in the administration of justice area. Pre- or corequisites: CRJ 100 (or instructor approval); the university mathematics requirement.
General Studies: CS

W CRJ 304 Criminology. (3)
fall and spring
Provides a basic overview of the nature, the causes and consequences, and the theories of criminal behavior. Pre- or corequisite: CRJ 100 or instructor approval.

W CRJ 305 Women, Crime, and Justice. (3)
fall and spring
Studies women as offenders, victims, and professionals in the criminal justice system. Pre- or corequisite: CRJ 100.
General Studies: C

W CRJ 306 Race, Ethnicity, and Justice. (3)
fall and spring
Studies minority issues in the criminal justice system. Pre- or corequisite: CRJ 100.
General Studies: C

W CRJ 312 Police and Culture. (3)
once a year
Covers broad concept of culture, theoretical approaches to police subculture, and major themes that characterize police culture (suspicion, danger, solidarity, and isolationism). Prerequisites: CRJ 100, 230.

W CRJ 314 Innovations in Policing. (3)
once a year
Examines current theories and research findings that guide police work, and the practical implications of evaluation within police departments. Prerequisites: CRJ 100, 230.

W CRJ 315 Police Organization and Management. (3)
once a year
Provides a thorough understanding of the structure, processes, and behavior of police organizations. Prerequisites: CRJ 100, 230.

W CRJ 320 The Adjudication Function. (3)
once a year
History and development of courts, trial by jury, and other dispute resolution mechanisms; selection and removal of judges and juries; organization, structure, and jurisdiction of courts; trial and nontrial processes of the judiciary. Pre- or corequisite: CRJ 100.

W CRJ 340 Juvenile Justice. (3)
fall and spring
Critical examination of the history and development of the juvenile court and the juvenile justice system. Pre- or corequisite: CRJ 100.

W CRJ 350 Law and Social Control. (3)
once a year
Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. Pre- or corequisite: CRJ 100.
General Studies: SB

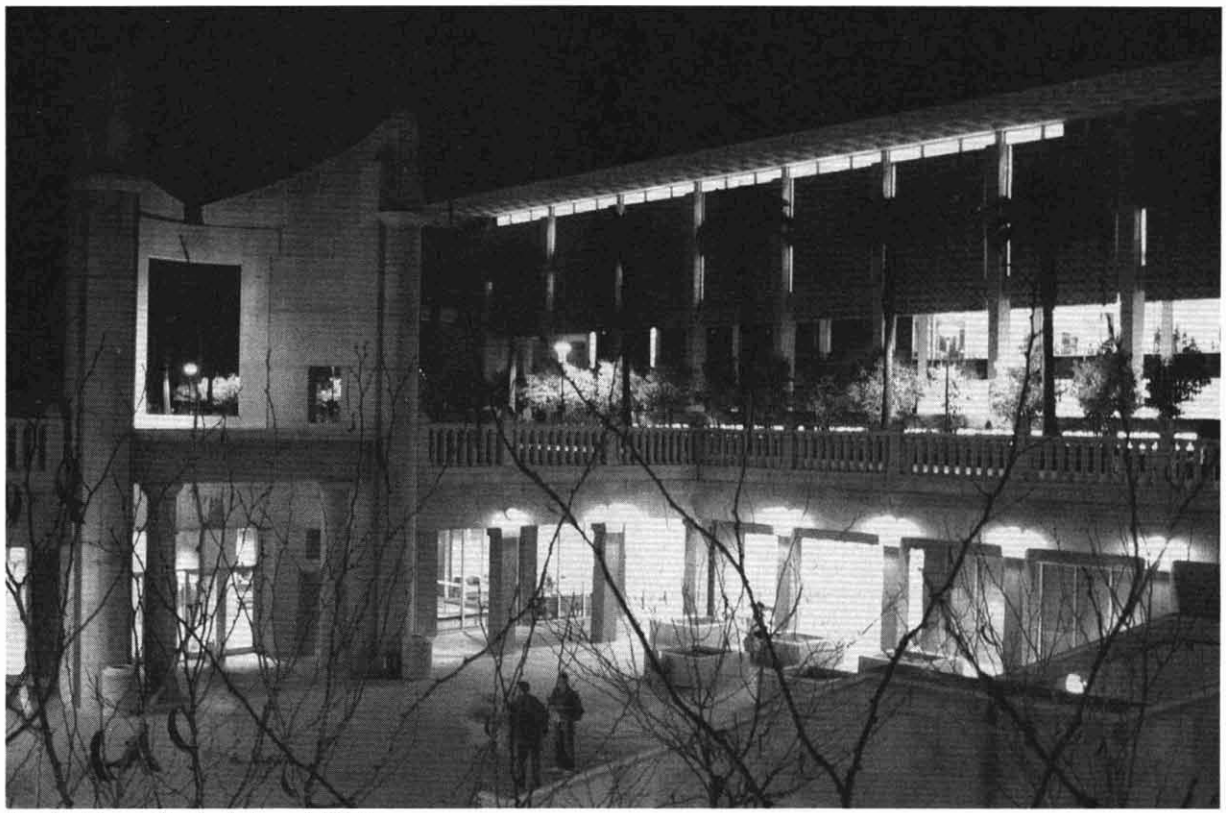
W CRJ 360 Substantive Criminal Law. (3)
fall and spring
Criminal liability. Crimes against persons, property, and society. Governmental sanctions of individual conduct as formulated by legislatures and the courts. Pre- or corequisite: CRJ 100.

W CRJ 410 Procedural Criminal Law. (3)
fall and spring
The criminal process. Constitutional and legal problems associated with arrest, search and seizure, and due process of law. Prerequisite: CRJ 100.

W CRJ 420 Imperatives of Proof. (3)
once a year
Problems and means of establishing identity and fact in relation to arrest, detention, adjudication, sentencing, and correctional case management. Prerequisite: CRJ 100.

W CRJ 430 Correctional Law. (3)
once a year
Studies the rights of inmates and the duties of corrections officials. Prerequisite: CRJ 100, 240.

W CRJ 441 Prevention of Crime and Delinquent Behavior. (3)
once a year
Theories of prevention, individual, group, and community approaches: intervention at appropriate stages; contemporary law enforcement, and corrections practices. Prerequisite: CRJ 100.



Hayden Library illuminated as night falls

Tim Trumble photo

W CRJ 442 Community Relations in the Justice System. (3)
once a year
Focuses on developing an informed plan and policy for incorporating research findings about the surrounding community within various justice services and agencies. Topics include social stratification, minority groups, and victimology. Prerequisite: CRJ 100.

W CRJ 443 Probation and Community Corrections. (3)
once a year
Examines the probation and parole functions as well as the numerous and diverse types of community corrections programs. Prerequisites: CRJ 100, 240.

W CRJ 461 Domestic Violence. (3)
once a year
Legal, historical, theoretical, and treatment aspects of domestic violence, including child abuse, woman battering, incest, and marital rape. Prerequisite: CRJ 100.

W CRJ 462 Gangs. (3)
once a year
Critical examination of the history and development of gangs, including criminal justice system responses to gangs and gang-related behaviors. Prerequisite: CRJ 100.

W CRJ 463 Occupational Crime. (3)
once a year
Overview of major issues in business, professional, and official rule violations. Includes consumer fraud, securities violations, unethical professionalism, and political corruption. Prerequisite: CRJ 100.

W CRJ 464 Organized Crime. (3)
once a year
The nature of organized crime and its illegal activities, theories of containment, and efforts by justice agencies to counter its dominance in society. Prerequisite: CRJ 100.

W CRJ 470 Discretionary Justice. (3)
once a year
Use/abuse, key issues/manifestations of discretion in legal system and other societal institutions. Theoretical/empirical linkages between discretion and discrimination, based on race, ethnicity, and gender. Prerequisite: CRJ 100.
General Studies: L/SB

W CRJ 484 Internship. (1–12)
fall, spring, summer
Assignments in a justice-related placement designed to further the student's integration of theory and practice. Placements are arranged through consultation with students and agencies. May be taken for a total of up to 12 hours credit, of which a maximum of 6 are applied to the major. Students must consult with the program to arrange internships.

W CRJ 485 Student Assessment. (0)
fall, spring, summer
Students may attend a mid-semester information session on the assessment process. At the end of the semester, students take part in a standardized examination and self-administered survey. "Y/E" grade only. Students must register for this class their final semester.

W CRJ 490 Senior Seminar in Criminal Justice. (3)
fall and spring
Covers a variety of topics in the criminal justice system. Content varies with each offering. May be repeated for credit for a maximum of 6 hours. Prerequisite: completion of Criminal Justice and Criminology core courses with a minimum 2.00 GPA.
General Studies: L

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W CRJ 499 Individualized Instruction. (1–3)
fall, spring, summer
Original study or investigation in the advanced student's field of interest under the supervision of a faculty member. May be repeated for credit up to a maximum of 6 hours, all applicable to the major. Readings, conferences, tutorials. Prerequisite: CRJ 100.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Gerontology

Interdisciplinary Certificate Program

www.west.asu.edu/chs/grn
602/543-6642
FAB S117

Richard Gitelson, Director

Communication Studies (West Campus)
Professor: V. Waldron
Associate Professors: Di Mare, Kelley

Industrial Design (Tempe Campus)
Assistant Professor: Boradkar

Interior Design (Tempe Campus)
Associate Professor: Cutler

Exercise and Wellness (Polytechnic Campus)
Associate Professor: Swan

Geography (Tempe campus)
Associate Professor: McHugh

Gerontology (West Campus)
Lecturer: K. Waldron

Health Management and Policy (Tempe Campus)
Professor: Schneller

History (Tempe Campus)
Professor: Gratton

Human Evolution and Social Change (Tempe Campus)
Professor: Carr

Integrative Studies (West Campus)
Professor: McGovern

Kinesiology (Tempe Campus)
Regents' Professor: Daniel Landers
Professor: Stelmach
Senior Lecturer: Donna Landers

Language, Cultures, and History (West Campus)
Associate Professor: Hattenhauer

Marketing (Tempe Campus)
Associate Professor: Stephens

Music (Tempe Campus)
Professor: Crowe
Associate Professor: Rio

Nursing (Downtown Phoenix Campus)
Professors: Keller, Komnenich
Associate Professors: Cesarotti, Killeen, McCarthy

Nutrition (Polytechnic Campus)
Professor: Vaughan
Assistant Professor: Woolf

Psychology (Tempe Campus)
Professors: Karoly, Okun, Reich, Sadalla, Zautra
Associate Professors: Alexander, Leshowitz

Psychology in Education (Tempe Campus)
Professor: Strom

Recreation and Tourism Management (West Campus)
Professors: Gitelson, Knopf, Searle

Social and Behavioral Sciences (West Campus)
Professor: Náñez
Associate Professors: Burleson, Coon
Assistant Professor: Anastasi

Social Work (Downtown Phoenix Campus)
Assistant Professor: Kang

Social Work (West Campus)
Associate Professor: Fitzpatrick
Assistant Professors: Bushfield, McCabe
Lecturer: Ealy

Sociology (Tempe Campus)
Professors: Kronenfeld, Kulis
Associate Professors: Keith, Miller-Loessi, Sullivan

The Gerontology Program is a university-wide, multidisciplinary program designed so that students may take course work at any of the four ASU campuses and apply it toward the graduate Certificate in Gerontology or the minor in Gerontology. The program has an affiliated faculty of more than 50 members housed in more than 20 different departments throughout the university. Courses related to aging are taught by faculty who are active contributors to research, theory, and public policy and practice.

Program activities are designed for students who wish to study the psychological, sociological, biological, and policy-related aspects of aging, as well as for those interested in the health, economic, and social concerns of older people. Students study the aging process from multiple perspectives and develop knowledge and skills to prepare them for careers in an aging society. Students may also gain practical experience in working with older adults through field-based experiences and internships.

Since older Americans are becoming an increasing percentage of the population, there is a growing need for professionals with gerontology expertise. This is especially the case in Arizona due to the large number of retirement communities located here. Careers are available in a broad range

of fields, including recreation, social work, nursing, counseling, public policy, and long-term care administration.

MINOR IN GERONTOLOGY

The minor in Gerontology requires 18 semester hours of course work. The Gerontology minor is designed to explore the study of aging from an interdisciplinary perspective. Students select two of the three gerontology core courses and four additional aging-related courses that are approved as electives. The Gerontology Program allows double counting of courses from the student's major in the minor; however, students should consult with their major department to determine if it has more stringent requirements. A 2.50 GPA or higher must be earned in the six courses.

Undergraduates may begin taking courses for the minor upon completion of 56 semester hours with a minimum cumulative GPA of 2.00.

Core Courses

GRN 400 Perspectives on Aging *SB* 3
Choose one of the following courses 3
GRN 420 Health Aspects of Aging *SB*[1] (3)
PGS 427 Psychology of Aging *SB* (3)

Electives

Electives[2] 12

Total 18

[1] An approved course can be substituted.

[2] All courses carrying a GRN prefix can be counted as elective courses in the program. A list of elective courses carrying other disciplinary prefixes that may be used toward completion of the minor and certificate in gerontology is available from the Gerontology Program office.

GRADUATE PROGRAM

The Gerontology Program offers a professional graduate Certificate in Gerontology. Consult the ASU *Graduate Catalog* for information about the program.

For more information, call 602/543-6642, or access the program Web site at www.west.asu.edu/chs/grn.

GERONTOLOGY (GRN)

W GRN 400 Perspectives on Aging. (3)
selected semesters
Broad overview of gerontological issues, including physical aging, retirement, living options, caregiving, theoretical background, death. Cross-listed as W SOC 400. Credit is allowed for only W GRN 400 or W SOC 400.
General Studies: SB

W GRN 420 Health Aspects of Aging. (3)
spring
Examines biological, social, and behavioral aspects of health in the later years. Considers the organization and delivery of care.
General Studies: SB

M GRN 430 Multidisciplinary Approaches to Gerontology. (3)
selected semesters
Examines literature that each discipline brings to the study of gerontology. Covers both theory and practice. Lecture, discussion.
General Studies: SB

M GRN 431 Caregiving. (3)
selected semesters
Examines theory and practice of caregiving for the senior population. Lecture, discussion.

M GRN 440 Aging and Wellness. (3)
selected semesters
One-on-one service/experiential learning with seniors from the community. May be repeated once for credit. Lecture, lab.

M GRN 450 Biology of Aging. (3)
selected semesters
Examines normal biological aging and changes in functional capabilities in the elderly. Lecture, lab.

M GRN 460 Alzheimer's and Related Dementias. (3)
selected semesters
Familiarization with Alzheimer's disease and related dementias from a caregiver's perspective.

W GRN 484 Undergraduate Internship. (3–6)
fall, spring, summer

W GRN 498 Undergraduate Pro-Seminar. (3)
selected semesters

W GRN 499 Undergraduate Individualized Instruction. (3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Nursing Program

nursing.asu.edu
602/543-6605
FAB S331-1

Shirley Bell, Site Manager

NURSING—BSN

The College of Human Services hosts the ASU College of Nursing Bachelor of Science in Nursing program. Taught by ASU College of Nursing faculty, all upper-division requirements for a nursing degree are offered at West campus.

The Nursing faculty acknowledge their responsibility to health care consumers for the preparation of individuals who provide nursing care of professional quality through teaching, research, and service. Within the context of a liberal education, the undergraduate degree program prepares professional nurses who

1. understand and respond to changing health and social needs and services;
2. influence nursing practice and health care through leadership and participation in professional and sociopolitical activities; and
3. utilize scientific knowledge to advance professional nursing practice.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

The continuing education program provides opportunities for nurses to improve and expand their nursing practice to meet the health care needs of various populations and to further their own professional development.

For information on admission, advising, and degree requirements, see "College of Nursing," page 174, call 480/965-2987, or access the Web site at nursing.asu.edu.

Department of Recreation and Tourism Management

www.west.asu.edu/chs/RTM
602/543-6603
FAB S115A

Wendy Hultsman, Chair

Professors: Andereck, Gitelson, Knopf

Associate Professor: Hultsman

Assistant Professor: Autry

The Recreation and Tourism Management Department offers the Bachelor of Science degree in Recreation and Tourism Management and minors in Recreation Management, Special Events Management, Tourism Management, and Youth Services Leadership for majors outside the department.

RECREATION AND TOURISM MANAGEMENT—BS

Nature of Program

The Recreation and Tourism Management program prepares students for leadership roles in the recreation, park, tourism, and travel management fields. Its primary purpose is to help students acquire the knowledge and perspective they will need to lead these fields through the social, economic, and environmental challenges of the next century.

The program offers a curriculum that places the study of recreation and tourism in a broad, multidisciplinary context. Students will integrate perspectives from such diverse arenas as human development and behavior, law, marketing, strategic planning, urban and regional planning, financing, economic development, social justice, environmental management, human resource management, organizational behavior, and public policy. At the same time, the curriculum emphasizes experiential learning in professional settings to develop the core competencies required for professional-level entry into the recreation and tourism fields.

Students graduating from this program are eligible to sit for the examination to become a Certified Park and Recreation Professional (CPRP) and thereby acquire this valuable credential for professional advancement.

Career Outlook

Recreation and Tourism combined is the second-largest industry in the United States. While no university degree automatically ensures employment, Recreation and Tourism Management graduates who have tailored their programs and work experience to market opportunities have done very well in securing relevant career positions.

Public sector and for-profit recreation operations, resorts, employee recreation, special events, and nonprofit agency recreation services have continued to grow to meet recreation demands. Employment for recreation professionals working with youth, older adults, and other special populations has grown significantly. Strong citizen and government emphasis has recently been placed on how to best use natural resources and how to best plan, design, operate, and maintain these resources.

Employment opportunities are expanding in areas such as resorts, outdoor recreation programs, fitness facilities, private membership clubs, military recreation, camps, and commercial recreation businesses. Federal, state, and local recreation agencies are contracting for many recreation services to handle increased demands they cannot presently meet. There are opportunities for assertive, highly motivated, competent, and innovative graduates to create their own nontraditional jobs. Career opportunities for minority students are good, especially in parks and natural resources where there is significant underrepresentation of minorities. In terms of career opportunities, it is the Recreation and Tourism Management Department's goal to provide the best professional training possible to help our students be leading candidates for jobs upon graduation.

Admission Requirements

Admission to the degree program is based upon the applicant's educational and career goals. The applicant must meet the university and College of Human Services admission requirements.

Application forms are available in the Recreation and Tourism Management department office (FAB S115A; 602/543-6603). The application must be completed and accepted for the student to be considered a Recreation and Tourism Management major.

Major Requirements

The 66-semester-hour Bachelor of Science degree program in Recreation and Tourism Management consists of 42 hours of major core courses, 15 hours of major elective courses, and nine hours of nonmajor elective courses from related areas.

The major core courses include six hours of lower-division courses and 36 hours of upper-division courses.

Core Courses

Lower-Division Core

RTM 120 Leisure and Quality of Life *SB*	3
RTM 210 Leisure Delivery Systems	3
Lower-division total	6

Upper-Division Core

RTM 301 Leadership in Recreation and Tourism	3
RTM 302 Recreation and Tourism for Diverse Populations *C*	3
RTM 303 Programming Recreation and Tourism Services	3

RTM 304 Recreation and Tourism Areas and Facilities Management *L* 3
RTM 401 Administration of Recreation and Tourism Services 3
RTM 402 Evaluation and Assessment in Recreation and Tourism 3
RTM 403 Professional Development Seminar 3
RTM 404 Marketing Recreation and Tourism 3
RTM 484 Senior Internship 12

Core total 42

Major electives[1] 15
Related course work[2] 9

Program total 66

[1] Fifteen hours of elective courses in the major must be strategically assembled to craft a specialty area in recreation or tourism management.

[2] Nine hours of nonmajor course work in related areas must be chosen to enhance development within that specialty area. To achieve these goals, all elective hours within the degree program must be chosen in consultation with a faculty advisor.

Additional Major Requirements

The program requires two hundred hours of professional field experience approved by a faculty advisor, which must be completed and documented before enrollment in RTM 484 Senior Internship. A minimum 2.00 cumulative GPA is required for major courses before enrollment in the internship.

Students may enroll in the internship anytime after completion of RTM 301, 302, 303, and 304 with a grade of "C" (2.00) or higher.

A grade of "C" (2.00) or higher is required for all courses credited toward the 66 semester hours of major courses required by the program.

Students must complete all university degree requirements, including General Studies Program requirements as articulated in the "General Studies Program" section of this catalog.

MINOR IN RECREATION MANAGEMENT

Nature of Program

The minor in Recreation Management is designed to offer students who may choose to work in the field part-time or seasonally a fundamental understanding of recreation programming and management. In addition to the four required courses, which provide a solid groundwork for the field, each student will be able to select electives to meet his or her specific interests.

Minor Requirements

The minor consists of 12 semester hours of required courses and six semester hours of electives. At least 12 semester hours must be completed at the West campus. To earn a minor, students must complete all course work in the minor with a minimum grade of "C" (2.00) or higher. Recreation and Tourism Management majors are not eligible to earn a minor in Recreation Management.

Required Core Courses

RTM 120 Leisure and Quality of Life *SB* 3
RTM 303 Programming Recreation and Tourism Services 3
RTM 304 Recreation and Tourism Areas and Facilities Management *L* 3
RTM 401 Administration of Recreation and Tourism Services 3

Electives

Choose two courses from the following[1, 2] 6
- RTM 210 Leisure Delivery Systems (3)
- RTM 301 Leadership in Recreation and Tourism (3)
- RTM 302 Recreation and Tourism for Diverse Populations *C* (3)
- RTM 345 Team Building Strategies (3)
- RTM 360 Policy, Planning, Development of Recreation and Tourism Resources (3)
- RTM 402 Evaluation and Assessment in Recreation and Tourism (3)
- RTM 403 Professional Development Seminar (3)
- RTM 404 Marketing Recreation and Tourism (3)
- RTM 450 Leisure and Aging (3)
- RTM 451 Grant Writing for Human Service Professionals (3)
- RTM 453 Volunteer Management in Human Service Organizations (3)
- RTM 454 Human Services for At-Risk Youth (3)
- RTM 475 Entrepreneurial Recreation and Tourism (3)
- RTM 484 Senior Internship (3)
- RTM 486 Special Events Management (3)
- RTM 494 ST: Leadership and Professional Development in Youth Services (3)

Program total 18

[1] Select courses in consultation with an RTM faculty advisor.

[2] Courses may have prerequisites. See catalog course description.

MINOR IN SPECIAL EVENTS MANAGEMENT

Nature of Program

The minor in Special Events Management is designed to offer students a solid understanding of special event programming and management. In addition to the two-tiered special event courses, which provide basic and advanced instruction, as well as experiential learning opportunities through event production, each student will be able to select electives to meet his or her specific interests.

Minor Requirements

The minor consists of six semester hours of required courses and 12 semester hours of electives selected in consultation with a faculty advisor. At least 12 semester hours must be completed at the West campus in upper-division classes. To earn the minor, students must complete all course work in the minor with a minimum grade of "C" (2.00) or higher.

Recreation and Tourism Management majors are not eligible to earn the minor in Special Events Management.

Required Core Courses

RTM 486 Special Events Management 3
RTM 487 Special Events Management, Advanced 3

Electives

Choose four courses from the following* 12
- D REC 345 Meeting and Convention Planning (3)

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

RTM 301 Leadership in Recreation and Tourism (3)
RTM 303 Programming Recreation and Tourism Services (3)
RTM 304 Recreation and Tourism Areas and Facilities Management *L* (3)
RTM 373 Leisure Travel and Tourism *SB* (3)
RTM 403 Professional Development Seminar (3)
RTM 404 Marketing Recreation and Tourism (3)
RTM 451 Grant Writing for Human Service Professionals (3)
RTM 453 Volunteer Management in Human Service Organizations (3)
RTM 458 International Tourism *G* (3)
RTM 475 Entrepreneurial Recreation and Tourism (3)
RTM 484 Senior Internship (3)
RTM 494 ST: Nonprofit Management for Human Services Professionals (3)

* Select from these or other approved courses in consultation with the minor advisor.

MINOR IN TOURISM MANAGEMENT

Nature of Program

The minor in Tourism Management is designed to provide students with fundamental knowledge in travel and tourism management. The minor may be useful to students pursuing degrees in Communication Studies, Criminal Justice and Criminology, Global Business, Interdisciplinary Arts and Performance, and Spanish.

Minor Requirements

The minor consists of 18 semester hours, of which 15 semester hours must be at the upper-division level. To earn the minor, students must complete all courses with a minimum grade of "C" (2.00). Recreation and Tourism Management majors are not eligible to earn the minor in Tourism Management.

Required Core Courses

Choose two from the following 6
RTM 373 Leisure Travel and Tourism *SB* (3)
RTM 458 International Tourism *G* (3)
RTM 475 Entrepreneurial Recreation and Tourism (3)

Electives

Choose four courses from the following[1] 12
RTM 303 Programming Recreation and Tourism Services (3)
RTM 304 Recreation and Tourism Areas and Facilities Management *L* (3)
RTM 360 Policy, Planning, Development of Recreation and Tourism Resources (3)
RTM 401 Administration of Recreation and Tourism Services (3)
RTM 404 Marketing Recreation and Tourism (3)
RTM 458 International Tourism *G*[2] (3)
RTM 475 Entrepreneurial Recreation and Tourism[2] (3)
RTM 486 Special Events Management (3)

Program total 18

1 Select courses in consultation with the minor advisor (an other approved course may be lower-division).
2 Course may be taken as an elective if not selected to fulfill core requirement.

MINOR IN YOUTH SERVICES LEADERSHIP

Nature of Program

The minor in Youth Services Leadership is designed to explore the area of youth leadership from the perspective of those who work face-to-face with youth in a variety of settings.

Minor Requirements

The minor consists of 12 semester hours of core courses and six hours of electives. Of the 18 semester hours of requirements, at least 12 semester hours must be completed in upper-division courses at the West campus. To earn the minor, students must complete all course work in the minor with a minimum cumulative GPA of 2.00 or higher and all courses with a minimum grade of "C" (2.00) or higher.

Required Core Courses

RTM 301 Leadership in Recreation and Tourism 3
RTM 303 Programming Recreation and Tourism Services 3
RTM 394 ST: Recreation and Leisure Services for Youth Development 3
RTM 454 Human Services for At-Risk Youth 3

Electives

Choose two courses from the following[1, 2] 6
CRJ 340 Juvenile Justice (3)
CRJ 441 Prevention of Crime and Delinquent Behavior (3)
CRJ 462 Gangs (3)
IAP 331 Performance, Acting, and the Individual (3)
IAP 347 Movement in Education (3)
RTM 302 Recreation and Tourism for Diverse Populations *C* (3)
RTM 345 Team Building Strategies (3)
RTM 451 Grant Writing for Human Service Professionals (3)
RTM 484 Senior Internship (3)
RTM 494 ST: Leadership and Professional Development in Youth Services (3)
SOC 340 Sociology of Deviant Behavior *SB* (3)
SPE 222 Orientation to Education in Exceptional Children *SB* (3)
SPE 322 Behavior Management and Consultation[3] (3)

Program total 18

1 Select courses in consultation with an RTM faculty advisor.
2 Courses may have prerequisites. See catalog course description.
3 This course requires instructor approval.

HEALTH SCIENCE (HES)

For more HES courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W HES 301 Adult Fitness I. (1)
fall, spring, summer
Physical fitness and benefits of exercise. Emphasizes fitness assessment and designing an individualized assessment program. Y/E grade only. 2 hours a week. Fee.

W HES 302 Adult Fitness II. (1)
fall, spring, summer
Continuation of HES 301. Y/E grade only. 2 hours a week. Fee. Prerequisite: HES 301.

W HES 303 Adult Fitness III. (1)
fall, spring, summer
Continuation of HES 302. Y/E grade only. 2 hours a week. Fee. Prerequisites: HES 301, 302.

W HES 394 Special Topics. (1)
fall and spring
Selected topics in health science, such as Tai Chi and yoga. Y/E grade only.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

RECREATION AND TOURISM MANAGEMENT (RTM)

W RTM 120 Leisure and Quality of Life. (3)
fall and spring
Conceptual foundations for understanding the role of leisure in quality of life, socially, historically, psychologically, culturally, economically, and politically.
General Studies: SB

W RTM 210 Leisure Delivery Systems. (3)
spring
Introduces development, management, and organization of the public, not-for-profit, and private sectors for the leisure services profession.

W RTM 301 Leadership in Recreation and Tourism. (3)
fall
Leadership theory and strategies applied to recreation and tourism settings, emphasizing group dynamics, motivational processes, and supervisory skills.

W RTM 302 Recreation and Tourism for Diverse Populations. (3)
fall
The role of recreation and tourism in serving the needs of culturally, physically, emotionally, mentally, and demographically diverse populations. Involves fieldwork.
General Studies: C

W RTM 303 Programming Recreation and Tourism Services. (3)
spring
Foundations for effective programming of leisure services in public, not-for-profit, and private sectors. Involves fieldwork. Prerequisite: Recreation and Tourism Management major or instructor approval.

W RTM 304 Recreation and Tourism Areas and Facilities Management. (3)
spring
Principles of management, care, function, and maintenance of recreation and tourism areas, facilities, and resources. Field and classroom based.
General Studies: L

W RTM 345 Team Building Strategies. (3)
summer
Explores the concepts and strategies for facilitating team building, self-confidence, and positive self-esteem in situations across the lifespan.

W RTM 360 Policy, Planning, Development of Recreation and Tourism Resources. (3)
spring
Investigates the policy, planning, development, and management practices related to the provision of recreation and tourism opportunities.

W RTM 373 Leisure Travel and Tourism. (3)
fall
Examines leisure travel and tourism, tourist behavior, and the effect of tourism on communities. Prerequisite: ENG 101 or 105.
General Studies: SB

W RTM 401 Administration of Recreation and Tourism Services. (3)
spring
Basic application of management principles to recreation and tourism services. Includes budgeting, personnel actions, legal issues, and public relations. Involves fieldwork. Prerequisite: RTM 210.

W RTM 402 Evaluation and Assessment in Recreation and Tourism. (3)
spring
In-depth development of a program evaluation. Specification of objectives, instrument development and administration, data analysis, and reporting findings. Prerequisite: RTM 210 or instructor approval.

W RTM 403 Professional Development Seminar. (3)
fall
Emphasizes current professional issues and refinement of professional philosophy and competencies that enable transition from student to professional. Prerequisite: Recreation and Tourism Management major.

W RTM 404 Marketing Recreation and Tourism. (3)
fall
Principles of marketing and promotional strategy for recreation and tourism operations. Emphasizes case study experience with leading professionals.

W RTM 450 Leisure and Aging. (3)
spring
Examines the factors influencing leisure among older adults, including policy issues and program service implications. Involves fieldwork.

W RTM 451 Grant Writing for Human Service Professionals. (3)
fall and spring
How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers.

W RTM 453 Volunteer Management in Human Service Organizations. (3)
fall
Administration of volunteer service programs. Study and analysis of volunteer personnel process.

W RTM 454 Human Services for At-Risk Youth. (3)
spring
Overview of policy and programs affecting at-risk youth; examines risk factors and programmatic solutions to them. Lecture, seminar.

W RTM 458 International Tourism. (3)
fall and spring
Global examination of international tourism and its significance as a vehicle for social and economic development.
General Studies: G

W RTM 475 Entrepreneurial Recreation and Tourism. (3)
spring
Examines the development, management, and future of for-profit ventures in recreation and tourism.

W RTM 484 Senior Internship. (1–12)
fall, spring, summer
Supervised field experience in selected recreation and tourism management enterprises. Prerequisites: Recreation and Tourism Management major or minor; 2.00 GPA in major or minor. Prerequisite for major: all 300-level courses completed.

W RTM 486 Special Events Management. (3)
fall
Principles of programming and managing special events for diverse populations. Class plans, conducts, and evaluates a community special event. Involves fieldwork.

W RTM 487 Special Events Management, Advanced. (3)
spring
Advanced principles of special event sponsorship, public relations, marketing, contracting, risk management, and financial management. Prerequisite: RTM 486 (or COM 494 ST: Special Events Management or RTM 598 ST: Special Events Management) or instructor approval.

W RTM 494 Special Topics. (1–4)
fall, spring, summer
Topics in recreation, parks, and tourism, including commercial recreation, special events management, professional development seminar, management issues in leisure studies, issues in clinical therapeutic recreation, and activities and facilities modification in therapeutic recreation.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Social Work

www.west.asu.edu/chs/sw
602/543-6602
FAB S126

Wendy Hultsman, Interim Chair

Associate Professors: Fitzpatrick, Zorita

Assistant Professors: Bushfield, Farone, Hodge, Langer, McCabe, Nadir

Lecturers: Ealy, Lietz, Montaño

The primary goal of the Social Work Department is to enable students to realize their maximum potential as agents of change and leaders in the social services profession. The department offers the Bachelor of Social Work and the Master of Social Work degree programs.

SOCIAL WORK—BSW

Nature of Program

The goal of the Social Work Department is to train professional social workers for entry-level, generalist practice focused on populations that are most oppressed and most in need of the services social workers offer. A special emphasis is placed on working with diverse groups of the Southwest.

The undergraduate curriculum leads to a Bachelor of Social Work (BSW). Juniors and seniors majoring in Social Work focus on social work courses in social policy and services, human behavior in the social environment, social work practice, research, and field instruction in community agencies. In addition, majors take elective courses in related areas.

The BSW practitioner is a generalist focusing on roles such as advocacy, referral, case management, and problem-solving functions with individuals, groups, families, organizations, and the community.

Career Outlook

The Department of Social Work prepares students for professional generalist BSW practice. Employment in social work is expected to increase commensurately with the needs of a growing and diverse population.

Social Workers are employed in public and private agencies dealing with a wide variety of social issues, including child abuse, foster care, adoptions, health, mental health, aging, delinquency, corrections, family dysfunction, poverty, teen pregnancy, domestic violence, homelessness, AIDS, school-related problems, discrimination, disability, substance abuse, and others. Social work skills such as problem solving, resource utilization, counseling, group work, and community organization are also useful for positions with industry in employee relations and mediation.

Admission Requirements

In order to be considered for admission to the Bachelor of Social Work program, applicants must have

1. completed the university First-Year Composition requirement with a grade of "C" (2.00) or higher;
2. completed the following Social Work courses with a grade of "C" (2.00) or higher:
   a. SWU 171 Introduction to Social Work: Social Problems and Social Justice *SB, H* (3)
   b. SWU 291 Social Service Delivery Systems (3)
3. completed a minimum of 120 hours of volunteer or paid experience in social work related settings;
4. completed the following courses with a grade of "C" (2.00) or higher:
   a. ECN 211 Macroeconomic Principles *SB* (3)
   b. PGS 101 Introduction to Psychology *SB* (3)
   c. PHI 101 Introduction to Philosophy *HU* (3)
   d. POL 110 Government and Politics *SB* (3) or POL 310 American National Government: Ideas and Institutions *SB, H* (3)
   e. SOC 101 Introductory Sociology *SB* (3) or SOC 301 Principles of Sociology *SB* (3)
   f. a course in human biology (e.g., LSC 365; M BIO 201)
   g. a course in statistical analysis
   h. a lower-division literacy and critical inquiry course
5. completed and submitted the Social Work Department application packet; and
6. been admitted to the university as a degree-seeking student.

Applications

Students wishing to enter the Social Work program are required to apply for admission to the program in addition to obtaining an official Certificate of Admission to the university. Students are eligible to apply for admission to the Social Work major during the semester they are completing the lower-division requirements listed above.

A student may obtain a Social Work Department application packet at the Department of Social Work office (FAB S126) or request one by mail by calling 602/543-6602.

Criteria for Admission

Admission is based on the following criteria:

1. The applicant must have a minimum cumulative GPA of 2.50.
2. The applicant must provide documentation of the 120 hours of paid experience or volunteer activity. Verification forms are available on the department Web site at www.west.asu.edu/chs/sw.
3. The applicant's educational and career goals must be compatible with the educational objectives of the program.

4. Three references are required for each applicant. Two references should be from individuals who have known the applicant in a professional capacity. The other reference is provided by the either the applicant's SWU 171 or 291 instructor.
5. The applicant must demonstrate physical and emotional capabilities congruent with the functioning of a professional social worker.

Community College Transfer Students. Students who have completed the Associate in Transfer Partnership degree from a Maricopa County Community College or an Arizona Associate of Arts degree with the Social Work common courses, and have a GPA of 2.50 or higher, have completed the lower-division course admission requirements and may apply for admission to the BSW program.

Admission Decision

The BSW Admissions Committee meets each semester to review applications for the upcoming semester.

Students may submit their applications during the semester in which they are completing the lower-division course requirements. Applicants who are in the process of meeting eligibility requirements and are admissible are granted provisional admission status. Upon successful completion of the semester, the BSW program staff determines that all requirements have been met and the applicant is granted full admission status. In the event that all requirements are not met, the applicant is not admitted into the BSW program.

Admission Appeal

Applicants who have been denied admission may request a conference to discuss the decision and to obtain guidance in the development of future plans. Students may appeal the decision to the Standards Committee.

Readmission

Undergraduate students who have previously attended ASU but have not been enrolled at this institution for one or more semesters are required to apply for readmission following university procedures. Students who were previously BSW majors may, in addition, be required to apply for readmission to the program.

Transfer Credit

Direct transfer of courses from other accredited institutions to the Social Work program is subject to the existence of parallel and equal courses in the school's curriculum. Transfer credit is not given for courses in which the lowest passing grade ("D" [1.00]) or a failing grade ("E" [0.00]) was received. Credit for life experience is not given in lieu of course requirements.

Major Requirements

The required Social Work core consists of 48 semester hours.

SWU 171	Introduction to Social Work: Social Problems and Social Justice *SB, H*	3
SWU 291	Social Service Delivery Systems	3
SWU 301	Human Behavior in the Social Environment I *L*	3
SWU 310	Social Work Practice I	3
SWU 331	Social Policy and Services I *H*	3
SWU 402	Human Behavior in the Social Environment II *SB*	3
SWU 410	Social Work Practice II	3
SWU 411	Social Work Practice III	3
SWU 412	Field Instruction I	5
SWU 413	Field Instruction Seminar I	1
SWU 414	Field Instruction II	5
SWU 415	Field Instruction Seminar II	1
SWU 420	Practice-Oriented Research	3
SWU 432	Social Policy and Services II	3
SWU 474	Ethnic/Cultural Variables in Social Work *C*	3
Social Work Elective		3
Core total		48

Related Areas. Students are required to take a course in each of the following: a course with a contemporary focus on ethnic minorities of the Southwest (3 hours) and a course with a contemporary focus on women (3 hours).

Program total	54

Field Instruction. Field instruction for the BSW program is offered concurrently with classroom study. Students are assigned to a social service agency and work under the supervision of an experienced and certified social work professional. Field instruction permits testing theory in practice and gives a base of experience to class discussions. Qualified agencies in several Arizona communities are utilized for field instruction.

BSW students work in one placement for 16 hours a week, usually two full days each week, for a total of 480 hours over two semesters. Students are in their field placements at different parts of the school year from January 2 through December 31, excluding university holidays. In assigning the placement, the program takes into account the student's educational needs and career goals. Generalist social workers need to be familiar with the methods of working with individuals, families, and groups, as well as in organizations and communities and with all ages and ethnic groups. The faculty is committed to establishing the capabilities necessary for high-quality, social work generalist practice.

BSW field instruction agencies are located primarily in the Phoenix metropolitan area. Personal transportation is strongly recommended while in field placement.

Graduation Requirements

Social Work majors must file a Declaration of Graduation within the semester that they earn their 81st credit. A minimum of 120 semester hours, a minimum of 50 semester hours in upper-division courses, a minimum of 480 hours in field education, and a minimum GPA of 2.00 are required for graduation with a BSW degree. To be acceptable as graduation credit, all course and field work in the major must show an earned grade of "C" (2.00) or higher.

Academic Policies

In order to remain in good academic standing, students must maintain a minimum cumulative GPA of 2.00 (BSW) at the end of each semester. Most courses in the program are sequential; successful completion of each course in the

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

sequence is required to enroll in the following course. Students may not enroll in any second-year required courses until all foundation courses have been completed successfully.

Retention and Disqualification

Students must maintain a minimum cumulative GPA of 2.00 (BSW). A student is placed on probationary status automatically when (1) the GPA is less than the minimum at the end of any semester or (2) a grade less than "C" (2.00) is received for any major core requirement, regardless of the GPA. Students may also be put on probation for reasons other than grades. See the Policies and Procedures Manual of the Department of Social Work for information on the resolution of probationary status.

Termination from the Program

A student may be terminated from the program under any one of the following circumstances:

1. A student fails to carry out the plan developed during a probationary semester.
2. The student receives an "E" (0.00) grade (failure) in field practicum.
3. The student does not accept or is not accepted by three or more field agencies if, in the judgment of faculty and field staff, the placements can provide appropriate field experiences without undue inconvenience to the student.
4. The student does not adhere to professional expectations and standards (see the ASU Student Code of Conduct, the National Association of Social Workers (NASW) Code of Ethics, and the Council on Social Work Education (CSWE) Curriculum Policy Statement).
5. A student does not demonstrate physical and/or emotional capabilities congruent with the functioning of a professional social worker.

The responsibility for reviewing and determining the qualification of students whose behavior and/or performance are in question is vested in the Academic Standards Committee.

Appeal Procedures

Students who feel they have been unjustly treated in academic or other matters relating to their career as students may appeal by following the guidelines set forth in the "Academic Policies" section of the *BSW Student Handbook*.

Student Responsibilities

Students are expected to support and maintain the highest professional standards as spelled out in the ASU Student Code of Conduct and the NASW Code of Ethics. Regular attendance is expected in all classes and in field education and is a critical factor in evaluation of performance.

GRADUATE DEGREE

The faculty of the Department of Social Work offer a 60-semester-hour professional Master of Social Work degree. The MSW is accredited by the Council on Social Work Education. For more information, see the *Graduate Catalog*.

SOCIAL WORK (GRADUATE) (SWG)

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

SOCIAL WORK (UNDERGRADUATE PROGRAM) (SWU)

For more SWU courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W SWU 171 Introduction to Social Work: Social Problems and Social Justice. (3)
fall
Descriptive and historical perspectives of social problems, social justice issues and society's response to them.
General Studies: SB, H

W SWU 291 Social Service Delivery Systems. (3)
spring
Introduces federal and state social service delivery systems as well as private social service agencies. Explores purpose and structure of community resources. During the semester, students must complete 40 hours of service learning in a social agency. Prerequisite: SWU 171 or instructor approval.

W SWU 301 Human Behavior in the Social Environment I. (3)
fall and spring
Introduces interrelation of bio-psycho-sociocultural systems and their effect on behavior, birth-adolescence, focused on southwestern ethnic and cultural groups. Prerequisite: admission to BSW major.
General Studies: L

W SWU 310 Social Work Practice I. (3)
fall and spring
Introduces social work methods, emphasizing the following skills: relationship development, cross-cultural interviewing, communication patterns, and case-recording. Prerequisite: admission to BSW major.

W SWU 331 Social Policy and Services I. (3)
fall
History, philosophy, and values of social welfare; function and role of social welfare in society; development of the social work profession and practice. Prerequisite: admission to BSW major.
General Studies: H

W SWU 402 Human Behavior in the Social Environment II. (3)
spring
Sequel completing study of life span development and behavior which forms base for social work practice. Prerequisite: SWU 301.
General Studies: SB

W SWU 410 Social Work Practice II. (3)
fall
Introduces generalist social work; major areas of knowledge, values and skills basic to the social work helping process focused on individuals and families. Prerequisites: PHI 101; SWU 301, 310; Social Work major. Corequisites: SWU 412, 413.

W SWU 411 Social Work Practice III. (3)
spring
Applies theoretical frameworks to social work practice at group and community levels. Prerequisites: SWU 410, 412, 413; Social Work major. Corequisites: SWU 414, 415. Pre- or corequisite: SWU 420.

W SWU 412 Field Instruction I. (5)
fall
16 hours a week of supervised practice in an approved placement. "Y/E" grade only. Prerequisite: Social Work major. Corequisites: SWU 410, 413.

W SWU 413 Field Instruction Seminar I. (1)
fall
Field-focused seminar, including practice evaluation. 1.5 hours a week. Prerequisite: Social Work major. Corequisites: SWU 410, 412.

W SWU 414 Field Instruction II. (5)
spring
16 hours a week of supervised practice in an approved placement. "Y/E" grade only. Prerequisites: SWU 410, 412, 413; Social Work major. Corequisites: SWU 411, 415.

W SWU 415 Field Instruction Seminar II. (1)
spring
Field-focused seminar, including practice evaluation. 1.5 hours a week. Prerequisites: SWU 410, 412, 413. Corequisites: SWU 411, 414.

W SWU 420 Practice-Oriented Research. (3)
fall and spring
Applies scientific principles to field practice, problem formulation, intervention procedures, and impact assessment in social work. Prerequisite: SWU 310. Pre- or corequisite: approved course in data analysis techniques or instructor approval.

W SWU 432 Social Policy and Services II. (3)
spring
Contemporary social, political, and economic issues. Special emphasis on poverty and inequality in the Southwest. Analysis and development of social welfare policies and programs. Prerequisite: SWU 331.

W SWU 474 Ethnic/Cultural Variables in Social Work. (3)
fall and spring
Basic conceptual approach to understanding ethnic and cultural variables of southwestern ethnic minorities and how these factors influence social work practice.
General Studies: C

W SWU 494 Special Topics. (1–4)
fall and spring
Topics in social work related to in-depth theory and practice in a specific social work area, including child welfare, gerontology, domestic violence, mental health, disability, culturally-sensitive practice, family intervention, advocacy, crime and delinquency, school-based practice, and others.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Prelaw Minor

www.west.asu.edu/chs/prelaw
602/543-6600
FAB S105

NATURE OF PROGRAM

The Prelaw minor is designed to explore the study of law from an interdisciplinary perspective. Students will take a core of classes that are reflective of courses taken by first-year law students and will enhance a student's critical thinking skills. In addition, students will select elective courses for the minor with assistance from the college's Human Services Advising Office and from a faculty member on the college's Prelaw Advising Committee. In general, the courses selected as prelaw minor electives are those that:

1. enhance the student's critical thinking and writing skills;
2. develop the student's knowledge of the law; and
3. enhance the student's understanding of the social, cultural, historical, economic and political development of the law in our society and the world.

The minor is designed for students who plan to attend law school or who contemplate careers in fields closely related to the legal profession. Students who exhibit exceptional critical thinking and writing skills are highly successful in their legal studies. It is expected that students in the minor will be able to think both logically and creatively about the law and its philosophical basis. In addition, students will be able to effectively apply legal principles to various factual problems, a rudimentary part of the case book method of legal study.

Minor Requirements

The 18-semester-hour minor in Prelaw consists of nine hours of required courses and nine hours of elective courses to be selected with an advisor. Students may not count classes toward both completion of their major and the Prelaw minor.

Core Classes

Choose three of the following courses			9
COM	422	Argumentation, Critical Reasoning and Public Communication *L* (3)	
CRJ	360	Substantive Criminal Law (3)	
LES	306	Business Law (3)	
POL	470	Law and the Political Order *SB* (3)	
Electives			9
Total			18

Electives. The nine hours of electives must be strategically assembled from courses that are either reflective of the different types of law they are interested in studying (e.g., business law, civil liberties, criminal law, environmental law, family law, international law, legal history and jurisprudence, and mental health law), or that enable them to develop critical thinking and writing skills. A list of elective courses that may be used toward completion of the minor is available from the College of Human Services Advising Office or from a member of the Prelaw Advising Committee.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

New College of Interdisciplinary Arts and Sciences

www.west.asu.edu/newcollege **Emily F. Cutrer, PhD, Dean**

Ethnic Studies Program **698**
Integrated Natural Sciences, Department of ... **700**
Integrative Studies, Department of **704**
Interdisciplinary Arts and Performance, Department of **709**
Language, Cultures, and History, Department of **714**
Mathematical Sciences and Applied Computing, Department of **725**
Religious Studies Program **729**
Social and Behavioral Sciences, Department of **730**
Women's Studies Program **743**

PURPOSE

The New College of Interdisciplinary Arts and Sciences offers academic programs that prepare students to take their places as active participants in a rapidly changing social, political, and natural environment. These programs seek to provide students with the skills necessary for independent thinking and effective expression; an understanding and appreciation of diverse cultures past and present; sensitivity to the aesthetic dimensions of human endeavor and the natural environment; and, an appreciation and understanding of scientific perspectives and methods as tools for understanding nature and society. The college's integrating principle or focus is social concern and community engagement.

The college has built a blend of interdisciplinary, integrative, and disciplinary programming that transcends academic boundaries while providing much of the general studies for the campus. The college's teaching and research are guided by a linkage of theory and practice, engaging the local community through service learning activities, internships, and arts programming.

ORGANIZATION

The New College of Interdisciplinary Arts and Sciences is organized into six interdisciplinary departments and three academic programs:

Department of Integrated Natural Sciences
Department of Integrative Studies
Department of Interdisciplinary Arts and Performance
Department of Language, Cultures, and History
Department of Mathematical Sciences and Applied Computing
Department of Social and Behavioral Sciences
Ethnic Studies Program
Religious Studies Minor
Women's Studies Program

DEGREE PROGRAMS

See the "New College of Interdisciplinary Arts and Sciences Baccalaureate Degrees and Majors" table, page 697.

The faculty of the New College of Interdisciplinary Arts and Sciences offer a 30-semester-hour Master of Arts degree in Interdisciplinary Studies. For more information, see the *Graduate Catalog*.

MINORS AND CERTIFICATES

See the "West Campus Minors" table, page 654, and the "West Campus Certificates" table, page 655.

Admission

Any student who is admitted to the university and who wishes to major in an interdisciplinary or disciplinary field offered by the New College of Interdisciplinary Arts and Sciences is admitted to the degree program.

Degree Requirements

All candidates for graduation in the BA and BS degree curricula are required to present at least 120 semester hours, of which at least 50 semester hours must consist of upper-division courses. A minimum cumulative GPA of 2.00 is required for graduation.

In cooperation with their college and faculty advisors, students file a Declaration of Graduation in accordance with the degree requirements. It is the students' responsibility to be aware of the requirements for their degree program and to select courses accordingly.

To graduate, a student must satisfy separate requirements of three kinds:

1. college proficiency requirements for Language and Cultures and Mathematics;
2. university First-Year Composition and General Studies requirements; and
3. major requirements that involve concentrated course work in one program.

Proficiency Requirements

Each student is required to demonstrate proficiency in the analysis of language and cultures and mathematics by passing an examination or by completing the courses

New College of Interdisciplinary Arts and Sciences Baccalaureate Degrees and Majors

Major	Degree	Concentration*	Administered By
American Studies	BA	—	Department of Language, Cultures, and History
Applied Computing	BS	Database systems, network and distributed processing, or digital media and graphic design	Department of Mathematical Sciences and Applied Computing
Applied Science	BAS	Any minor available at the West campus or individualized concentration	Department of Integrative Studies
English	BA	—	Department of Language, Cultures, and History
Ethnicity, Race, and First Nations Studies	BA	—	Ethnic Studies Program
History	BA	—	Department of Language, Cultures, and History
Integrative Studies	BA	Any minor available at the West campus or individualized concentration	Department of Integrative Studies
Interdisciplinary Arts and Performance	BA	—	Department of Interdisciplinary Arts and Performance
Life Sciences	BS	—	Department of Integrated Natural Sciences
Political Science	BA, BS	—	Department of Social and Behavioral Sciences
Psychology	BA, BS	—	Department of Social and Behavioral Sciences
Social and Behavioral Sciences	BA, BS	—	Department of Social and Behavioral Sciences
Sociology	BA, BS	—	Department of Social and Behavioral Sciences
Spanish	BA	—	Department of Language, Cultures, and History
Women's Studies	BA, BS	—	Women's Studies Program

* If a major offers concentrations, one must be selected unless noted as *optional*.

specified below with a grade of "C" (2.00) or higher in each course.

Students considering graduate work after completion of a bachelor's degree should consult with faculty advisors regarding language requirements in their intended areas of study.

Language and Cultures. This requirement may be satisfied through one of the following:

1. completion of secondary education at a school in which the language of instruction is not English;
2. completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV;
3. completion of upper-division course(s) taught in a foreign language, taken in the United States or the relevant country;
4. completion of six semester hours of upper-division courses that have a Global Awareness (G) or Cultural Diversity in the U.S. (C) designation, in addition to the courses used to meet the University General Studies requirements; or
5. completion of two sequential semesters of course work in a current computer language. Contact the college Advising Office for information on applicable course work.

Mathematics. MAT 142 or any MAT course for which MAT 117 or a higher level MAT course is a prerequisite.

Major Requirements

Each student is required to select a major from among the programs offered by the New College of Interdisciplinary Arts and Sciences. The requirements for completion of the major are described under department listings.

The major program may require up to 45 semester hours of course work. The minimum is 30 hours. A maximum of 18 additional hours may be required in related courses and

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

prerequisites. No more than 63 semester hours of course work may be required to complete the major, related courses, and prerequisites. A minimum of 12 upper-division semester hours in the major must be taken in campus resident credit.

No credit is granted toward fulfilling major or minor requirements in any upper-division course in the subject field of the major unless the grade in that course is at least a "C" (2.00). Normally a "Y" (satisfactory) grade needs confirmation that it is equivalent to a "C" (2.00) or higher.

General Electives

Once the three kinds of requirements have been satisfied, the remainder of the minimum of 120 semester hours required for graduation are general electives. Contact college advisors for assistance in selecting elective courses.

Ethnic Studies Program

www.west.asu.edu/ethnic
602/543-6007
FAB N205A

Gloria H. Cuádraz, Director

ETHNICITY, RACE, AND FIRST NATIONS STUDIES—BA

Nature of the Program

The purpose of the Bachelor of Arts degree in Ethnicity, Race, and First Nations Studies is to provide an integrated comparative and comprehensive approach to the study of diversity among ethnic and racial groups and first nations. Most traditional ethnic studies programs offer degrees based on one major ethnic group, whereas the approach we propose fills a void by emphasizing interdisciplinary and comparative approaches to the study of ethnic and racial groups and first nations in one degree program.

Course work in the Ethnicity, Race, and First Nations Studies program incorporates a framework that fosters the study of ethnicity, race, and first nations across the curriculum. Both theoretical and applied perspectives are embedded in a curriculum that addresses how ethnicity, race, and first nations shape identities, literacies, public policies, and communities in local and transnational U.S. contexts.

Students will identify a career area that will enable them to integrate their knowledge in ethnicity, race, and first nations with specific course work tied to their career and advanced educational goals. The incorporation of research methods and information competency places graduates at a significant advantage in acquiring jobs in the state and local labor markets. Students participate in high quality community experiences where they apply skills and knowledge attained in the classroom to ethnically diverse public and private work settings.

Student Outcomes

The Ethnicity, Race, and First Nations Studies program prepares graduates with the following knowledge and skills:

1. an interdisciplinary and comparative understanding of ethnicity, race, and first nations in the U.S.;
2. knowledge of the various theoretical frameworks employed in the study of ethnicity, race, and first nations;
3. an understanding of how ethnicity, race, and first nations shape identities;
4. an understanding of how ethnicity, race, and first nations shape literacies and information competencies;
5. an understanding of how ethnicity, race, and first nations shape communities and public policies;
6. an understanding of how ethnicity, race, and first nations shape orientations to issues spanning local and transnational U.S. contexts;
7. effective skills in technological literacy and information competency;
8. effective critical writing;
9. an ability to marshal evidence and argue a central thesis effectively in written assignments;
10. effective oral communication; and
11. an ability to apply knowledge and understanding of ethnicity, race, and first nations to real world problems and issues.

Career Outlook

Rapid socioeconomic change, changing demographics, increased global competition, and rapid cultural diversification have created an increasing need for workers and citizens knowledgeable about diverse ethnic and racial groups. Graduates of the undergraduate program in Ethnicity, Race and First Nations Studies will be positioned to enter the workforce and function effectively and critically as informed citizens in a diverse and complex society.

Major Requirements

The degree program requires 45 semester hours. The major consists of

1. 12 semester hours of core requirements,
2. 24 semester hours of cluster requirements, and
3. nine semester hours in a career-focused area.

Core Requirements

ENG	317	Cross-Cultural Writing *L/HU, G*	3
ETH	300	Principles of Ethnic Studies *C*	3
ETH	310	Research Methods in Ethnic, Racial, and First Nations Populations *SB*	3
ETH	484	Ethnic Studies Internship	3

Cluster Requirements[1]

Choose two of the following for identity matters credit 6

AMS	330	Introduction to American Lives *HU* (3)
ENG	476	Folklore in Everyday Life *HU* (3)
ETH	100	Introduction to Ethnic Studies *SB, C* (3)
IAS	220	Psychology, Multicultural Narratives, and Religion *L/HU, C* (3)
IAS	420	Multicultural Autobiographies *L/HU, C* (3) or ENG 420 Multicultural Autobiographies *L/HU, C* (3)

SBS 301 Cultural Diversity *L/SB, C* (3)
SBS 410 TIID: Introduction to Asian American Experiences (3)
WST 370 Chronicling Women's Lives *HU, C* (3)
WST 473 Latina/Chicana Representation *SB, C* (3)
Other approved course (3)

Choose two of the following for literacy matters credit 6
ENG 353 African American Literature: Beginnings through the Harlem Renaissance *L/HU, C* (3)
ENG 354 African American Literature: Harlem Renaissance to the Present *L/HU, C* (3)
ENG 359 American Indian Literature *L/HU, C* (3)
ENG 363 Chicano Literature *HU, C* (3)
ENG 460 Ethnic Women Writers *L/HU, C* (3)
or WST 467 Ethnic Women Writers *L/HU, C* (3)
ENG 462 Africana Literature *HU, G* (3)
ENG 463 African-American Literature *HU, C* (3)
IAP 464 Media and Diversity (3)
Other approved course (3)

Choose two of the following for community and policy matters credit 6
AMS 327 Regional Cultures (3)
AMS 428 Chicano Cultures in the Southwest *SB* (3)
ASB 442 Urban Anthropology *SB* (3)
HIS 331 American Indians (3)
IAS 407 Environmental Philosophy and Policy *L/HU* (3)
or PHI 407 Environmental Philosophy and Policy *L/HU* (3)
POL 320 Latino Politics *SB, C* (3)
SOC 370 Racial and Ethnic Minorities *SB, C* (3)
WST 300 Women in Contemporary Society *SB, C* (3)
WST 350 Race, Class, and Gender *SB, C* (3)
Other approved course (3)

Choose two of the following for transitional matters credit 6
ASB 340 Migration and Culture *SB, G* (3)
ASB 440 Women in the Global Factory *SB, G* (3)
HIS 454 History of Genocide *G, H* (3)
HIS 462 The African Diaspora *G, H* (3)
HIS 465 Origins of Racism *G, H* (3)
POL 430 Race and Politics in the Americas *SB, C* (3)
SOC 324 Work and the Workplace *SB, H* (3)
WST 390 Women and World Religions *L/SB, G* (3)
WST 475 Women of the Diaspora Across Cultures *HU, G* (3)
Other approved course (3)

Career Focus

Choose courses from the following areas[2] 9
Arts and music
Business
Education and teaching
Health
Law
Policy and public sector
Spanish
Science and technology
Social entrepreneurship

Program total 45

[1] Select two courses from each cluster; one course from each cluster may be lower-division for a maximum of 12 semester hours of lower-division courses.

[2] These courses must be chosen in consultation with a faculty advisor.

Minor and Certificate in Ethnic Studies

Nature of the Programs. The minor and certificate in Ethnic Studies explore the study of ethnicity within the United States. The programs are designed to foster direct linkages between the university and community through student participation in community-based internships. With an emphasis on service learning that combines the acquisition of analytical skills from classroom instruction and work experience gained through community-based organization internships, students are placed at a significant advantage in acquiring jobs in the state and local labor market.

Courses in the Ethnic Studies minor and certificate are designed to

1. address theoretical, analytical, and practical issues relevant to understanding race, culture, and ethnicity in American society from a comparative and interdisciplinary perspective;
2. enhance the student's critical thinking and writing skills through the study of ethnicity in the U.S.;
3. develop more effective skills for working in diverse communities through integration of service-learning experiences in course content; and
4. create collaborations among faculty, students, and community members to address concrete issues facing racial and ethnic groups in the United States.

This minor and certificate are designed for students who plan to work and live in ethnically diverse communities and seek to acquire the skills for understanding the complexities of race, class, and gender at a local or national level. It is expected that students in the minor and certificate programs will be able to think both analytically and creatively about ethnicity in the United States. The minor or certificate is strongly recommended for students who plan to enter a wide variety of jobs in business, the health professions, the criminal justice system, social services, education, public relations, community development, public policy, or government. It is also valuable for students preparing for further graduate study.

Minor in Ethnic Studies

The minor consists of 21 semester hours, 15 of which must be at the upper-division level. Students are encouraged to take courses that develop breadth rather than limiting their selection to courses in one particular discipline. Up to three semester hours of individualized instruction may be applied toward the minor. All courses must be passed with a minimum grade of "C" (2.00).

Required Courses

ETH 300 Principles of Ethnic Studies *C* 3
ETH 484 Ethnic Studies Internship 3
Electives* 15

Total 21

* These courses must be chosen from the approved ethnic studies course list in consultation with the ethnic studies advisor.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Certificate in Ethnic Studies

The Certificate Program is recommended for graduate students, nondegree students, and students with majors in professional programs. A certificate in Ethnic Studies is awarded for successful completion of 21 semester hours, including ETH 300 and 18 semester hours of elective courses from the approved course list.

ETHNIC STUDIES (ETH)

W ETH 100 Introduction to Ethnic Studies. (3)
fall and spring
Undertakes an introductory comparative analysis of ethnic groups to understand cultural diversity within the United States.
General Studies: SB, C

W ETH 300 Principles of Ethnic Studies. (3)
fall and spring
Familiarizes students with a range of analytical and theoretical frameworks in the field of ethnic studies.
General Studies: C

W ETH 310 Research Methods in Ethnic, Racial, and First Nations Populations. (3)
spring
Examines analytical tools and methodological approaches (ethnography, oral histories, digital-storytelling, information literacy) to study ethnic, racial, and first nations populations.
General Studies: SB

W ETH 484 Ethnic Studies Internship. (3)
fall, spring, summer
Seminar with structured practical experience in the field and/or in community organizations.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Integrated Natural Sciences

www.west.asu.edu/dins
602/543-6050
CLCC 217

Douglas Dennis, Chair

Professors: Dennis, Sullivan

Associate Professor: Deutch

Assistant Professors: Boorse, Harrington, Johnson, Jurutka, Marshall, Morse, Solis

The Department of Integrated Natural Sciences offers an interdisciplinary Bachelor of Science degree and minor in Life Sciences. In addition, the department offers a strong prehealth/premedical curriculum for students who intend to pursue a career in the health professions.

LIFE SCIENCES—BS

Nature of Program

The intricate connections between biology, chemistry, geology, and physics form the basis of the Integrated Natural Sciences curriculum. The department is heavily invested in experiential learning and all required core courses have laboratories. Because of this focus on hands-on learning, students will find that they will be competitive in their career aspirations, whether it is in the health field, in an environmental discipline, or pursuing a graduate degree. Students will also find that by learning in an integrative environment that emphasizes the connectedness between disciplines, they will possess a better understanding of larger scientific concepts and will be able to view these concepts from multiple perspectives. The department emphasizes doing as a way of learning and supports undergraduates in conducting independent research under the mentorship of faculty members or in internships outside of the department. Students are encouraged to consider both of these opportunities.

Path to Health Field Careers

Medical colleges base admission decisions on a variety of factors, including GPA, the courses a student has taken, scores in required national exams, extracurricular activities, quality of letters of recommendation, and hands-on experience. All medical colleges in the United States have extensive science prerequisites, including lower-division courses in biology, chemistry, and physics. Many medical colleges have additional course requirements, often including courses in communication, math, or psychology as well as upper-division biochemistry or biology courses. The Health Professions Advisory Committee in the Integrated Natural Science department aids students in preparing for a career in the health field by informing them of the particular entrance requirements of each school. In addition, the committee guides students in the best strategies to strengthen their application and prepare for national exams. Students who are considering a health-related career that requires professional training are strongly urged to consult with the chair of the Health Professions Advisory Committee as soon as they enter the university.

Information on the committee and on applying to health professional schools can be found at the Integrated Natural Sciences Web site at www.west.asu.edu/dins.

Career Outlook

A degree in Life Sciences provides broad training in laboratory, data-gathering, writing, communication, quantitative, problem-solving, and critical thinking skills that prepare students for a wide variety of careers. Graduates may enter careers in laboratory or field research, business, scientific journalism, publishing, teaching, and medicine. Laboratory technician or research associate positions are available in university and government research laboratories, hospital and diagnostic laboratories, and pharmaceutical, biotechnology, agricultural, and food processing companies. Laboratory experience at the undergraduate level, available in laboratories on and off campus, will enhance employability in these areas. Students who emphasize field studies may prepare themselves for entry level positions in private companies as well as state and federal agencies. These positions include wildlife biologist, environmental consultant, and conservation officer. Participation in internships in government agencies or private companies as an undergraduate will provide the student with experience valuable to

potential employers. The Bachelor of Science in Life Sciences degree is appropriate for students who wish to enter master's and doctoral programs in basic or applied areas of biology.

Special Grading Options

The Department of Integrated Natural Sciences grades internships (484), pro-seminars (498), and individualized instruction (499) on a satisfactory/fail basis. Students who successfully complete these experiences receive a "Y" grade. Such grades are acceptable for meeting program requirements, but these grades are not computed in the GPA.

Major Requirements

The Bachelor of Science in Life Sciences consists of 20 semester hours of core courses, 18 semester hours of distribution courses, and 32 to 33 semester hours of cognate courses. The cognate courses are integral for the understanding of biology, but are not biology courses. The core courses provide a firm foundation for further study in the discipline, while the distribution courses ensure that students maintain breadth in their upper-division studies.

A grade of "C" or higher is required for all course work taken to fulfill major requirements.

Core Courses

BIO	187 General Biology I *SG*	4
BIO	188 General Biology II *SQ*	4
LSC	320 Fundamentals of Ecology	3
LSC	322 Fundamentals of Ecology Laboratory	1
LSC	347 Fundamentals of Genetics	3
LSC	348 Fundamentals of Genetics Laboratory	1
LSC	353 Cell Biology	3
LSC	355 Cell Biology Laboratory	1

Cognate Courses

CHM	113 General Chemistry *SQ*	4
CHM	115 General Chemistry with Qualitative Analysis *SQ*	5
CHM	331 General Organic Chemistry Lecture I	3
CHM	335 General Organic Chemistry Laboratory I	1
CHM	332 General Organic Chemistry Lecture II	3
CHM	336 General Organic Chemistry Laboratory II	1
PHY	111 General Physics *SQ*[1]	3
PHY	113 General Physics Laboratory *SQ*[1]	1
PHY	112 General Physics *SQ*[2]	3
PHY	114 General Physics Laboratory *SQ*[2]	1
Choose one of the following combinations		7–8
	MAT 270 Calculus with Analytic Geometry I *MA* (4)	
	MAT 271 Calculus with Analytic Geometry II *MA* (4)	
	or	
	MAT 210 Brief Calculus *MA* (3)	
	LSC 415 Biometry *CS* (4)	

[1] Both PHY 111 and 113 must be taken to secure SQ credit.

[2] Both PHY 112 and 114 must be taken to secure SQ credit.

Distribution Courses. Students must take at least 18 semester hours from these courses. This includes one course from each of the following groups: cellular, molecular, and physiological biology; organismal biology, and integrative systems ecology. No more than six semester hours of internship, externship, pro-seminar, or individualized instruction may count toward the major (LSC 350, 450, 484, 498, or 499).

Cellular, Molecular, and Physiological Biology

LSC	308 Plant Physiology	4
LSC	358 Animal Physiology	3
LSC	359 Animal Physiology Laboratory	1
LSC	366 Principles of Biochemistry	3
LSC	367 Elementary Biochemistry Laboratory	1
LSC	432 Basic Pharmacology	3
LSC	443 Molecular Genetics	3

Organismal Biology

LSC	309 Flora of Arizona	4
LSC	370 Vertebrate Zoology	4
LSC	385 Invertebrate Zoology	4
LSC	444 Fundamentals of Microbiology	3
LSC	445 Fundamentals of Microbiology Laboratory	1
LSC	473 Ichthyology *L*	3
LSC	474 Herpetology	3

Integrative Systems Ecology

LSC	307 Comparative Plant Diversity	4
LSC	345 Organic Evolution	3
LSC	408 Population Biology	3
LSC	410 Techniques in Wildlife Conservation Biology *L*	3
LSC	434 Marine Ecology	3

Electives

LSC	350 Premedical Professional Seminar	3
LSC	415 Biometry *CS**	4
LSC	450 Premedical Externship	3
LSC	484 Internship	1–6
LSC	489 Capstone in Integrated Natural Sciences	1
LSC	494 Special Topics	1–3
LSC	498 Pro-Seminar	1–3
LSC	499 Individualized Instruction	1–6
Program total		70–71

* BS students taking Biometry for the mathematics cognate requirement cannot also count it as an elective toward the major.

Minor in Life Sciences

A minor in Life Sciences can be a valuable asset particularly when paired with an appropriate major. For instance, a Biology minor paired with a Political Science major would provide a good background for someone who wanted to practice environmental law.

Minor Requirements

Required Courses

BIO	187 General Biology I *SG*	4
BIO	188 General Biology II *SQ*	4
CHM	113 General Chemistry *SQ*	4
CHM	115 General Chemistry with Qualitative Analysis *SQ*	5
LSC	320 Fundamentals of Ecology	3
LSC	322 Fundamentals of Ecology Laboratory	1
LSC	347 Fundamentals of Genetics	3
LSC	348 Fundamentals of Genetics Laboratory	1
LSC	353 Cell Biology	3
LSC	355 Cell Biology Laboratory	1
Total		29

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

BIOLOGY (BIO)

For more BIO courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W BIO 100 The Living World. (4)
fall and spring
Principles of biology. Cannot be used for major credit in the biological sciences. 3 hours lecture, 3 hours lab. Fee.
General Studies: SQ

W BIO 187 General Biology I. (4)
fall
Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community levels. Intended for life sciences, biology, and health-related science majors. 3 hours lecture, 3 hours lab. Fee.
General Studies: SG

W BIO 188 General Biology II. (4)
spring
Biological concepts emphasizing principles and the interplay of structure and function at the molecular, cellular, and organismal levels. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 187.
General Studies: SQ

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

CHEMISTRY (CHM)

For more CHM courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W CHM 101 Introductory Chemistry. (4)
spring
Elements of general chemistry. Designed for nonmajors. Credit is allowed for only CHM 101 or 107. 3 hours lecture, 3 hours lab. Fee.
General Studies: SQ

W CHM 113 General Chemistry. (4)
fall
Principles of chemistry. Adapted to the needs of students in the physical, biological, and earth sciences. Credit is allowed for only CHM 113 or 117. 3 hours lecture, 1 hour discussion, 2 hours lab. Fee. Prerequisite: MAT 106 (or 3 semesters of high school algebra). 1 year of high school chemistry recommended.
General Studies: SQ

W CHM 115 General Chemistry with Qualitative Analysis. (5)
spring
Continuation of CHM 113. Equilibrium theory; chemistry of metals, nonmetals, and metalloids; introduction to organic chemistry. Lab includes qualitative analysis. Credit is allowed for only CHM 115 or 116 or 118. 3 hours lecture, 2 hours discussion, 4 hours lab. Fee. Prerequisite: CHM 113 or 2 years of high school chemistry.
General Studies: SQ

W CHM 331 General Organic Chemistry Lecture I. (3)
fall
Chemistry of organic compounds. Prerequisite: CHM 115.

W CHM 332 General Organic Chemistry Lecture II. (3)
spring
Continuation of CHM 331. Prerequisite: CHM 331.

W CHM 335 General Organic Chemistry Laboratory I. (1)
fall
Microscale organic chemical experiments in separation techniques, synthesis, analysis and identification, and relative reactivity. 4 hours lab. Fee. Corequisite: CHM 331.

W CHM 336 General Organic Chemistry Laboratory II. (1)
spring
Continuation of CHM 335. 4 hours lab. Fee. Prerequisite: CHM 335. Corequisite: CHM 332.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

GEOLOGICAL SCIENCES (GLG)

For more GLG courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W GLG 110 Geological Disasters and the Environment. (3)
spring
Geological studies as they apply to interactions between humans and earth. Includes geological processes and hazards, resources, and global change.
General Studies: G, SG (if credit also earned in GLG 111)

W GLG 111 Geological Disasters and the Environment Laboratory. (1)
spring
Basic geological processes and concepts. Emphasizes geology-related environmental problems concerning Arizona. Case histories and field studies. Fee.
General Studies: SG (if credit also earned in GLG 110)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

LIFE SCIENCES (LSC)

W LSC 300 Modes of Biological Thought. (3)
selected semesters
Involves students in the process of biological discovery to examine how we identify truth in biological science. Prerequisites: BIO 188; ENG 101 (or 105).
General Studies: L

W LSC 301 Life Sciences: History and Method. (4)
selected semesters
Integrates philosophy, history, and methods of the life sciences. Includes issue of under representation of minorities in science. Lecture, lab.
General Studies: SG

W LSC 307 Comparative Plant Diversity. (4)
spring
Systematic and evolutionary survey of the plant kingdom, emphasizing diversity of gross and cellular structure, reproduction, life cycles, and habitat. 3 hours lecture, 3 hours lab. Fee. Prerequisites: ENG 101 (or 105); BIO 100 (or 188 or its equivalent).

W LSC 308 Plant Physiology. (4)
fall
Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. 3 hours lecture; 3 hours lab. Fee. Prerequisite: LSC 353.

W LSC 309 The Flora of Arizona. (4)
spring
Principles of taxonomy; identification of Arizona plants. 2 hours lecture, 6 hours lab. Fee. Prerequisites: BIO 187, 188.

W LSC 310 Natural History of Arizona. (3)
fall and spring
Plant and animal communities of Arizona. Cannot be used for major credit in the biological sciences.
General Studies: SG (if credit also earned in LSC 311)

W LSC 311 Field Natural History. (1)
fall and spring
Organisms and their natural environment. Cannot be used for major credit in the biological sciences. Lab, weekly field trips, field project. Fee. Pre- or corequisite: LSC 310.
General Studies: SG (if credit also earned in LSC 310)

W LSC 320 Fundamentals of Ecology. (3)
fall
Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics. Prerequisite: BIO 188 or instructor approval.

W LSC 322 Fundamentals of Ecology Laboratory. (1)
fall
Investigational field course on fundamental concepts in ecology. 3 hours lab. Fee. Prerequisite: BIO 188; CHM 115. Corequisite: LSC 320.

W LSC 330 Pollution vs. Protection: Counting the Cost. (3)
spring
Compares the economic costs and global consequences of permitting versus preventing pollution.
General Studies: G

W LSC 342 Hormones and Behavior. (3)
selected semesters
Examines the short-term and long-term effects of hormones on the behavior of animals, including humans. Prerequisite: BIO 188.

W LSC 345 Organic Evolution. (3)
selected semesters
Processes of adaptive change and speciation in sexual populations. Prerequisite: BIO 188.

W LSC 347 Fundamentals of Genetics. (3)
spring
Science of genetics, gene flow, and genetic engineering in humans and other organisms. Prerequisites: BIO 187, 188; CHM 113, 115.

W LSC 348 Fundamentals of Genetics Laboratory. (1)
spring
Investigational lab using modern molecular techniques to analyze various genetic phenomena. 3 hours lab. Fee. Corequisite: LSC 347.

W LSC 350 Premedical Professional Seminar. (3)
fall and spring
An opportunity for students who anticipate a career in any area of medicine to explore the realities of the field. Prerequisites: LSC 353, 347; instructor approval.

W LSC 351 Developmental Anatomy. (3)
selected semesters
General developmental biology (embryology) and comparative structure of organ systems, illustrated mainly by vertebrate examples. Prerequisite: BIO 188.

W LSC 353 Cell Biology. (3)
fall
Surveys major topics in cell biology, including structural, biochemical, and molecular aspects of cell function. Prerequisite: BIO 187, 188; CHM 113, 115.

W LSC 355 Cell Biology Laboratory. (1)
fall
Investigational lab using modern molecular and cellular techniques to analyze molecular, biochemical, and anatomical traits of cells. 3 hours lab. Fee. Corequisite: LSC 353.

W LSC 358 Animal Physiology Lecture. (3)
fall and spring
Physiological mechanisms of the higher vertebrates. Prerequisites: BIO 188; CHM 115; MAT 117.

W LSC 359 Animal Physiology Laboratory. (1)
fall and spring
Investigative lab experience using animals (including humans) and models. 3 hours lab. Fee. Prerequisites BIO 187, 188; CHM 115; MAT 117. Corequisite: LSC 358.

W LSC 360 The Biology of Human Experience. (3)
selected semesters
Introduces the evolutionary origins and characteristics of humans as they are reflected in morphology, physiology, ecology, and behavior. Prerequisite: BIO 188.

W LSC 361 Human Sexual Biology. (3)
selected semesters
Human sexuality from a biological and integrative perspective, including comparisons to other vertebrates and examination of social, behavioral, and physiological factors. Cannot be used for major credit in the biological sciences.

W LSC 362 The Human Environment. (3)
selected semesters
Evolution of humans' physiological, ecological, and behavioral interaction with their environment.

W LSC 363 Genes, Race, Gender, and Society. (3)
selected semesters
Examines biological events and theories on race and gender and their interface with societal views. Prerequisites: BIO 187, 188, 340 (LSC 347).

W LSC 365 The Human Organism. (4)
fall
Analyzes human anatomy, physiology, and behavior in an ecological and evolutionary context with the methods of comparative biology. 3 hours lecture; 3 hours lab. Fee.
General Studies: SG

W LSC 366 Principles of Biochemistry. (3)
fall and spring
Structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates, and lipids; the utilization and synthesis of these materials by living systems; and the relationship of these processes to energy production and utilization. Prerequisite: an organic chemistry course.

W LSC 367 Elementary Biochemistry Laboratory. (1)
fall and spring
Quantitative analysis of constituents of biological systems, enzyme assays, protein purification, and metabolic studies. 3 hours lab. Fee. Corequisite: LSC 366.

W LSC 370 Vertebrate Zoology. (4)
spring
Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 188.

W LSC 380 Medical Parasitology. (3)
selected semesters
Parasitic diseases of humans, including life cycle events and clinical manifestations. Prerequisite: BIO 385 or LSC 353 or instructor approval.

W LSC 385 Invertebrate Zoology. (4)
selected semesters
Characteristics, life cycles, adaptations, and evolution of invertebrate animals. 3 hours lecture, 3 hours lab. Fee. Prerequisite: BIO 188 or instructor approval.

W LSC 408 Population Biology. (3)
spring
Theoretical and applied aspects of distribution and abundance, population regulation, genetic flow, and interactions among populations, including humans. Prerequisites: LSC 320.

W LSC 410 Techniques in Wildlife Conservation Biology. (3)
selected semesters
Field and analytical techniques used in evaluating population structure, viability and environmental impacts. Lecture, lab. Fee. Prerequisites: BIO 188; ENG 101 (or 105). LSC 320, 347 recommended.
General Studies: L

W LSC 415 Biometry. (4)
fall
Statistical methods applied to biological problems, design of experiments, estimation, significance, analysis of variance, regression, correlation, chi square, and bioassay; the use of computers. 3 hours lecture, 3 hours lab. Prerequisite: MAT 210.
General Studies: CS

W LSC 422 Introductory Immunology. (3)
selected semesters
Fundamental concepts in research and medicine. Cellular immunity, antibody and antigen, immunogenetics, immunoregulation, hypersensitivity, clinical immunology, and nervous-immune system interactions. Prerequisites: CHM 231 (or 331); LSC 353 (or instructor approval).

W LSC 430 Environmental and Human Toxicology. (4)
selected semesters
Lecture/fieldwork course investigating toxic substances in the environment and their effect on the health of organisms, including humans. Prerequisites: BIO 188; CHM 113, 115.

W LSC 432 Basic Pharmacology. (3)
selected semesters
Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in

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L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

medicine. Prerequisite: either LSC 353 or both LSC 358 and 359 or only instructor approval.

W LSC 434 Marine Ecology. (3)
selected semesters
Examines ecological processes in oceans, seas, and estuaries that emphasizes species- and community-level phenomena. Prerequisite: LSC 320.

W LSC 443 Molecular Genetics. (3)
selected semesters
Nature and function of the gene; emphasizes the molecular basis of inheritance and gene expression in prokaryotes and eukaryotes. Prerequisites: LSC 347; a course in organic chemistry.

W LSC 444 Fundamentals of Microbiology. (3)
fall
Overview of microorganisms; their anatomy, physiology, genetics, metabolic diversity, and ecological significance. Not open to students with credit in MIC 205. Prerequisite: LSC 353.

W LSC 445 Fundamentals of Microbiology Laboratory. (1)
fall
Principles and lab techniques used in culturing, identifying, and analyzing microorganisms. Not open to students with credit in MIC 206. 3 hours lab. Fee. Corequisite: LSC 444.

W LSC 447 Molecular Genetics Laboratory. (1)
selected semesters
Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. 3 hours lab. Fee. Pre- or corequisite: LSC 443.

W LSC 450 Premedical Externship. (3)
fall and spring
Provides hands-on experience in a hospital setting for premedical students. Prerequisite: BIO 188. Pre- or corequisites: LCS 350; instructor approval.

W LSC 453 Animal Histology. (4)
selected semesters
Microscopic study of animal tissues. 3 hours lecture; 3 hours lab. Fee. Prerequisites: BIO 187; LSC 353 (or instructor approval).

W LSC 471 Ornithology. (3)
selected semesters
The biology of birds. 2 hours lecture, 3 hours lab, weekend field trips. Fee. Prerequisite: LSC 370 or instructor approval.

W LSC 473 Ichthyology. (3)
selected semesters
Systematics and biology of recent and extinct fishes. 2 hours lecture, 3 hours lab or field trip, weekend field trips required. Fee. Prerequisites: ENG 101 (or 105); LSC 370 (or instructor approval).
General Studies: L

W LSC 474 Herpetology. (3)
selected semesters
Systematics and biology of recent and extinct reptiles and amphibians. 2 hours lecture, 3 hours lab or field trip. Fee. Prerequisite: LSC 370 or instructor approval.

W LSC 482 Methods of Teaching Biology. (3)
fall
Methods of instruction, experimentation, organization, and presentation of appropriate content in biology. Fee. Prerequisite: 20 hours in the biological sciences.

W LSC 484 Internship. (1–6)
fall, spring, summer
Opportunities for students to pursue interests they develop in course work. Especially appropriate for applied aspects of science. Prerequisite: department chair approval.

W LSC 489 Capstone Course in Integrated Natural Sciences. (1)
selected semesters
Integrates the core curriculum and makes connections between the science and careers/graduate school. Prerequisite: at least 28 semester hours in the major.

W LSC 498 Pro-Seminar. (1–7)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PHYSICS (PHY)

For more PHY courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W PHY 101 Introduction to Physics. (4)
selected semesters
Emphasizes applications of physics to life in the modern world. Presumes understanding of elementary algebra. 3 hours lecture, 1 hour recitation, 2 hours lab. Fee.
General Studies: SQ

W PHY 111 General Physics. (3)
fall
Noncalculus treatment of the principles of physics for nonphysics majors. Students whose curricula require a lab course must also register for PHY 113. Prerequisite: trigonometry.
General Studies: SQ (if credit also earned in PHY 113)

W PHY 112 General Physics. (3)
spring
Continuation of PHY 111. Students whose curricula require a lab course must also register for PHY 114. Prerequisite: PHY 111.
General Studies: SQ (if credit also earned in PHY 114)

W PHY 113 General Physics Laboratory. (1)
fall
Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent to, PHY 111. 2 hours lab, 1 hour recitation.
General Studies: SQ (if credit also earned in PHY 111)

W PHY 114 General Physics Laboratory. (1)
spring
See PHY 113. May be taken concurrently with, or subsequent to, PHY 112. 2 hours lab.
General Studies: SQ (if credit also earned in PHY 112)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Integrative Studies

www.west.asu.edu/ias
602/543-6003
FAB N279

Sharl Collins-Chobanian, Chair

Professor: McGovern

Associate Professors: Collins-Chobanian, Pambuccian, Stryker

Assistant Professor: Sander-Staudt

Senior Lecturer: Schmidtke

Lecturers: Anderson, Gately, Persau

The Department of Integrative Studies faculty offers an interdisciplinary Bachelor of Arts degree program in Integrative Studies, the Bachelor of Applied Science, minor in Philosophy, and courses in a number of areas that contribute to General Studies program requirements.

APPLIED SCIENCE—BAS

Nature of the Program

The Bachelor of Applied Science (BAS) is a flexible degree plan designed specifically to serve the additional education needs of students who have earned community college Associate of Applied Science (AAS) degrees. The AAS degree transfers as a block to the university as meeting all graduation requirements beyond the BAS requirements. BAS students then complete a 60-semester-hour capstone program.

To be admitted to the BAS, students must complete an AAS degree at a regionally accredited institution or an AAS equivalent to be determined by the BAS admissions committee. A student who is completing an AAS degree may be granted conditional admission into the BAS degree program. This conditional status is effective for one semester. An official transcript with the degree posted must be received by the BAS program coordinator in order to register for subsequent semesters.

Career Outlook

The BAS degree is primarily intended to assist in job progression rather than initial job qualification. Achievement of a bachelor's degree may remove promotional ceilings that can limit advancement. The degree may also be of use to those who wish to make mid-career changes. Most of the students for whom the BAS is designed have an occupational qualification by virtue of their AAS degrees, and most will be employed in related areas. The BAS curriculum can enhance the student's technical education and experience while providing the broader cognitive skills and perspective that are associated with baccalaureate education and are relevant in any working environment. With the assistance of an advisor, students will be able to tailor their programs to suit their personal or career objectives.

Admission

To be admitted to the BAS degree program, students must have completed an Associate of Applied Science (AAS) degree at a regionally accredited institution or an AAS equivalent to be determined by the BAS admissions committee.

Program Requirements

The BAS is composed of the AAS degree plus a 60-semester-hour capstone requirement. The 60 semester hours must all be in the upper division with the exception of the mathematics (MA) course if it is needed. The requirements are as follows:

1. BAS core, 21 semester hours;
2. General studies completion curriculum, 13 semester hours (minimum);
3. Concentration, 18 to 21 semester hours; and
4. Electives, zero to eight semester hours.

Core Requirements

The goals of the BAS core curriculum are

1. to provide an educational bridge between lower-division and upper-division programming,
2. to develop professional communication and quantitative skills, and
3. to hone critical and creative abilities.

BAS Core Courses

BAS Bridge
IAS 300 Adult Career Development *L/SB* 3

Management Skills
GLB 303 Relationship Management 3

Communication Skills
ENG 301 Writing for the Professions *L* 3

Quantitative Skills
Choose one of the following courses 3
EDT 321 Computer Literacy *CS* (3)
SBS 304 Social Statistics I *CS* (3)

Aesthetics/Creativity
Choose one of the following courses 3
IAP 300 Introduction to Interdisciplinary Arts *HU* (3)
IAP 301 Energetic Systems of Art: Collaboration in the Arts (3)
THE 321 History of Theatre *HU, H* (3)
THE 400 Focus on Film (3)
Other approved arts course

Ethics
Choose one of the following courses 3
PHI 306 Applied Ethics *HU* (3)
PHI 360 Business and Professional Ethics *HU* (3)
PHI 406 Moral Dilemmas *L/HU* (3)
PHI 407 Environmental Philosophy and Policy *L/HU* (3)

Exit Project
Choose one of the following courses 3
IAS 484 Internship (3)
IAS 493 Honors Thesis (3)
IAS 499 Individualized Instruction (3)

Core total 21

General Studies Completion Curriculum (13 Semester Hours). The BAS curriculum is based on the assumption that students have completed an AAS degree program with a general studies component of approximately 18 semester hours. To complete the remainder of their university requirements, students need to take one course in each of the following areas, in addition to any General Studies courses completed in the categories above:

1. cultural diversity in the U.S. (C);
2. global awareness (G);
3. historical awareness (H);
4. natural science—general core with lab (SG);
5. social and behavioral sciences (SB): students may complete the SB requirement in conjunction with one of the other program requirements; and
6. mathematics (MA): students may be required to take an MA course if the mathematics course included in

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

the AAS degree does not meet the criteria for MA; this course may be taken in the lower division.

Concentration (18 to 21 Semester Hours). In consultation with an advisor, the student completes the course work of a minor available at the West campus or develops an individualized concentration that has a coherent theme or purpose and fulfills intended learning outcomes. Specific requirements for the minor are described in this catalog under major field departments. The semester hours required in a minor vary by department. The courses taken to fulfill the concentration requirement may not be used to concurrently fulfill the requirements of a minor. A minimum of nine upper-division semester hours in the concentration area must be completed in residence at the West campus. Courses taken to fulfill the concentration requirement at the Tempe campus or the Polytechnic campus must be chosen in consultation with and approved by the department offering that course work.

Elective Credit (Zero to Eight Semester Hours). Electives, if needed, are chosen to fulfill the 60-semester-hour requirement.

Other Requirements. No credit is granted toward fulfilling major or concentration requirements in any upper-division course unless the grade in that course is at least a "C" (2.00). Normally a "Y" (satisfactory) grade needs confirmation that it is equivalent to a "C" (2.00) or higher.

Candidates for the BAS degree program are not required to fulfill the New College of Interdisciplinary Arts and Sciences proficiency requirements.

INTEGRATIVE STUDIES—BA

Nature of Program

The Bachelor of Arts degree in Integrative Studies enables students to design individualized programs of study for their academic, personal, and professional pursuits. Integrative Studies emphasizes focused study in the liberal arts, the development of critical thinking skills, and the capacity to synthesize problem-solving strategies for life in the 21st century. In this program, students will work closely with dedicated faculty who have scholarly training and teaching interests in the arts, humanities, mathematics, sciences, and social sciences. Students learn from one another's life experiences and from the professional expertise of their faculty.

Career Outlook

The Integrative Studies curriculum emphasizes advanced, interdisciplinary study combined with a concentration in a traditional disciplinary or professional area (e.g. communication studies, English, gerontology, history, psychology, prelaw, or pre-MBA). Students can tailor their academic programs to meet their individualized career goals. A capstone internship program prepares students to make the transition smoothly to postbaccalaureate employment in business, cultural, educational, community, and human service settings, as well as to graduate school. Students planning graduate or professional degrees in law, business, helping professions, or in traditional disciplinary areas will benefit from the flexibility of this program for a broad range of future academic and career pursuits.

Major Requirements

The Integrative Studies major consists of 39 to 48 semester hours with a grade of "C" (2.00) or higher in each course. Program requirements include 21 semester hours of core courses and 18 to 27 semester hours in a concentration.

Core Courses. Select one course from each category.

Gateway Course
IAS 300 Adult Career Development *L/SB* 3

Ethical Reflection
Choose one of the following courses 3
IAS 340 Bioethics *HU* (3)
IAS 406 Moral Dilemmas *L/HU* (3)
IAS 407 Environmental Philosophy and Policy *L/HU* (3)
IAS 408 Feminist Ethics *HU* (3)

Diverse Identities
Choose one of the following courses 3
IAS 305 Work and Identity *SB* (3)
IAS 420 Multicultural Autobiographies *L/HU, C* (3)
IAS 477 World Literature *L/HU, G* (3)

Scientific and Mathematical Perspectives
Choose one of the following courses 3
IAS 410 Evolution of Ideas *L/HU* (3)
IAS 411 History and Philosophy of Mathematics *HU, H* (3)
IAS 415 Life in the Universe (3)
IAS 416 Black Holes and Beyond (3)

Secular and Sacred Worldviews
Choose one of the following courses 3
IAS 220 Psychology, Multicultural Narratives and Religion *L/HU, C* (3)
IAS 430 Science and Religion *L/HU* (3)

Elective
IAS elective 3

Capstone Course
Choose one of the following courses 3
IAS 484 Internship (3)
IAS 494 ST: Research (3)
IAS 494 ST: Writing (3)

Program total 21

Concentration

Working with the Integrative Studies faculty advisor, students will complete the course work of a minor available at West campus or create an individualized concentration.

Approved Minor

Working with the Integrative Studies faculty advisor, students will select one of the minors available at West campus ("West Campus Minors" table, page 654). Specific requirements for these minors are described in this catalog under the major field departments and are available from the IAS faculty advisor. The credits required in a minor vary by department. The courses taken to fulfill the concentration requirement may not be used to concurrently fulfill the requirements of a minor.

Individualized Concentration

Working with the Integrative Studies faculty advisor, students may construct an individualized concentration of 18 upper-division semester hours that has a coherent theme or purpose and fulfills intended general learning outcomes.

Other options are a concentration of six literacy and critical inquiry General Studies (L) courses and the Writing Certificate Program.

MINOR IN PHILOSOPHY

Nature of Program

The minor is designed to provide students with an understanding of central philosophical issues. The minor provides students with

1. a knowledge of the most important problems and ideas in the philosophical areas studied;
2. a capacity for critical thinking and analytical reasoning; and
3. the ability to present one's positions effectively through oral and written communication.

Program Requirements

The minor in Philosophy consists of 21 semester hours of philosophy course work, of which 15 must be upper-division hours. Fifteen semester hours of campus resident credit is required. Only courses in which the student earns a grade of "C" (2.00) or higher will fulfill requirements for the minor. Courses are to be selected from the following list in consultation with a philosophy advisor to create a coherent and complete program of study:

Minor in Philosophy Course List

IAS	411	History and Philosophy of Mathematics *HU, H*	3
		or MAT 411 History and Philosophy of Mathematics *HU, H* (3)	
IAS	484	Internship	3
IAS	494	ST: Special Topics	3
PHI	101	Introduction to Philosophy *HU*	3
PHI	103	Principles of Sound Reasoning *L/HU*	3
PHI	306	Applied Ethics *HU*	3
PHI	340	Bioethics *HU*	3
		or IAS 340 Bioethics *HU* (3)	
PHI	360	Business and Professional Ethics *HU*	3
PHI	406	Moral Dilemmas *L/HU*	3
		or IAS 406 Moral Dilemmas *L/HU* (3)	
PHI	407	Environmental Philosophy and Policy *L/HU*	3
		or IAS 407 Environmental Philosophy and Policy *L/HU* (3)	
PHI	408	Feminist Ethics *HU*	3
		or IAS 408 Feminist Ethics *HU* (3)	
PHI	494	Special Topics	3
PHI	499	Individualized Instruction	1–3
		or IAS 499 Individualized Instruction (1–3)	

ASTRONOMY (AST)

For more AST courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W AST 111 Introduction to Solar Systems Astronomy. (3)
fall
History, properties of light, instruments, study of solar system and nearby stars. For nonscience majors. Optional lab (AST 113).
General Studies: SQ (if credit also earned in AST 113)

W AST 112 Introduction to Stars, Galaxies, and Cosmology. (3)
spring
Structure and evolution of stars, star clusters, galaxies, cosmology. For nonscience majors. Optional lab (AST 114).
General Studies: SQ (if credit also earned in AST 114)

W AST 113 Astronomy Laboratory I. (1)
fall
Astronomical observations and experiments designed to help the student become familiar with the sky, telescopes, and astronomical measurements. 3 hours lab. Pre- or corequisites: AST 111; a working knowledge of high school algebra and geometry.
General Studies: SQ (if credit also earned in AST 111)

W AST 114 Astronomy Laboratory II. (1)
spring
Similar to AST 113, but material chosen to supplement AST 112. 3 hours lab. Pre- or corequisites: AST 112; a working knowledge of high school algebra and geometry.
General Studies: SQ (if credit also earned in AST 112)

W AST 494 Special Topics. (1–4)
selected semesters
Topics may include modern topics in astronomy and astrophysics. Prerequisite: at least one astronomy course.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

INTEGRATIVE STUDIES (IAS)

IAS Note 1. Completion of the First-Year Composition requirement (ENG 101 and 102 or ENG 105 or ENG 107 and 108 [available at Tempe campus] with a grade of "C" [2.00] or higher) is a prerequisite for all English courses above the 100 level.

W IAS 220 Psychology, Multicultural Narratives, and Religion. (3)
fall
Examines contemporary multicultural life narratives that explore diversity in America and the authors' constructions of psychological identity and religious values. Prerequisite: ENG 101 or 105.
General Studies: L/HU, C

W IAS 300 Adult Career Development. (3)
fall, spring, summer
Analysis of sociological and economic factors of 21st-century work environments, integrated with a psychological understanding of adult development. Prerequisite: ENG 101 or 105.
General Studies: L/SB

W IAS 305 Work and Identity. (3)
spring
Explores the relationship between work and identity, as well as the search for meaning in work across generations.
General Studies: SB

W IAS 310 Women in Art. (3)
fall
Cultural, historical, and social issues relating to the seeming scarcity of women artists and changing social contexts for women artists. Cross-listed as IAP 310. Credit is allowed for only IAS 310 or IAP 310. Prerequisite: ENG 101 or 105.
General Studies: HU

W IAS 340 Bioethics. (3)
selected semesters
Philosophical exploration of ethical issues in health care delivery and the life sciences. Cross-listed as PHI 340. Credit is allowed for only IAS 340 or PHI 340.
General Studies: HU

W IAS 406 Moral Dilemmas. (3)
fall and spring
Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. Cross-listed as PHI 406. Credit is allowed for only IAS 406 or PHI 406. Prerequisite: ENG 101 or 105.
General Studies: L/HU

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W IAS 407 Environmental Philosophy and Policy. (3)
selected semesters
Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. Cross-listed as PHI 407. Credit is allowed for only IAS 407 or PHI 407. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAS 408 Feminist Ethics. (3)
selected semesters
Philosophical exploration of the theoretical and practical aspects of ethical issues affecting women from diverse feminist viewpoints. Cross-listed as PHI 408. Credit is allowed for only IAS 408 or PHI 408.
General Studies: HU

W IAS 410 Evolution of Ideas. (3)
fall
Investigates ideas (paradigms) and revolutions (paradigm shifts). Examines several topics from perspectives of science, arts, humanities, social sciences. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAS 411 History and Philosophy of Mathematics. (3)
once a year
Examines nature of mathematics from origins to present, revealed by its history and philosophy. Strong background in mathematics not required. Cross-listed as MAT 411. Credit is allowed for only IAS 411 or MAT 411.
General Studies: HU, H

W IAS 415 Life in the Universe. (3)
fall
Examines the search for life in extreme environments on Earth and in remote locations beyond Earth.

W IAS 416 Black Holes and Beyond. (3)
spring
Explores developments in understanding nature's most basic force–gravity–from Aristotelian concepts to modern theories of curved space-time.

W IAS 420 Multicultural Autobiographies. (3)
fall and spring
Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. Cross-listed as ENG 420. Credit is allowed for only IAS 420 or ENG 420. See IAS Note 1.
General Studies: L/HU, C

W IAS 430 Science and Religion. (3)
fall and spring
Examines evolving relationships between scientific thought and Western and Eastern religious thought. Explores cosmologies, world views, and epistemologies. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAS 477 World Literature. (3)
spring
Introduces world literature, mostly outside the United States and England. Cross-listed as ENG 477. Credit is allowed for only IAS 477 or ENG 477. Prerequisite: ENG 101 or 105.
General Studies: L/HU, G

W IAS 484 Internship. (1–12)
fall, spring, summer
Structured practical experience supervised in the field by practitioners with parallel, on-campus seminar held with program faculty.

W IAS 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Research. (3)
- Science and Religion. (3)
- Writing. (3)

W IAS 499 Individualized Instruction. (1–3)
fall and spring
Topics may include the following:
- Individual Research or Creative Project
  Applies interdisciplinary methods of inquiry to a problem identified by student and supervised by faculty.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PHILOSOPHY (PHI)

For more PHI courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W PHI 101 Introduction to Philosophy. (3)
fall and spring
Explores issues that philosophers have traditionally considered, including morality, reality, and knowledge.
General Studies: HU

W PHI 103 Principles of Sound Reasoning. (3)
selected semesters
Fallacies, validity, and soundness of arguments. May include syllogistic, elementary symbolic, inductive logic, and scientific method. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W PHI 306 Applied Ethics. (3)
fall and spring
Uses philosophical techniques to elucidate such vital moral issues as sexual perversion, civil disobedience, abortion, punishment, violence and pacifism, suicide, and euthanasia.
General Studies: HU

W PHI 340 Bioethics. (3)
selected semesters
Philosophical exploration of ethical issues in health care delivery and the life sciences. Cross-listed as IAS 340. Credit is allowed for only PHI 340 or IAS 340.
General Studies: HU

W PHI 360 Business and Professional Ethics. (3)
fall, spring, summer
Examines moral theories applied to cases of corporate responsibility, property rights, environment, fairness, profit, employee rights, and responsibilities.
General Studies: HU

W PHI 406 Moral Dilemmas. (3)
fall and spring
Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. Cross-listed as IAS 406. Credit is allowed for only PHI 406 or IAS 406. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W PHI 407 Environmental Philosophy and Policy. (3)
selected semesters
Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. Cross-listed as IAS 407. Credit is allowed for only PHI 407 or IAS 407. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W PHI 408 Feminist Ethics. (3)
selected semesters
Philosophical exploration of the theoretical and practical aspects of ethical issues affecting women from diverse feminist viewpoints. Cross-listed as IAS 408. Credit is allowed for only PHI 408 or IAS 408.
General Studies: HU

W PHI 494 Special Topics. (1–4)
selected semesters

W PHI 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Interdisciplinary Arts and Performance

www.west.asu.edu/iap
602/543-6057
FAB N290A

Robert Taylor, Chair

Professor: Lerman

Associate Professors: Sabatini, Taylor

Assistant Professors: Byam, Clark, Kim

Senior Lecturer: Soto

Lecturer: Kennedy

Fine Arts Specialist: St. Clair

The Department of Interdisciplinary Arts and Performance (IAP) offers courses and program activities for practicing artists for the 21st century. It provides an interdisciplinary education in arts performance, media and technology for majors, courses on the arts for the general student body, and serves as a cultural resource for the core and community.

The department offers core and specialized IAP courses in the areas of digital media and technology, performance, visual art practices, and history and theory studies, plus a range of electives in music, theatre, and visual art, and media and performance studies.

INTERDISCIPLINARY ARTS AND PERFORMANCE—BA

Nature of Program

The Bachelor of Arts in IAP focuses on an interdisciplinary study of the arts and media with an emphasis on 20th and 21st century art, performance, technology, and practice. It encourages practical application of theory and content-area knowledge with the integration of skills and performance. IAP courses highlight creativity, innovation, integration, and presentation.

Student Outcomes

The IAP program provides graduates with the knowledge and skills needed to

1. understand the interrelationship among the art forms of music, theater, visual art, performance, and media arts;
2. develop creative work independently;
3. illustrate practical knowledge of the collaborative process in the arts;
4. continue self-development in the arts beyond the program itself;
5. engage in current levels of technology in the arts;
6. exhibit a historical awareness of artistic works, particularly of the 20th century and contemporary practices; and
7. demonstrate an understanding of artistic practices within cultural contexts.

Career Outlook

This interdisciplinary training can be the basis for a variety of personal and career pursuits. Students who major in the program receive practical professional training and solid academic skills. They gain in-depth preparation necessary for careers as artists and performers and creative professionals. They also develop critical backgrounds useful for becoming future teachers and scholars. Graduates of the program are prepared for advanced study in the performing arts or arts-related professions in education, art and cultural journalism, government and community arts administration, media services, and production.

Admission Requirements

Admission to the Interdisciplinary Arts and Performance program requires completion of at least 15 semester hours of course work from any single or combination of arts disciplines with a grade of "C" (2.00) or higher. Students with specialized practical training in a single art form may be admitted to the program based on portfolio assessment or audition and personal interviews.

Major Requirements

The Bachelor of Arts in Interdisciplinary Arts and Performance consists of at least 45 semester hours of Interdisciplinary Arts and Performance course work of which three semester hours may be at the lower-division level. Program requirements include

Required Core Courses

IAP	304	Traditions of the Avant-Garde and Experimental Art *L/HU*	3
		or IAP 305 20th/21st Century Art, Performance, and Media *L/HU* (3)	
IAP	325	Sound Performance: Exploring Alternative Performance Groups[1]	3
IAP	334	Conceptual Development in the Arts[1]	3
IAP	354	Visual Representations[1]	3
IAP	361	Digital Editing and Media Literacy[1] *CS*	3
IAP	360	IAP Laboratory	3

Socially Embedded Course

IAP	302	Cross-Cultural Perspectives on the Arts *L/HU*	3
		or IAP 464 Media and Diversity (3)	

IAP Electives

Upper-division electives[2]	18
One applied arts course (may be lower division)[3]	3

Senior Project

IAP	480	Senior Project	3

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Program total 45

[1] A one-credit lab must be taken as a corequisite with three of the following core courses: IAP 325, 334, 354, and 361.
[2] Courses must be chosen in consultation with a faculty advisor.
[3] Course may be chosen if not previously used to fulfill requirement.

Senior Project. The goal of any senior project is to focus the body of course work undertaken in the IAP curriculum in an original creative work or comparable experience. This work may take the form of a performance (with the student as creator/producer and/or performer), or a written thesis, gallery exhibition, internship, media work, or some other acceptable format.

MINOR IN INTERDISCIPLINARY ARTS AND PERFORMANCE

The minor consists of 24 semester hours in the arts. Twelve of these must be at the upper division level (IAP prefix). Six of the 12 upper-division credits must be selected from IAP core courses. The other six credits must be from IAP courses selected with advisor approval. Twelve additional semester hours of approved electives are required.

MINOR/CERTIFICATE IN FILM AND VIDEO STUDIES

The minor and Certificate in Film and Video Studies explore theory and practice in the general field of the moving image. These interdisciplinary programs provide students the opportunity to develop interests, skills, and knowledge of the forms, channels, technologies, and histories of the media arts. Students may pursue focused interests in film studies or adopt a more generalized approach to visual media through television, film, and video. The minor or certificate program is useful to students who may pursue careers in broadcasting, writing, and public relations, as well as degrees in production, film studies, media studies, performance studies, and communication studies. Courses in the minor/certificate in Film and Video Studies are designed to

1. develop astute and discriminating critics and analysts of film and media arts;
2. strengthen critical thinking through an awareness of the philosophical, aesthetic, political, and technological debates in film, media, and video studies;
3. develop knowledge of the history of film, television, and the video arts as dynamic forces of social, cultural, and political expression; and
4. develop practical skills that enable students to be competitive in film, video, television, and media-related production industries.

MINOR IN FILM AND VIDEO STUDIES

For the minor, students select one of two areas of emphasis: film studies or media and video studies. The film studies emphasis focuses on the impact of film and video. The media and video studies emphasis is concerned with the rendering of film and video.

The minor consists of 21 semester hours, 15 of which must be at the upper-division level. A maximum of six semester hours of lower-division course work may be applied to nonfoundation course work. Both emphases identify foundational courses and available elective courses as listed below. Students are required to include courses drawn from two or more different prefixes and complete IAP 480, which requires a capstone experience.

Film Studies Emphasis. Course work requirements are as follows:

Foundational Courses
Choose two of the following courses 6
- ENG 365 History of Film *HU* (3)
- IAP 351 Concept, Image, and Text (3)
- SOC 366 Film and Society *SB* (3)

Theoretical, Conceptual, or Historical Courses
Choose two of the following courses* 6
- ENG 365 History of Film *HU* (3)
- IAP 351 Concept, Image, and Text (3)
- IAP 364 Documentaries (3)
- IAP 465 Media Technologies and the Arts (3)
- SOC 364 Popular Culture *SB* (3)
- SOC 365 Sociology of Mass Communication *SB* (3)
- SOC 366 Film and Society *SB* (3)
- THE 300 Film: The Creative Process *HU* (3)
- THE 400 Focus on Film (3)

Applied/Practical Courses
Choose two of the following courses* 6
- COM 329 Persuasion (3)
- COM 421 Rhetoric of Social Issues *HU* (3)
- COM 429 Semiotics and Visual Communication (3)
- ENG 365 History of Film *HU* (3)
- IAP 322 Multitrack Digital Recording (3)
- IAP 334 Conceptual Development in the Arts (3)
- IAP 361 Digital Editing and Media Literacy *CS* (3)
- IAP 363 Sound, Image, and Media (3)
- IAP 364 Documentaries (3)
- IAP 365 Digital Interactivity (3)
- IAP 465 Media Technologies and the Arts (3)
- IAP 466 Digital Interactivity, Advanced (3)
- IAP 467 Acoustic Ecology (3)
- IAP 474 Art and Film *L/HU* (3)
- SOC 364 Popular Culture *SB* (3)
- SOC 365 Sociology of Mass Communication *SB* (3)
- SOC 366 Film and Society *SB* (3)
- THE 300 Film: The Creative Process *HU* (3)
- THE 400 Focus on Film (3)
- THP 394 ST: Acting for the Camera (3)
- THP 394 ST: Television Production (3)

Capstone Project
- IAP 480 Senior Project 3

Program total 21

* Other approved courses may be used to meet this requirement.

Media and Video Studies Emphasis. Course work requirements are as follows:

Foundational Courses
Choose two of the following courses* 6
- COM 324 Rhetoric and Media Criticism (3)
- IAP 351 Concept, Image, and Text (3)
- IAP 465 Media Technologies and the Arts (3)

SOC 365 Sociology of Mass Communication *SB* (3)

Theoretical, Critical, Performance, and/or Production Courses
Choose four of the following courses* 12
COM 324 Rhetoric and Media Criticism (3)
COM 329 Persuasion (3)
COM 421 Rhetoric of Social Issues *HU* (3)
COM 429 Semiotics and Visual Communication (3)
ENG 365 History of Film *HU* (3)
IAP 322 Multitrack Digital Recording (3)
IAP 334 Conceptual Development in the Arts (3)
IAP 351 Concept, Image, and Text (3)
IAP 361 Digital Editing and Media Literacy *CS* (3)
IAP 363 Sound, Image, and Media (3)
IAP 364 Documentaries (3)
IAP 365 Digital Interactivity (3)
IAP 465 Media Technologies and the Arts (3)
IAP 466 Digital Interactivity, Advanced (3)
IAP 467 Acoustic Ecology (3)
IAP 474 Art and Film *L/HU* (3)
SOC 364 Popular Culture *SB* (3)
SOC 365 Sociology of Mass Communication *SB* (3)
SOC 366 Film and Society *SB* (3)
THE 300 Film: The Creative Process *HU* (3)
THE 400 Focus on Film (3)
THP 394 ST: Acting for the Camera (3)
THP 394 ST: Television Production (3)
WST 431 Women and Film *L, G* (3)

Capstone Project
IAP 480 Senior Project 3

Emphasis total 21

* Other approved courses may be used to meet this requirement.

Senior Project. The project should reflect the integration of course work with creative initiative to generate a product that stands alone as a piece of original work. For the film studies emphasis the project focuses on an intellectual analysis of some dimension of film products, reception, institutions, economics, and so forth. In the media and video studies emphasis, the project may be intellectual or creative (performance/production) in nature. Projects are examined and evaluated by at least one faculty member involved in the Film and Video Studies minor.

CERTIFICATE IN FILM AND VIDEO STUDIES

The certificate program is recommended for graduate students, nondegree students, and students with majors in professional programs. A certificate of concentration in Film and Video Studies is awarded for the successful completion of the 21 semester hours required for the minor.

ART AUXILIARY (ARA)

For more ARA courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ARA 460 Gallery Exhibitions. (3)
selected semesters
Practical experience in all phases of department gallery operations and preparation of gallery publications. May be repeated once for credit. Prerequisite: instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

ART HISTORY (ARS)

For more ARS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ARS 101 Art of the Western World I. (3)
fall
History of Western art from the Paleolithic period through the Middle Ages.
General Studies: HU, H

W ARS 102 Art of the Western World II. (3)
spring
History of Western art from the Renaissance to the present.
General Studies: HU, H

W ARS 438 Art of the 20th Century I. (3)
selected semesters
Developments and directions in art between 1900 and World War II. Prerequisites: both ARS 101 and 102 or only instructor approval.
General Studies: HU

W ARS 439 Art of the 20th Century II. (3)
selected semesters
Art since World War II, with consideration of new concepts and experimentation with media and modes of presentation. Prerequisites: a combination of ARS 101 and 102 and 438 or only instructor approval.
General Studies: HU, H

W ARS 494 Special Topics. (3)
selected semesters
Topics may include art of the Southwest.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

ART (ART)

For more ART courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ART 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Aesthetics of Visual Perception
- Music Videos
- Rock Culture and the Avant Garde

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

INTERDISCIPLINARY ARTS AND PERFORMANCE (IAP)

W IAP 101 Art, Artist, and Culture. (3)
fall and spring
Provides an approach to art, creativity, and culture in global, historical, and contemporary contexts.
General Studies: HU

W IAP 300 Introduction to Interdisciplinary Arts. (3)
fall
Considers interdisciplinarity in practical terms in all art forms. Also considers antecedents and cross-cultural issues.
General Studies: HU

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W IAP 301 Energetic Systems of Art: Collaboration in the Arts. (3)
selected semesters
Identifies and explores the energetic systems at work in the creation, performance, and perception of art.

W IAP 302 Cross-Cultural Perspectives on the Arts. (3)
selected semesters
Social and cultural perspectives of art and performance through a survey of historical and contemporary attitudes. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAP 303 Artists and the Contemporary American Experience. (3)
selected semesters
Explores the life of the contemporary American artist with respect to individuality, pluralism, gender, race, ethnicity, and regionalism.

W IAP 304 Traditions of the Avant-Garde and Experimental Art. (3)
selected semesters
Surveys 20th-century art movements and "isms," including futurism, dada, surrealism, constructivism, realism, the Bauhaus, abstract expressionism, minimalism.
General Studies: L/HU

W IAP 305 20th and 21st Century Art, Performance, and Media. (3)
selected semesters
Surveys artists, movements, and trends in the arts with an emphasis on interdisciplinary performance, media, and technology.
General Studies: L/HU

W IAP 306 Extended Traditions in Drawing. (3)
fall in even years
Explores alternative methods of rendering the drawn image. Emphasizes incorporating other art forms to inform students' individual work. Fee.

W IAP 307 Art and War. (3)
fall
Global interdisciplinary survey of the range of work created by artists in response to war, through time. Seminar, screening, listening.
General Studies: HU, G

W IAP 310 Women in Art. (3)
fall
Cultural, historical, and social issues relating to the seeming scarcity of women artists and changing social contexts for women artists. Cross-listed as IAS 310. Credit is allowed for only IAP 310 or IAS 310. Prerequisite: ENG 101 or 105.
General Studies: HU

W IAP 321 Music Composition I. (3)
fall
Study and implementation of specific compositional theories and procedures. May be repeated for credit when topics vary. Fee.

W IAP 322 Multitrack Digital Recording. (3)
spring in odd years
Introduces students to theory and practice of Musical Instrument Digital Interface (MIDI) technology.

W IAP 323 Music and the Visual Arts. (3)
spring in odd years
Histories and theories of music and visual arts with emphasis on convergences within 20th-century avant-garde traditions. Fee.

W IAP 324 The Voice and Performance. (3)
selected semesters
Involves all aspects of the human voice, including research, creation, and performance.

W IAP 325 Sound Performance: Exploring Alternative Performance Groups. (3)
spring
Utilizes innovative sound ensembles to explore all aspects of sound and its place in various art forms. Fee.

W IAP 331 Performance, Acting, and the Individual. (3)
fall
Explores the concepts of the "self," the "subject," and the "author" as each pertains to the solo artist.

W IAP 332 Technical Production for Interdisciplinary Arts. (3)
selected semesters
Develops basic technical knowledge and application of fundamental stagecraft techniques used in the creation and presentation of performance works. Fee.

W IAP 333 Directing for Performance. (3)
fall
Explores various strategies for performance. Emphasizes nontraditional staging and performance.

W IAP 334 Conceptual Development in the Arts. (3)
fall
Conceptual development processes in the arts from initial idea to formal project proposals, grants, and production plans.

W IAP 335 Vocalization and Movement. (3)
spring
Study, application, and coordination of vocal projection techniques with bodily movement competencies in presenting original and existing contemporary performance works.

W IAP 347 Movement in Education. (3)
selected semesters
Theory and practice of teaching dance and creative movement in schools, K–12. Open to all students.

W IAP 351 Concept, Image, and Text. (3)
selected semesters
The generation of images and metaphors using various media and visual stimuli. Fee.

W IAP 352 Seeing and Drawing. (3)
fall and spring
Develops drawing and seeing skills that are important not only to visual arts but also to music, dance, and theatre. Studio: 6 hours per week. Fee.

W IAP 354 Visual Representation. (3)
fall
Explores materials, processes, and aesthetic concepts of art making through various media with readings on cultural perspectives and contemporary theory. Lecture, studio. Fee.

W IAP 355 Illusion and Vision. (3)
spring in odd years
Inquiry into 2-D surfaces for visual representation and personal expression; includes readings on color theory, visual perception, and historical/cultural patterns. Lecture, studio. Fee.

W IAP 356 Spatial Impressions. (3)
spring in even years
Investigates 3-D forms, the processes and concepts of physicality, and the environment with readings on spatial perception and cultural objects. Lecture, studio. Fee.

W IAP 360 IAP Laboratory. (1)
fall, spring, summer
Provides instructor-student contact time focusing on the technical instruction of media and technology applications. Demonstrations, hands-on tutorial. Corequisites IAP 325 or 354 or 361.

W IAP 361 Digital Editing and Media Literacy. (3)
fall and spring
Investigates the approaches used in digital editing with a focus on interactivity, graphics, audio, and desktop video. Fee.
General Studies: CS

W IAP 363 Sound, Image, and Media. (3)
fall in odd years
Interdisciplinary arts projects for experimental approaches to relating sound and visual image, accompanied by survey of historical and contemporary material. Fee.

W IAP 364 Documentaries. (3)
fall in even years
Media arts projects exploring new and experimental forms of visualization based upon an interdisciplinary survey of historical and contemporary examples. Fee. Prerequisite: IAP 361 recommended.

W IAP 365 Digital Interactivity. (3)
spring in odd years
Combines graphics, video, and animation with digital authoring tools for creation of interactive multimedia Web sites. Fee. Pre- or corequisite: IAP 361.

W IAP 368 Digital Graphic Technologies. (3)
fall
Employs technology used in contemporary graphic designs to design concepts and techniques for modeling and representation applications. Lecture, lab. Prerequisite: ACO 201 or instructor approval.

W IAP 371 Verbal Art. (3)
fall in even years
Examines varieties of verbal art in everyday life, literature, oral and literate cultures. Considers diverse cultural forms and values. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAP 373 The Critical Artist. (3)
selected semesters
Focuses on artists' critical thought, theorizing, and representation of art across disciplines and genres.

W IAP 421 Composition: Process, Technique, and Style II. (3)
selected semesters
Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. May be repeated for credit when topics vary. Fee. Prerequisite: IAP 321.

W IAP 422 Contemporary Orchestration Practices. (3)
fall in odd years
Traditional and experimental scoring techniques for small and large ensembles using MIDI technology, digital samplers, and traditional instruments. Fee.

W IAP 431 Perspectives on Performance and Acting. (3)
spring
Focuses on the interaction of the performer with media, alternative stagings, and collaboration with other performers.

W IAP 433 Directing Workshop. (3)
fall
Applies experimental directorial techniques to presentations and deconstruction of classical works including European and cross-cultural traditions. Prerequisite: IAP 333.

W IAP 434 Production Laboratory. (3)
spring
Develops original scripts into showcase productions. Students function as theatrical ensemble, participate in all phases of performance and production values. Fee.

W IAP 441 Dance-Drama. (3)
spring
Explores the relationship of movement as it relates to drama, both historically and cross-culturally.

W IAP 442 Movement and Music. (3)
spring
Surveys ways artists have brought together movement and music in artistic creations in various disciplinary and interdisciplinary contexts.

W IAP 452 Elements of Painting. (3)
selected semesters
Develops painting skills and personal artistic vision through projects stimulated by other art forms. Studio: 6 hours per week. Fee. Prerequisite: ART 311 or 323 or IAP 352 or instructor approval.

W IAP 454 New Directions in Painting. (3)
selected semesters
Develops painting skills and personal artistic vision through projects stimulated by other art forms. Studio: 6 hours per week. Fee. Prerequisite: IAP 452 or instructor approval.

W IAP 457 Urban Narrative. (3)
fall in odd years
Conceptually based studio focusing on artists' voices in contemporary urban environment with readings on spatial perception and cultural objects. Lecture, studio. Fee. Prerequisite: instructor approval.

W IAP 464 Media and Diversity. (3)
spring in odd years
Interdisciplinary art projects exploring identity, perception, and technologies from a basis of class, race, ethnicity, gender, sexuality, and ecology.

W IAP 465 Media Technologies and the Arts. (3)
fall in odd years
Practical explorations of media arts interrelated with cultures, society, and technology, addressed through readings, discussion, research, and student arts projects.

W IAP 466 Digital Interactivity, Advanced. (3)
selected semesters
Advanced multimedia authoring skills for creation of interactive works in DVD, CD ROM, and other media formats. Fee. Prerequisite: IAP 365 or instructor approval.

W IAP 467 Acoustic Ecology. (3)
spring in even years
Investigations into the relationship between audio art and ecology; covers field recording, oral histories, digital editing, and designing audio Web site and databases. Fee. Prerequisite: IAP 361. Prerequisite for Life Sciences and Communication Studies majors: instructor approval.

W IAP 468 Digital Graphic Applications. (3)
spring
Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. Prerequisite: IAP 368.

W IAP 469 Advanced Audio Production. (3)
fall
Engages advanced media students in the technical, logistical, and aesthetic concerns specific to audio in all forms of digital media. Fee. Prerequisite: IAP 322 or 361.

W IAP 471 Language, Culture, and Performance. (3)
selected semesters
In-depth examination of language in myth, poetry, social and aesthetic performance genres. Prerequisites: ENG 101 (or 105); IAP 371 (or instructor approval).
General Studies: L/HU

W IAP 472 Theories of Arts and Performance. (3)
spring in even years
Key texts, thinkers, concepts, and approaches to the arts and performance. Prerequisites: ENG 101 or 105

W IAP 473 Aesthetic Research. (3)
fall in odd years
Investigates how artists, in all disciplines and from different historical periods, conduct or participate in research. Prerequisites: ENG 101 (or 105); IAP 373.
General Studies: L/HU

W IAP 474 Art and Film. (3)
once a year
Focuses on film as an art form in relation to the arts through aesthetics, cinematic theory, period study. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W IAP 480 Senior Project. (3–6)
fall and spring
Capstone course. Students develop an exit project for the IAP degree under the guidance of an advisor. Fee. Prerequisites: both IAP major and senior standing or only advisor approval.

W IAP 484 Internship. (1–12)
selected semesters

W IAP 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- HTML Creating a Web Page. (1)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

MASTER OF ARTS IN INTERDISCIPLINARY STUDIES (MAS)

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

MUSIC (MUS)

For more MUS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W MUS 340 Listening to Music. (3)
selected semesters
Major periods, composers, and compositions in the history of music.
General Studies: HU, H

W MUS 349 Music in America. (3)
selected semesters
Current styles of American music including jazz, popular, and folk music.
General Studies: HU, H

W MUS 354 Popular Music. (3)
selected semesters
Emphasizes historical, cultural, and performance patterns in a variety of popular idioms such as, but not limited to, rock, folk, jazz, and Afro-American music.
General Studies: HU

W MUS 355 Survey of American Music. (3)
selected semesters
Growth and development of American music.

W MUS 356 Survey of the Musical Theatre. (3)
selected semesters
Music's place in the theatre, viewed in terms of historical importance and relative function.
General Studies: HU

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

THEATRE (THE)

For more THE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W THE 100 Introduction to Theatre. (3)
fall and spring
Surveys theatre production from the Greeks to contemporary theatre.
General Studies: HU

W THE 300 Film: The Creative Process. (3)
selected semesters
Elements of the theatrical film: cinematography, sound, editing, directing, acting, scriptwriting, producing, and criticism. 3 hours lecture, 2 hours lab.
General Studies: HU

W THE 320 History of the Theatre. (3)
fall
Traces major developments in theatre production from its beginning to the 17th century.
General Studies: HU, H

W THE 321 History of Theatre. (3)
spring
Traces major developments in theatre production from the 17th century to modern times.
General Studies: HU, H

W THE 400 Focus on Film. (3)
selected semesters
Specialized study of prominent film artists, techniques, and genres. Emphasizes the creative process. May be repeated once for credit. Prerequisite: ENG 101 or 105.

W THE 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Experimental Film. (3)
- Film and Society. (3)
- Women in Film. (3)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

THEATRE PERFORMANCE AND PRODUCTION (THP)

For more THP courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W THP 294 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Musical Theatre (History/Survey)

W THP 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Acting for Nonmajors. (3)
- Acting for the Camera. (3)
- Television Production. (3)
- Theatre Studio/Workshop I. (3)

W THP 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Acting for Nonmajors. (3)
- Acting for the Camera. (3)
- Storytelling and Poetry. (3)
- Theatre Studio/Workshop II. (3)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Language, Cultures, and History

www.west.asu.edu/lch
602/543-6090
FAB N220

Eduardo Pagán, Chair

Professors: E. Cutrer, T. Cutrer

Associate Professors: Anokye, Bredbenner, Broaddus, Cárdenas, Cuádraz, Gilkeson, Hattenhauer, Pagán, Wertheimer

Assistant Professors: Bixby, DeBacker, Dorsey, Dudy Bjork, Friedrich, Lee, Stancliff, Toth, Ukpanah

Visiting Assistant Professor: Flynn

Lecturers: Cisler, Garcia, Raiser

The Department of Language, Cultures, and History faculty offer an interdisciplinary Bachelor of Arts degree program in American Studies, Bachelor of Arts degree programs in English, History, and Spanish, and courses in other disciplines represented in the program, such as Religious Studies and Art History.

AMERICAN STUDIES—BA

Nature of Program

The Bachelor of Arts in American Studies enables students to look at the experiences of North Americans and their environment from a variety of historical and

contemporary perspectives. Courses are grouped into four emphases:

1. American systems, which deals with political, economic, religious, and legal institutions;
2. American cultures, which concentrates on systems of belief and their symbolic expression in literature, art, philosophy, and regional and popular cultures;
3. American lives, which explores the ways in which categories of race, ethnicity, class, and gender intersect with individual and community experience; and
4. writing, which stresses critical writing skills and helps train students to undertake careers in which writing is a major activity.

American Studies offers a flexible, interdisciplinary degree program that allows students to take courses in a number of areas. Students who have interests in American history, society, literature, or art, for example, but prefer not to major in a single discipline, such as English or History, are ideal candidates for the program. All students complete a core of American Studies courses (12 semester hours) that provides them with an overview of American history and society and introduces them to interdisciplinary study. In addition, each student designs, with the approval of the American Studies faculty advisor, a program of focused course work (21 semester hours) tailored to the student's interests and career goals. Students may choose to emphasize a particular area in American Studies, for example, or select other courses to develop a program focusing on a particular topic, such as the American West, the twentieth century, or American multiculturalism. Of the focused course work, at least four courses (12 semester hours) must be at the upper division.

Students conclude the program with an exit project, developed with an individual faculty member, and approved by the faculty advisor. Exit projects take a variety of forms; they can include internships, theses, or a similar kind of creative project. The purpose of the exit project is to help students integrate the knowledge and skills that they have gained in the program. It also provides students with a means of exploring career interests before graduation.

Career Outlook

The BA in American Studies teaches students to think and write critically, to conduct research, and to appreciate the changing and diverse nature of American life. American Studies graduates accordingly are well equipped to embark on a wide variety of careers in government, education, business, museum and foundation work, journalism and other forms of professional writing, and in other areas where these capabilities are highly valued and sought. The program also serves as excellent preparation for law school and for graduate programs in fields such as American Studies, English, journalism, history, and art history. Most importantly, American Studies, by virtue of its interdisciplinary approach to the study of American cultures, systems, and lives, provides a rounded perspective, a chance to see issues and problems from a variety of angles. As such, it is ideally suited to careers in which research, analysis, and planning play a central role.

Major Requirements

A minimum of 36 semester hours (27 upper-division hours) with a grade of "C" (2.00) or higher is required.

Core Courses

AMS 301 Introduction to American Studies *L* 3
Choose from the following combinations 6
AMS 310 History of American Systems to 1865 *L, C, H* (3)
AMS 311 History of American Systems since 1865 *H* (3)
— or —
AMS 320 American Cultural History I *SB, H* (3)
AMS 321 American Cultural History II *SB, H* (3)
AMS 330 Introduction to American Lives *HU* 3
Core total 12

Focused Course Work (21 Semester Hours). Working with the American Studies faculty advisor, students designate appropriate lower-division course work (if applicable) and select upper-division course work to develop a coherent program or topic of study. The focused course work may be in a single American Studies area, or it may be spread across the areas of emphasis. Twelve semester hours must be from the upper division.

Exit Project (Three Semester Hours). Thesis, internship, or research designed in consultation with a faculty advisor.

Minor in American Studies

The minor in American Studies offers students the opportunity to pursue an interest in the interdisciplinary study of American Culture. This interdisciplinary minor is particularly appropriate for students majoring in one of the humanities or social sciences disciplines. The minor consists of 18 semester hours, 12 of which must be upper-division hours.

AMS 301 Introduction to American Studies *L* 3
Choose from the folllowing combinations 6
AMS 310 History of American Systems to 1865 *L,C, H* (3)
AMS 311 History of American Systems since 1865 *H* (3)
— or —
AMS 320 American Cultural History I *SB, H* (3)
AMS 321 American Cultural History II *SB, H* (3)
AMS 330 Introduction to American Lives *HU* 3
Core total 12

Supporting Courses. Select two courses (six semester hours) with substantial American content that must be approved by the American Studies faculty advisor.

Total 18

ENGLISH—BA

Nature of Program

As part of the Department of American Studies, the English curriculum emphasizes the study of texts in context. Students study not only the forms of writing but also the history of those forms as well as read and analyze literature from a broad range of periods and genres. Students will learn to produce good expository prose.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

The major allows students to emphasize particular genres, periods, regions, and themes through a mix of required courses and electives. Students determine appropriate programs of study in consultation with faculty advisors. Thus, each student is assured the general background that academia and business often require.

Career Outlook

The English curriculum prepares students for graduate and professional training (including law, business, teaching, and public policy) and because of its breadth and emphasis on the communication of ideas, serves as an excellent point of departure for careers in marketing, public relations, government, diplomacy, and community work.

Major Requirements

The program requires 45 semester hours in English, at least 24 of which must be in upper-division courses. A grade of "C" (2.00) or higher is required in all courses taken for the major.

Lower-Division Required Courses

ENG 221 Survey of English Literature *HU, H*	3
ENG 222 Survey of English Literature *HU, H*	3
ENG 241 American Literature *HU*	3
ENG 242 American Literature *HU*	3

Upper-Division Required Courses

ENG 311 Persuasive Writing *L*	3
ENG 323 Rhetoric and Grammar *L*	3
ENG 400 History of Literary Criticism *L/HU, H*	3
ENG 473 Shakespeare	3
Literature of gender or ethnicity course[1]	3
Elective[2]	18
Total	45

[1] AMS or ENG upper division course approved by advisor.

[2] English electives must be selected in consultation with a faculty advisor.

Minor in English

The minor in English requires 21 semester hours in English, at least nine of which must be in upper-division courses.

Lower-Division Required Courses

ENG 221 Survey of English Literature *HU, H*	3
ENG 222 Survey of English Literature *HU, H*	3
ENG 241 American Literature *HU*	3
ENG 242 American Literature *HU*	3

Upper-Division Required Courses

ENG 311 Persuasive Writing *L*	3
ENG 323 Rhetoric and Grammar *L*	3
ENG 473 Shakespeare	3
Total	21

SECONDARY EDUCATION—BAE

English Specialization

The requirements for the Bachelor of Arts in Secondary Education with a specialization in English consist of the Professional Teacher Preparation Program for secondary majors (see "College of Teacher Education and Leadership," page 745) and 39 semester hours in English, at least 24 of which must be in upper-division courses. The English major for teachers focuses on the skills, authors, periods, genres, regions, and themes that Arizona high schools teach most frequently: writing, Shakespeare, British and American classics, major recent texts, ethnicity, and gender. Students determine appropriate programs of study in consultation with faculty advisors. A grade of "C" (2.00) or higher is required in all courses taken for the major.

Lower-Division Required Courses

ENG 221 Survey of English Literature *HU, H* or ENG 241 American Literature *HU* (3)	3
ENG 222 Survey of English Literature *HU, H*	3
ENG 242 American Literature *HU*	3

Upper-Division Required Courses

ENG 311 Persuasive Writing *L*	3
ENG 323 Rhetoric and Grammar *L*	3
ENG 473 Shakespeare	3
Literature of gender or ethnicity course[1]	3
Elective[2]	15
Total	39

[1] Choose course approved by advisor.

[2] English electives must be selected in consultation with a faculty advisor.

English Minor

The program requires 21 semester hours in English, at least 12 of which must be in upper-division courses. The minor focuses on material most frequently taught in Arizona high schools.

Lower-Division Required Courses

ENG 221 Survey of English Literature *HU, H* or ENG 241 American Literature *HU* (3)	3
ENG 222 Survey of English Literature *HU, H*	3
ENG 242 American Literature *HU*	3

Upper-Division Required Courses

ENG 311 Persuasive Writing *L*	3
ENG 323 Rhetoric and Grammar *L*	3
ENG 473 Shakespeare	3
Literature of gender or ethnicity course*	3
Total	21

* English electives must be selected in consultation with a faculty advisor.

WRITING CERTIFICATE

Nature of the Program

The Department of Language, Cultures, and History offers a nonfiction writing certificate program for students enrolled in any college at Arizona State University. While taking writing certificate courses, students

1. learn and practice writing in the various styles and genres;
2. are introduced to computer technology relevant to writing and publishing;
3. discuss theoretical and pedagogical applications for classroom practices; and
4. are exposed to information about local and national markets for publishing their work.

One of the hallmarks of the program is that several of the classes offered are taught by professional writers.

Composed of 19 semester hours and only one required course, the program offers opportunity for customizing a plan of study that reflects each student's interests and goals. Additionally, projects in the student's major and internship are optional elements of the certificate.

At the discretion of the director of the program, students may fulfill a maximum of nine semester hours of the requirements for the certificate with

1. courses taken before formal admission;
2. courses taken to fulfill requirements of other programs; or
3. courses taken at other institutions.

For more information on the certificate program, visit FAB N220C, call 602/543-6090, or access the Web site at www.west.asu.edu/lch/degrees/writing_certificate.htm

Career Outlook

Certification of advanced writing skills opens the way to an array of opportunities, from journalism and publishing to public advocacy, military and government careers, elementary and secondary education, business management, economic development, legal/justice professions, and high-tech industry. Ability to communicate clearly and directly is a key to career advancement in all aspects of business, government, and community service.

Admission Requirements

To gain admission to the Writing Certificate program, students must demonstrate fundamental writing skills by submitting a portfolio of writing from lower-division courses or independent writing projects. A GPA of 3.00 in the prerequisite courses ENG 101 and 102, or ENG 107 and 108, or ENG 105 is required.

Program Requirements

The program requires a minimum of 19 semester hours of writing intensive and publication related course work, including at least 12 semester hours of upper-division courses. The Writing Certificate Portfolio (AMS 490) is mandatory for all students. A GPA of 3.00 or higher is required for course work taken for the Writing Certificate, with the exception of the exit portfolio, which is graded on a satisfactory/fail basis. Students will assemble a portfolio of writing that demonstrates their grasp of the skills presented during their program of study.

AMS 490 Writing Certificate Portfolio 1
Choose electives from the following* 18
- AMS 219 Newspaper Production *L* (3)
  or ENG 219 Newspaper Production *L* (3)
- AMS 301 Introduction to American Studies *L* (3)
- AMS 342 Writing about American Culture (3)
- AMS 344 Creative Writing (3)
- AMS 345 Reporting (3)
- AMS 346 Editing (3)
- AMS 394 ST: Comedy Writing (1)
  or ENG 394 ST: Comedy Writing (1)
- AMS 394 ST: Desktop Publishing (1)
  or ENG 394 ST: Desktop Publishing (1)
- AMS 394 ST: Magazine Publication (1)
  or ENG 394 ST: Magazine Publication (1)
- AMS 394 ST: Scriptwriting (1)
  or ENG 394 ST: Scriptwriting (1)
- AMS 494 ST: Freelance Photography (1)
- AMS 494 ST: Writing Historical Fiction (1)
- AMS 494 ST: HTML Creating a Web Page (1)
  or ENG 494 ST: HTML Creating a Web Page (1)
  or IAP 494 ST: HTML Creating a Web Page (1)
- AMS 494 ST: Layout and Design (1)
  or ENG 494 ST: Layout and Design (1)
- AMS 494 ST: Selling Your Writing (1)
  or ENG 494 ST: Selling Your Writing (1)
- COM 320 Communication and Consumerism *SB* (3)
- COM 329 Persuasion (3)
- COM 353 Professional Communication (3)
- COM 414 Crisis Communication (3)
- COM 484 Internship (1-3)
- ENG 210 Introduction to Creative Writing (3)
- ENG 301 Writing for the Professions *L* (3)
- ENG 311 Persuasive Writing *L* (3)
- ENG 316 Writing and Arguing Politics *L* (3)
- ENG 323 Rhetoric and Grammar *L* (3)
- ENG 394 ST: Research and Writing (3)
- ENG 412 Writing for Publication (3)
- IAP 351 Concept, Image, and Text (3)
- IAP 361 Digital Editing and Media Literacy *CS* (3)
- IAP 394 ST: Writing/Performance Seminar (3)
- IAP 465 Media Technologies and the Arts (3)

Program total 19

* These courses, or other courses offered under the ENG or AMS prefix or another prefix, must be selected in consultation with the director of the program.

Capstone Project (Optional)

An approved capstone experience from the student's major (or AMS 498) may fulfill one to three semester hours.

Internship (Optional)

Students may fulfill one to three semester hours through an internship with a company, agency, or publication related to the student's planned career.

HISTORY—BA

Nature of Program

The Bachelor of Arts in History trains students in the use of basic tools and methods of the historical discipline. It exposes students to a broad span of modern history, a wide range of historiographical perspectives and approaches, and such fundamental categories of historical analysis as race, class, gender, and ethnicity. Students in the history program develop habits of mind associated with history as a discipline, including an awareness of change over time, an ability to make reasoned arguments about historical events and developments, and a sensitivity to the varieties of historical experience.

The History major consists of several specific core courses and a range of electives and distributional requirements. It provides students with a solid foundation in historical methods while at the same time allowing them to tailor

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

the major to their personal and professional interests. Students will develop their program of study in History in consultation with a faculty advisor.

Career Outlook

The History major serves as excellent preparation for study in graduate or professional degree programs and for careers in which critical thinking, research, and writing skills are highly valued. The History major provides a strong foundation for understanding the forces of change that shape contemporary society, the marketplace, and the lives of individuals and groups, thereby equipping students to negotiate the complex cultural, community, and business environments of the 21st century.

Major Requirements

The Bachelor of Arts degree in History requires a minimum of 45 semester hours with a grade of "C" (2.00) or higher. Program requirements include

1. 12 semester hours of core requirements in history;
2. 18 semester hours of history electives; and
3. 15 semester hours of supporting course work.

At least 21 semester hours in history courses and six semester hours in supporting courses must be taken at the upper division.

The major requires completion of HIS 300 Historical Methods, which should be scheduled early in the student's program of study, and HIS 498 History Pro-seminar, to be completed as an exit project during the student's final semester.

Core Requirements

Choose one of the following combinations 6
A two-semester survey in U.S. history, European history, or world history (6)
— or —
AMS 310 History of American Systems to 1865 *L, C, H* (3)
or AMS 320 American Cultural History I *SB, H* (3)
or HIS 303 American Cultural History I *SB, H* (3)
or HIS 305 History of American Systems to 1865 *L, C, H* (3)
AMS 311 History of American Systems since 1865 II *H* (3)
or AMS 321 American Cultural History II *SB, H* (3)
or AMS 330 Introduction to American Lives *HU* (3)
or HIS 304 American Cultural History II *SB, H* (3)
or HIS 306 History of American Systems since 1865 *H* (3)
— or —
HIS 355 World History to 1500 *G, H* (3)
HIS 356 World History since 1500 *G, H* (3)

Upper-Division Requirements

HIS 300 Historical Methods *L, H* 3
HIS 498 History Proseminar *L* 3

Additional Course Work

History electives 18
Supporting course work 15
Total 45

History Electives. History majors are required to complete 18 semester hours of history electives, of which a maximum of three semester hours may be taken at the lower division. The 15 semester hours of upper-division course work must be distributed as follows: six semester hours in American history, six semester hours in European history, and three semester hours in comparative history.

Supporting Course Work. A minimum of 15 semester hours of supporting course work may be taken in American studies, ethnic studies, English and American literature, religious studies, foreign language courses, or in other related fields as approved by the history faculty advisor.

Language Proficiency (Optional). Students considering graduate studies upon completion of the baccalaureate degree should prepare themselves with proficiency in a foreign language.

Minor in History

The minor in History consists of 18 semester hours of history course work with a grade of "C" (2.00) or higher, of which six semester hours may be lower division.

Choose one of the following combinations 6
A two-semester survey in U.S. history, European history, or world history (6)
— or —
AMS 310 History of American Systems to 1865 *L, C, H* (3)
or AMS 320 American Cultural History I *SB, H* (3)
or HIS 303 American Cultural History I *SB, H* (3)
or HIS 305 History of American Systems to 1865 *L, C, H* (3)
AMS 311 History of American Systems since 1865 II *H* (3)
or AMS 321 American Cultural History II *SB, H* (3)
or AMS 330 Introduction to American Lives *HU* (3)
or HIS 304 American Cultural History II *SB, H* (3)
or HIS 306 History of American Systems since 1865 *H* (3)
— or —
HIS 355 World History to 1500 *G, H* (3)
HIS 356 World History since 1500 *G, H* (3)

Upper Division Requirements

HIS 300 Historical Methods *L, H* 3
History Electives 9
Total 18

SECONDARY EDUCATION, HISTORY SPECIALIZATION—BAE

The requirements for the Bachelor of Arts in Secondary Education with a specialization in history consist of the Professional Teacher Preparation Program for Secondary Education majors (see "College of Teacher Education and Leadership," page 745) and 39 semester hours in the specialization area.

History Requirements

U.S. History Survey

Choose one of the following combinations 6
HIS 103 The United States *SB, H* (3)
HIS 104 The United States *SB, H* (3)
— or —
HIS 303 American Cultural History I *SB, H* (3)
HIS 304 American Cultural History II *SB, H* (3)
— or —
HIS 305 History of American Systems to 1865 *L, C, H* (3)
HIS 306 History of American Systems since 1865 *H* (3)
HIS 300 Historical Methods *L, H* 3

U.S. History Upper-Division Electives

Choose three from the following courses[1] 9
- HIS 303 American Cultural History I *SB, H* (3)
- HIS 304 American Cultural History II *SB, H* (3)
- HIS 305 History of American Systems to 1865 *L, C, H* (3)
- HIS 306 History of American Systems since 1865 *H* (3)
- HIS 300-level course (3)
- HIS 300-level course (3)

Non-U.S. History electives[2] 9

Total 27

Supporting Course Work[3] 12

Program total 39

[1] Selected courses may be used to secure this credit, if not already taken.

[2] A minimum of six of the nine semester hours must be upper-division courses.

[3] These course must be approved by the BAE history advisor, and a minimum of six of the semester hours must be upper-division courses.

SPANISH—BA

Nature of Program

The Spanish program consists of three tracks: language, literature, and cultures. These tracks are integrated within the discipline and with other disciplines within the New College of Interdisciplinary Arts and Sciences. Spanish classes are taught through an intensive language approach using the most recent electronic technologies, including videos, CD-ROMs, electronic chat groups, and news groups devoted to Hispanic literature and culture.

The program also offers credit for internships in social and business agencies. This school-to-work experience, in addition to offering the student an entry-level job opportunity, provides stimulating linguistic and cultural rewards outside of the campus environment.

Career Outlook

The Spanish major serves as excellent preparation for graduate school or for employment as a teacher in either the elementary or secondary school system, especially in those districts where bilingual programs are integral to the curricula. Outside the education system, students majoring in Spanish can find employment as translators and interpreters in social agencies, federal and state courts, the diplomatic corps, law enforcement agencies, and law firms. The business world also provides employment for those fluent in Spanish. This is especially true in the southwest, with its proximity to Mexico and through new outlets opened by the trinational NAFTA agreement.

Major Requirements

The Spanish major consists of a minimum of 45 semester hours, of which at least 30 semester hours are in Spanish (SPA) courses and 15 are in related courses to be selected in consultation with an Arts and Sciences academic advisor. Of the 30 semester hours in Spanish, at least 24 upper division semester hours are required, with at least nine semester hours at the 400 level. A minimum grade of "C" (2.00) is required in all upper division courses in Spanish. First-year Spanish courses (SPA 101, 102) are not applicable to the major, but may be applied to the degree as electives.

Required Courses

SPA 313 Spanish Conversation and Composition *G* 3
or M SPA 315 Spanish Conversation and Composition for Bilinguals (3)

SPA 314 Spanish Conversation and Composition *G* 3
or M SPA 316 Spanish Conversation and Composition for Bilinguals (3)

SPA 325 Introduction to Hispanic Literature 3

SPA 412 Advanced Conversation and Composition *G* 3

SPA 425 Spanish Literature 3

Choose two from the following courses 6
- SPA 426 Spanish Literature *HU* (3)
- SPA 427 Spanish-American Literature (3)
- SPA 428 Spanish-American Literature (3)

Choose one from the following courses 3
- M SPA 471 Civilization of the Spanish Southwest *HU* (3)
- SPA 472 Spanish-American Civilization *HU* (3)

Spanish electives* 6

Related area course work* 15

Total 45

* These courses must be chosen in consultation with a faculty advisor.

Minor in Spanish

The minor in Spanish consists of 20 semester hours of Spanish course work, of which 12 semester hours must be in the upper division. All Spanish course work must be completed with a minimum grade of "C" (2.00) or higher.

Minor Requirements

Choose one of the following combinations 8
- SPA 201 Intermediate Spanish (4)
- SPA 202 Intermediate Spanish (4)

— or —

- SPA 207 Spanish for International Professions II (8)

Electives* 12

Total 21

* These SPA elective courses must be at the 300 or 400 level and chosen in consultation with a faculty advisor.

AMERICAN STUDIES (AMS)

AMS Note 1. Completion of the First-Year Composition requirement (ENG 101 and 102 or ENG 105 or ENG 107 and 108 [available at Tempe campus] with a grade of "C" [2.00] or higher) is a prerequisite for all English courses above the 100 level.

W AMS 219 Newspaper Production. (3)
fall and spring
Students work on campus newspaper to learn basics of news and column writing, digital photography, and layout. Cross-listed as ENG 219. Credit is allowed for only AMS 219 or ENG 219. See AMS Note 1.
General Studies: L

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W AMS 301 Introduction to American Studies. (3)
fall
Introduces the interdisciplinary study of American culture, emphasizing critical reading and writing skills. Prerequisite: ENG 101 or 105.
General Studies: L

W AMS 310 History of American Systems to 1865. (3)
fall
First of a two-part survey of political, legal, and economic institutions, placed in the context of the nation's colonial background and early national period. Cross-listed as HIS 305. Credit is allowed for only AMS 310 or HIS 305. Prerequisite: ENG 101 or 105.
General Studies: L, C, H

W AMS 311 History of American Systems Since 1865. (3)
spring
Second in a two-part survey of political, legal, and economic institutions, placed in the context of a dynamic industrialist capitalist society, from the age of industrialism and modern America. Cross-listed as HIS 306. Credit is allowed for only AMS 311 or HIS 306. Prerequisite: ENG 101 or 105.
General Studies: H

W AMS 314 Military Studies. (3)
selected semesters
Topics in the history of the American military. May be repeated for credit when topics vary.

W AMS 316 American Religious Systems. (3)
selected semesters
Topics in American religion; may include Hispanic missions of the Southwest. May be repeated for credit when topics vary.

W AMS 320 American Cultural History I. (3)
fall
First of a two-part survey of American culture, broadly defined as historically transmitted patterns of meaning expressed in symbolic forms, including ideas, ideals, the arts, and social and economic standards from the nation's colonial background and early national period. Cross-listed as HIS 303. Credit is allowed for only AMS 320 or HIS 303.
General Studies: SB, H

W AMS 321 American Cultural History II. (3)
spring
Second of a two-part survey of American culture, broadly defined as historically transmitted patterns of meaning expressed in symbolic forms, including ideas, ideals, the arts, and social and economic standards from the age of industrialism and modern America. Cross-listed as HIS 304. Credit is allowed for only AMS 321 or HIS 304.
General Studies: SB, H

W AMS 322 Studies in American Literature. (3)
selected semesters
Topics in American literature. May be repeated for credit when topics vary.

W AMS 323 Studies in American Art and Architecture. (3)
selected semesters
Topics in the visual arts and material culture. May be repeated for credit when topics vary.

W AMS 326 Popular Culture. (3)
selected semesters
Topics in American popular culture, including theories of popular culture; the history and analysis of mass media, including television, film, and the music industry; and vernacular art and the folk tradition. May be repeated for credit when topics vary.

W AMS 327 Regional Cultures. (3)
selected semesters
Examines the concept of regionalism and regional cultures in America with a special emphasis on the Southwest/Borderlands.

W AMS 330 Introduction to American Lives. (3)
fall and spring
Examines American society through the study of autobiography and ethnography.
General Studies: HU

W AMS 332 Studies in Race and Ethnicity. (3)
selected semesters
Topics relating to issues of race and ethnicity in American life. May be repeated for credit when topics vary.

W AMS 334 The American Class System. (3)
selected semesters
Studies in social classes and their function within American society. May be repeated for credit when topics vary.

W AMS 335 American Biography. (3)
selected semesters
Topics in biographies of individuals, comparative biographies, the art of biography, and the function of autobiography. May be repeated for credit when topics vary.

W AMS 342 Writing about American Culture. (3)
selected semesters
Teaches methods of writing cultural criticism, emphasizing the essay form.

W AMS 344 Creative Writing. (3)
selected semesters
Emphasizes the study and practice of creative nonfiction. May be repeated for credit when topics vary.

W AMS 345 Reporting. (3)
selected semesters
Fundamentals of news gathering, interviewing, and in-depth reporting.

W AMS 346 Editing. (3)
selected semesters
Theory and practice of editing.

W AMS 351 Technical Writing. (3)
fall
Computer-based instruction in writing documents for online, oral, and print formats, focusing on audience-centered rhetoric. Hands-on lab. Prerequisite with a grade of "C" (2.00) or higher: ENG 102 or 105.

W AMS 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Comedy Writing. (1)
- Desktop Publishing. (1)
- Magazine Publication. (1)
- Scriptwriting. (1)

W AMS 412 Studies in American Politics and Law. (3)
selected semesters
Topics in American political and legal systems, including social movements in the United States and women and the law. May be repeated for credit when topics vary.

W AMS 414 Military Studies. (3)
selected semesters
Topics in the history of the American military. May be repeated for credit when topics vary.

W AMS 417 Religious Traditions of the American Southwest. (3)
spring
Examines the sacred traditions that have evolved within the North American Southwest context.
General Studies: C

W AMS 422 Studies in American Literature. (3)
selected semesters
Topics in American literature, including contemporary American comic fiction, literature of the American South, literature of American wars, Hispanic chronicles of the Southwest, literature of la Chicana, and American rhetoric. May be repeated for credit when topics vary. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W AMS 428 Chicano Cultures in the Southwest. (3)
fall
Examines and explores Chicana and Chicano culture as place and sentiment. The physical place and space and the sentiment related to Chicanas and Chicanos.
General Studies: SB

W AMS 429 Interdisciplinary Topics. (3)
selected semesters
Senior-level seminar that examines issues relevant to two or more American cultures' fields. Topics may include Southwest/border Hispanic folklore, Southwestern corridos, American art and the city, and the West of the imagination. May be repeated for credit when topics vary.

W AMS 431 Gender Studies. (3)
selected semesters
Topics relating to issues of gender in American life. May be repeated for credit when topics vary.

W AMS 432 Studies in Race and Ethnicity. (3)
selected semesters
Topics relating to issues of race and ethnicity in American life. May be repeated for credit when topics vary.

W AMS 490 Writing Certificate Portfolio. (1)
fall, spring, summer
Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing Certificate Program. Prerequisite: completion of course work for Writing Certificate Program.

W AMS 494 Special Topics. (1–4)
fall and spring
Senior-level seminar exploring issues or topics from the perspective of each of the three tracks in American Studies. Topics may include the following:

- American Environment. (3)
- Exploration of America. (3)
- Freelance Photography. (1)
- HTML Creating a Web Page. (1)
- Layout and Design. (1)
- Modernism and Modernity. (3)
- Psychology of Religion. (3)
- Selling Your Writing. (1)
- The 1920s: Age of Experiment. (3)
- Writing Historical Fiction. (1)

W AMS 498 Pro-Seminar. (3)
spring
Senior-level exit seminar for American Studies majors.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

ENGLISH (ENG)

For more ENG courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

ENG Note 1. Completion of the First-Year Composition requirement (ENG 101 and 102 or ENG 105 or ENG 107 and 108 [available at Tempe campus] with a grade of "C" [2.00] or higher) is a prerequisite for all English courses above the 100 level.

W ENG 101 First-Year Composition. (3)
fall, spring, summer
Discovers, organizes, and develops ideas in relation to the writer's purpose, subject, and audience. Emphasizes modes of written discourse and effective use of rhetorical principles.

W ENG 102 First-Year Composition. (3)
fall, spring, summer
Critical reading and writing; emphasizes strategies of academic discourse. Research paper required. Prerequisite with a grade of "C" (2.00) or higher: ENG 101.

W ENG 105 Advanced First-Year Composition. (3)
selected semesters
Concentrated composition course for students with superior writing skills; intensive reading; research papers; logical and rhetorical effectiveness. Not open to students with credit in First-Year Composition.

W ENG 200 Critical Reading and Writing About Literature. (3)
selected semesters
Introduces the terminology, methods, and objectives of the study of literature, with practice in interpretation and evaluation. See ENG Note 1. Prerequisite: English major or minor.
General Studies: L/HU

W ENG 210 Introduction to Creative Writing. (3)
selected semesters
Beginning writing of poetry, fiction, and drama (both stage and screen). Separate sections for each genre. Each genre may be taken once. See ENG Note 1.

W ENG 213 Introduction to the Study of Language. (3)
selected semesters
Language as code; phonetics, phonology, morphology, and syntax; the lexicon; language acquisition; sociolinguistics. See ENG Note 1.

W ENG 219 Newspaper Production. (3)
fall and spring
Students work on campus newspaper to learn basics of news and column writing, digital photography, and layout. Cross-listed as AMS 219. Credit is allowed for only ENG 219 or AMS 219. See ENG Note 1.
General Studies: L

W ENG 221 Survey of English Literature. (3)
fall, spring, summer
Medieval, Renaissance, and 18th-century literature. Emphasizes major writers and their works in their literary and historical contexts. See ENG Note 1.
General Studies: HU, H

W ENG 222 Survey of English Literature. (3)
fall, spring, summer
Romantic, Victorian, and 20th-century literature. Emphasizes major writers and their works in their literary and historical contexts. See ENG Note 1.
General Studies: HU, H

W ENG 241 American Literature. (3)
fall, spring, summer
From colonial times to the Civil War, including the growth of nationalism and romanticism. See ENG Note 1.
General Studies: HU

W ENG 242 American Literature. (3)
fall, spring, summer
From the Civil War to the present. Development of realism, naturalism, and modernism, and contemporary trends in prose and poetry. See ENG Note 1.
General Studies: HU

W ENG 301 Writing for the Professions. (3)
fall, spring, summer
Advanced practice in writing and editing expository prose. Primarily for preprofessional majors. See ENG Note 1.
General Studies: L

W ENG 305 Classical and Biblical Backgrounds to Literature. (3)
selected semesters
Selected readings from the Bible and Greek and Latin literature in translation, emphasizing ideas, forms, and myths related to the development of English literature. See ENG Note 1.
General Studies: HU

W ENG 311 Persuasive Writing. (3)
fall, spring, summer
Advanced writing course that focuses on persuasive writing for diverse audiences. See ENG Note 1.
General Studies: L

W ENG 316 Writing and Arguing Politics. (3)
selected semesters
Logical argumentation and writing, enabling students to analyze and construct arguments. See ENG Note 1.
General Studies: L

W ENG 317 Cross-Cultural Writing. (3)
fall
Cultural differences and their impact on writing and/or their role in miscommunication and misinterpretation. See ENG Note 1.
General Studies: L/HU, G

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W ENG 323 Rhetoric and Grammar. (3)
fall, spring, summer
Practical course taught in the computer lab. Emphasizes rhetorical strategies and grammar for writers. See ENG Note 1.
General Studies: L

W ENG 337 Major American Novels. (3)
selected semesters
Novels from the 19th century to the present studied in their historical and cultural contexts. See ENG Note 1.
General Studies: L/HU

W ENG 352 Short Story. (3)
once a year
Development of the short story as a literary form; analysis of its technique from the work of representative authors. Cross-listed as AMS 322. Credit is allowed for only ENG 352 or AMS 322. See ENG Note 1.
General Studies: L/HU

W ENG 353 African American Literature: Beginnings through the Harlem Renaissance. (3)
selected semesters
Focuses on the history of African-American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. See ENG Note 1.
General Studies: L/HU, C

W ENG 354 African American Literature: Harlem Renaissance to the Present. (3)
selected semesters
Examines the literary productions of African-Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. See ENG Note 1.
General Studies: L/HU, C

W ENG 359 American Indian Literature. (3)
selected semesters
Selected oral traditions of American Indians and their influences on contemporary Native American literary works. See ENG Note 1.
General Studies: L/HU, C

W ENG 360 Western American Literature. (3)
selected semesters
Critical examination of ideas and traditions of the literature of the western United States. See ENG Note 1.
General Studies: L/HU

W ENG 363 Chicano Literature. (3)
selected semesters
Development of Chicano literature; study of genres and themes; attention to literary antecedents. See ENG Note 1.
General Studies: HU, C

W ENG 365 History of Film. (3)
selected semesters
Emphasizes American film, with some study of European film. 3 hours lecture, 4 hours of screening. See ENG Note 1.
General Studies: HU

W ENG 369 Science Fiction and Fantasy. (3)
selected semesters
Development of science fiction and fantasy literature. May be repeated for credit when topics vary. See ENG Note 1.
General Studies: HU

W ENG 386 American Gothic. (3)
selected semesters
The development of modern American Gothic as a literary form from Poe to Oates. Emphasizes the short story. See ENG Note 1.
General Studies: L/HU

W ENG 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- American Culture. (3)
- Comedy Writing. (1)
- Desktop Publishing. (1)
- Magazine Publication. (1)
- Research and Writing. (3)
- Scriptwriting. (1)
- Writing. (3)

See ENG Note 1.

W ENG 400 History of Literary Criticism. (3)
fall and spring
Major critics and critical traditions in the western world. Prerequisite: 6 hours of literature or instructor approval. See ENG Note 1.
General Studies: L/HU, H

W ENG 412 Writing for Publication. (3)
fall and spring
Lectures and conferences concerning techniques of writing for publication. May be repeated for credit when topics vary. See ENG Note 1.

W ENG 415 Medieval Literature. (3)
selected semesters
Medieval English and continental literature in translation, emphasizing cultural and intellectual backgrounds. May be repeated for credit when topics vary. See ENG Note 1.
General Studies: HU

W ENG 418 European Renaissance Literature. (3)
selected semesters
Prose, poetry, and drama of Europe and England from 1492-1660 with an emphasis on cultural history. See ENG Note 1.
General Studies: L/HU

W ENG 420 Multicultural Autobiographies. (3)
fall and spring
Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. Cross-listed as IAS 420. Credit is allowed for only ENG 420 or IAS 420. See ENG Note 1.
General Studies: L/HU, C

W ENG 425 Romantic Poetry. (3)
selected semesters
Poetry of Wordsworth, Coleridge, Shelley, Keats, and Byron. May be repeated for credit when topics vary. See ENG Note 1.

W ENG 431 Whitman and Dickinson. (3)
selected semesters
Evaluates the 19th-century American Literary Renaissance through the specialized examination of its poetry and authors in their historical context. See ENG Note 1.
General Studies: HU

W ENG 432 The American Renaissance. (3)
selected semesters
Novels, poetry, short fiction, and criticism of the major literary figures of the early to mid-nineteenth century. See ENG Note 1.
General Studies: HU

W ENG 433 Southern Writers. (3)
selected semesters
Analyzes Southern culture through the eyes of the region's novelists, short story writers, poets, filmmakers, photographers, and song writers. See ENG Note 1.

W ENG 437 The American Novel, 1900–1960. (3)
selected semesters
Developments in theory and practice of major novelists. See ENG Note 1.
General Studies: L/HU

W ENG 438 American Novel since 1960. (3)
selected semesters
Major novelists of the period. Developments in theory and practice. See ENG Note 1.
General Studies: L/HU

W ENG 450 The British Novel. (3)
selected semesters
Focuses on the British novel from the 18th century to the present. See ENG Note 1.
General Studies: HU

W ENG 454 Gender and Literature. (3)
once a year
Focuses on the representation of gender in literature. See ENG Note 1.
General Studies: L/HU

W ENG 455 Contemporary Women Writers. (3)
once a year
Critical examination of literature by contemporary women writers. May be repeated for credit when topics vary. See ENG Note 1.
General Studies: HU

W ENG 460 Ethnic Women Writers. (3)
fall
Concentrates on selected women writers of the U.S. who are Native American, African American, Hispanic, and Asian-American. Cross-listed as WST 467. Credit is allowed for only ENG 460 or WST 467. See ENG Note 1.
General Studies: L/HU, C

W ENG 462 Africana Literature. (3)
selected semesters
Focuses on the literature of the African Diaspora, including texts from the Caribbean, the Americas, and Africa. May be repeated for credit when topics vary. See ENG Note 1.
General Studies: HU, G

W ENG 463 African-American Literature. (3)
once a year
Thematic and cultural study of African-American literature. See ENG Note 1.
General Studies: HU, C

W ENG 465 History of Film. (3)
selected semesters
Emphasizes American film, with some study of European film. 3 hours lecture, 4 hours of screening. See ENG Note 1.
General Studies: HU

W ENG 473 Shakespeare. (3)
fall and spring
Selection of comedies, histories, and tragedies. See ENG Note 1.

W ENG 476 Folklore in Everyday Life. (3)
selected semesters
Focuses on the discipline of folklore, the theories and methods related to the oral, material, and cultural practices of society. See ENG Note 1.
General Studies: L/SB/HU, C

W ENG 477 World Literature. (3)
spring
Introduces world literature, mostly outside the United States and England. Cross-listed as IAS 477. Credit is allowed for only ENG 477 or IAS 477. See ENG Note 1.
General Studies: L/HU, G

W ENG 478 Modernist Literature. (3)
selected semesters
Focuses on the international nature of Modernist literature. Authors studied may include Proust, Kafka, Joyce, and Woolf. See ENG Note 1.
General Studies: HU

W ENG 479 International Postmodern Literature. (3)
selected semesters
Focuses on the international nature of Postmodernist literature. Authors studied may include Rushdie, Garcia Marquez, and Toni Morrison. See ENG Note 1.
General Studies: HU, G

W ENG 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- HTML Creating a Web Page. (1)
- Layout and Design. (1)
- Selling Your Writing. (1)
- Writing Practicum. (3)

See ENG Note 1.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

HISTORY (HIS)

W HIS 101 Western Civilization. (3)
fall
Traces origin and development of Western societies and institutions from the Renaissance and Reformation through Age of Enlightenment.
General Studies: SB, H

W HIS 102 Western Civilization. (3)
spring
Traces origin and development of Western societies and institutions from the French Revolution to the present.
General Studies: SB, G, H

W HIS 103 The United States. (3)
fall
Growth of the Republic from colonial times through the Civil War period.
General Studies: SB, H

W HIS 104 The United States. (3)
spring
Growth of the Republic from the Civil War period to the present day.
General Studies: SB, H

W HIS 300 Historical Methods. (3)
fall
Introduces the methodological and theoretical tools of history as a scholarly discipline for History majors. Prerequisite: ENG 102 or 105.
General Studies: L, H

W HIS 301 Writing in History. (3)
once a year
Focuses on methods of writing, reasoning, and arguing in American Studies. Emphasizes the drafting of summaries and short arguments. Prerequisite: ENG 101 or 105.
General Studies: L

W HIS 303 American Cultural History I. (3)
fall
First of a two-part survey of American culture, broadly defined as historically transmitted patterns of meaning expressed in symbolic forms, 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. Credit is allowed for only HIS 303 or AMS 320.
General Studies: SB, H

W HIS 304 American Cultural History II. (3)
spring
Second of a two-part survey of American culture, broadly defined as historically transmitted patterns of meaning expressed in symbolic forms, including ideas, ideals, the arts, and social and economic standards from the age of industrialism and modern America. Cross-listed as AMS 321. Credit is allowed for only HIS 304 or AMS 321.
General Studies: SB, H

W HIS 305 History of American Systems to 1865. (3)
fall
First of a two-part survey of political, legal, and economic institutions, placed in the context of the nation's colonial background and early national period. Cross-listed as AMS 310. Credit is allowed for only HIS 305 or AMS 310. Prerequisite: ENG 101 or 105.
General Studies: L, C, H

W HIS 306 History of American Systems Since 1865. (3)
spring
Second in a two-part survey of political, legal, and economic institutions, placed in the context of a dynamic industrialist capitalist society, from the age of industrialism and modern America. Cross-listed as AMS 311. Credit is allowed for only HIS 306 or AMS 311. Prerequisite: ENG 101 or 105.
General Studies: H

W HIS 320 19th Century West. (3)
selected semesters
Social, political, and economic development of trans-Mississippi West beginning with Louisiana Purchase and ending in 1900.
General Studies: SB, H

W HIS 331 American Indians. (3)
fall
History of the American Indian with emphasis on the government's Indian policy and the impact of the white man on tribal culture.

W HIS 340 American Military History. (3)
selected semesters
Studies the role of the military in American life during war and peace from colonial times to the present day.
General Studies: SB, H

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W HIS 355 World History to 1500. (3)
fall
Studies world history to 1500 with emphasis on the connection between regional history and the growth of world civilization.
General Studies: G, H

W HIS 356 World History Since 1500. (3)
spring
Surveys modern European history (1789-present); emphasizes European relations with the non-European world.
General Studies: G, H

W HIS 363 Reformation. (3)
fall
The Protestant and Catholic Reformations in the 16th century. Prerequisite: ENG 101 or 105.

W HIS 377 Women in Europe, 1700–Present. (3)
selected semesters
Historical survey of European women's lives, emphasizing the impact of gender on social, political, economic, and cultural experience. Prerequisite: ENG 102 or 105.
General Studies: H

W HIS 378 20th Century Europe at War, 1900–1945. (3)
fall
Surveys the history of the World Wars in Europe, emphasizing the relationship among military developments, culture, and society.
General Studies: H

W HIS 394 Special Topics in History. (3)
fall and spring
Full description of topics for any semester is available in the department office. May be repeated for credit.

W HIS 406 Civil War and Reconstruction. (3)
spring
Causes and development of the war; political, constitutional, and social issues of Reconstruction and their effects on postwar America. Prerequisite: ENG 101 or 105.
General Studies: L/SB, H

W HIS 411 Contemporary America. (3)
fall
The United States from 1945 to the present. Prerequisite: ENG 101 or 105.
General Studies: L/SB, H

W HIS 419 Topics in American Historical Periods. (3)
spring
Focuses on specific periods in American history. May be repeated for credit when topics vary.

W HIS 423 Mexico. (3)
selected semesters
Political, economic, social, and cultural developments from 1810 to the present.
General Studies: SB, H

W HIS 424 The Hispanic Southwest. (3)
fall
Development of the Southwest in the Spanish and Mexican periods to 1848.
General Studies: SB

W HIS 429 Topics in American Regional History. (3)
fall
Focuses on the history of specific geographic regions within North America. May be repeated for credit when topics vary.

W HIS 430 20th Century Chicano/a History. (3)
selected semesters
Historical development of the Chicano community in the 20th century.

W HIS 431 Social History of American Women. (3)
fall
Examines women's social position in America. In-depth analysis of specific women's issues in terms of change over time. Prerequisite: ENG 101 or 105.
General Studies: SB, C, H

W HIS 439 Topics in American Race, Class, Gender, and Ethnicity. (3)
fall and spring
Emphasizes the use of race, class, gender, and/or ethnicity as categories of historical analysis. May be repeated when topics vary.

W HIS 443 Constitutional History of the United States. (3)
spring
Origin and development of the American constitutional system, from Reconstruction to the present. Prerequisite: HIS 104 or instructor approval.
General Studies: SB, H

W HIS 444 American Urban History. (3)
spring
The history of the city in American life from the 19th century to the present.
General Studies: SB, H

W HIS 449 Topics in American Themes and Issues. (3)
fall
Focuses on significant themes and issues in American history. May be repeated for credit when topics vary.

W HIS 450 Topics in Comparative History. (3)
selected semesters
Comparative history with reference to one or more themes. May be repeated for credit when topics vary.

W HIS 454 History of Genocide. (3)
spring
Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century.
General Studies: G, H

W HIS 462 The African Diaspora. (3)
spring
Enforced dispersal of Africans during the Slave Trade emphasizing its causes, effects on Africa, and the enslaved in the Americas.
General Studies: G, H

W HIS 465 Origins of Racism. (3)
spring
Studies the history of racial discrimination with emphasis on the connection among race, ideology, and the global economy.
General Studies: G, H

W HIS 469 Modern Germany. (3)
spring
Germany since 1840.
General Studies: SB, G, H

W HIS 475 Topics in European Regional/National History. (3)
selected semesters
Focuses on the history of specific geographic regions or nations in Europe. May be repeated for credit when topics vary.

W HIS 482 Topics in European Gender, Ethnicity, and Class. (3)
selected semesters
Emphasizes the use of gender, ethnicity, and/or class as categories of historical analysis. May be repeated for credit when topics vary.

W HIS 487 Topics in European Themes and Issues. (3)
fall
Focuses on significant themes and issues in European history. May be repeated for credit when topics vary.

W HIS 498 History Pro-Seminar. (3)
fall and spring
Introduces historical research and writing. Writing-intensive course related to the development of research skills and writing tools used by historians. Required course for majors on topic selected by instructor. Prerequisite: ENG 101 or 105.
General Studies: L

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

SPANISH (SPA)

For more SPA courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W SPA 101 Elementary Spanish. (4)
fall and spring
Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. Not open to students with credit in SPA 111. 4 hours lecture, 1 hour lab.

W SPA 102 Elementary Spanish. (4)
fall and spring
See SPA 101. Not open to students with credit in SPA 111. Prerequisite: SPA 101 (or its equivalent).

W SPA 107 Spanish for International Professions I. (8)
selected semesters
Accelerated program alternative to SPA 101 and 102 sequence. Functional approach to needs of international professions.

W SPA 201 Intermediate Spanish. (4)
fall and spring
Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. 4 hours lecture, 1 hour lab. Prerequisite: SPA 102 (or its equivalent).

W SPA 202 Intermediate Spanish. (4)
fall and spring
See SPA 201. Prerequisite: SPA 201 (or its equivalent).

W SPA 207 Spanish for International Professions II. (8)
selected semesters
Continuation of SPA 107, alternative to SPA 201 and 202 sequence. Expansion of communicative proficiency in specific areas of international professions. Prerequisite: SPA 107 or instructor approval.

W SPA 311 Spanish Conversation. (3)
fall
Designed primarily for monitors to promote vocabulary building and communicative expression in Spanish through discussions based on cultural readings. Prerequisite: SPA 202 (or its equivalent).

W SPA 312 Spanish Conversation. (3)
spring
See SPA 311. Prerequisite: SPA 202 (or its equivalent).

W SPA 313 Spanish Conversation and Composition. (3)
fall
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 its equivalent).
General Studies: G

W SPA 314 Spanish Conversation and Composition. (3)
spring
See SPA 313. Prerequisite: SPA 202 (or its equivalent).
General Studies: G

W SPA 325 Introduction to Hispanic Literature. (3)
selected semesters
Critical approach to and analysis of literary types, including poetry, drama, short story, and novel. Required of all majors. Prerequisite: SPA 202.

W SPA 412 Advanced Conversation and Composition. (3)
selected semesters
Oral and written Spanish communication skills, with particular attention given to developing fluency and facility. Required of majors. Prerequisite: SPA 314 or instructor approval.
General Studies: G

W SPA 413 Advanced Spanish Grammar. (3)
selected semesters
Intensive analysis of the Spanish language. Required of teaching majors. Prerequisite: SPA 314 or instructor approval.

W SPA 425 Spanish Literature. (3)
selected semesters
Surveys Spanish literature from its beginning to the present. Prerequisite: SPA 325.

W SPA 426 Spanish Literature. (3)
selected semesters
Surveys Spanish literature from 1700 to the present. Prerequisite: SPA 325.
General Studies: HU

W SPA 427 Spanish-American Literature. (3)
selected semesters
Surveys major works, figures, and movements from Colonial period to 1880. Prerequisite: SPA 325.

W SPA 428 Spanish-American Literature. (3)
selected semesters
Surveys major works, figures, and movements from 1880 to the present. Prerequisite: SPA 325.

W SPA 464 Mexican American Literature. (3)
selected semesters
Representative literature in Spanish and English by Mexican Americans, emphasizing sociocultural as well as literary values. Prerequisite: SPA 325.
General Studies: HU, C

W SPA 472 Spanish-American Civilization. (3)
selected semesters
Growth of the institutions and cultures of Spanish-American people. Prerequisite: SPA 314 or instructor approval.
General Studies: HU

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

WRITING ACROSS THE CURRICULUM (WAC)

For more WAC courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W WAC 101 Introduction to Academic Writing. (3)
fall and spring
Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary, and analysis.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Department of Mathematical Sciences and Applied Computing

www.west.asu.edu/msac
602/543-4223
CLCC 250

Roger Berger, Chair

Professor: Berger

Associate Professors: Borror, Dietrich

Assistant Professors: Wang, Zhang

Lecturers: Inman, Vakilzadeh

The Department of Mathematical Sciences and Applied Computing has responsibility for mathematics, statistics, and the BS in Applied Computing. The department offers a minor in mathematics and the academic specialization in mathematics for Secondary Education majors.

APPLIED COMPUTING—BS

Nature of the Program

The information revolution, which has produced the fastest growing economic sector and related demand for jobs, has created the need for a new kind of professional: someone who is skilled in locating, creating, organizing, filtering,

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

manipulating, presenting, and disseminating information. The mission of the BS in Applied Computing is to educate such knowledge-work professionals.

The program prepares students to understand how to collect and analyze data; allow for efficient, effective, and ethical user interaction with systems; employ management skills to direct the development and deployment of technology systems; engage in creative efforts; and develop and assure the quality of information and its value to those who will use it.

The Applied Computing program has both a technical component, concerned with the design and use of appropriate systems and technologies, and a social sciences component, concerned with understanding how people seek, obtain, evaluate, use, and categorize information. It rests on a solid foundation of work in mathematics, technology, and humanities and social sciences and offers a choice of concentrations in database management, networks, or digital media and design. Technical, communication, and creative skills couple with a significant internship to provide experience in applying technical expertise and creative abilities to information processes, systems, and contexts.

Career Outlook

Students who complete a BS in Applied Computing are prepared to integrate technology with human activities and to respond to global changes, solve problems, and create and manage the technological production of information and creative products. Core information technology industries are among the fastest growing sectors in the U.S. economy. Graduates of the Applied Computing program will find employment opportunities with corporations and businesses, nonprofit and government agencies, digital arts media industries, and in the academic world.

Major Requirements

The Applied Computing major consists of 60 to 61 semester hours with a grade of "C" (2.00) or higher.

Math Foundation/Core

MAT	210	Brief Calculus *MA*	3
MAT	243	Discrete Mathematical Structures	3
STP	300	Introduction to Probability	3
Total			9

Applied Computing Foundation/Core

ACO	101	Introduction to Computer Science *CS*	3
ACO	102	Principles of Computer Science *CS*	3
ACO	201	Data Structures and Algorithms *CS*	3
ACO	210	Introduction to Systems Programming *CS*	3
ACO	220	Introduction to Database Systems *CS*	3
Total			15
Total foundation/core			24

Concentration

Select one of the following concentrations, and prepare a program of study in consultation with a program advisor.

Digital Media and Graphic Design

IAP	361	Digital Editing and Media Literacy *CS*	3
IAP	365	Digital Interactivity	3
IAP	368	Digital Graphic Technologies	3
IAP	466	Digital Interactivity, Advanced	3
IAP	468	Digital Graphic Applications	3
IAP	484	Internship	6
Total			21

Database Systems

ACO	320	Database Systems and Transaction Processing	3
ACO	420	Object Databases	3
ACO	421	Data Mining and Warehousing	3
ACO	422	XML and Databases	3
ACO	484	Internship	6
		or ACO 499 Individualized Instruction (6)	
GCU	373	Introduction to Geographic Information Science *SG*	4
Total			22

Network and Distributed Processing

For more information, contact the department.

Liberal Arts Cluster

Choose four liberal arts courses*			12
Choose one of the following ethics/diversity courses			3
	COM	457 New Media (3)	
	IAP	464 Media and Diversity (3)	
	IAS	406 Moral Dilemmas *L/HU* (3)	
Program total			60–61

* The liberal arts courses must be chosen in consultation with an advisor, and at least nine semester hours must be upper-division courses.

Internship and/or Individualized Instruction. The internship and/or individualized instruction experience is an integral component of the program. Six semester hours of Internship (484) and/or Individualized Instruction (499) is required. At the close of the program, the student must submit a significant paper documenting the experience and make a formal presentation.

MINOR IN MATHEMATICS

Nature of Program

The minor in Mathematics explores the study of higher mathematics. It is designed to enable the student to understand the mathematics most commonly used in business, economics, and science. It is expected that students in the minor will be able to reason, and to find creative solutions to problems that were either presented to them or meaningfully formulated by them. The minor is recommended for students who plan to major in integrative studies, life sciences, and business, as well as those who are preparing for further graduate study.

Requirements

The minor in Mathematics consists of a minimum of 27 semester hours, of which nine semester hours must be taken in the Mathematical Sciences and Applied Computing Department.

Required Courses:

MAT	270	Calculus with Analytic Geometry I *MA*	4
MAT	271	Calculus with Analytic Geometry II *MA*	4
MAT	272	Calculus with Analytic Geometry III *MA*	4
MAT	300	Mathematical Structures	3
MAT	342	Linear Algebra	3
Choose three electives from the following courses*			9
	MAT	310 Introduction to Geometry (3)	

MAT 371 Advanced Calculus I (3)
MAT 411 History and Philosophy of Mathematics *HU, H* (3)
MAT 443 Abstract Algebra (3)
MAT 445 Theory of Numbers (3)
STP 420 Introductory Applied Statistics *CS* (3)

Total 27

* Select three of these courses, or other approved course, in consultation with a departmental advisor.

SECONDARY EDUCATION—BAE

Mathematics Specialization

The requirements for the Bachelor of Arts in Secondary Education with a specialization in Mathematics consist of the Professional Teacher Preparation Program for secondary majors (see the "College of Teacher Education and Leadership" section of this catalog) and 36 semester hours in mathematics, of which 21 must be upper division.

Lower-Division Required Courses

Choose one of the following courses 3
ACO 101 Introduction to Computer Science *CS* (3)
CIS 200 Computer Applications and Technology *CS* (3)
M CSE 110 Principles of Programming with Java *CS* (3)
CSE 180 Computer Literacy *CS* (3)
M CSE 181 Applied Problem Solving with Visual BASIC *CS* (3)
MAT 270 Calculus with Analytic Geometry I *MA* 4
MAT 271 Calculus with Analytic Geometry II *MA* 4
MAT 272 Calculus with Analytic Geometry III *MA* 4

Total 15

Upper-Division Required Courses

MAT 300 Mathematical Structures 3
MAT 310 Introduction to Geometry 3
MAT 342 Linear Algebra 3
MAT 371 Advanced Calculus I 3
MAT 411 History and Philosophy of Mathematics *HU, H* 3
MAT 443 Abstract Algebra 3
or MAT 445 Theory of Numbers (3)
STP 420 Introductory Applied Statistics *CS* 3

Total 21

Program total 36

APPLIED COMPUTING (ACO)

W ACO 100 Overview of Applied Computing. (3)
fall and spring
Internet and HTML, XML, databases, networks and distributed processing, digital media and graphic design. Opportunities, professionalism, and ethics.
General Studies: CS

W ACO 101 Introduction to Computer Science. (3)
fall and spring
Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms, computer system concepts. Social and ethical responsibilities. Prerequisite: MAT 117.
General Studies: CS

W ACO 102 Principles of Computer Science. (3)
fall and spring
Issues and concepts throughout computer science, including software development, data organization, machine architecture, algorithmic machines, and ethics in computing. Java programming. Fee. Prerequisite: ACO 101.
General Studies: CS

W ACO 201 Data Structures and Algorithms. (3)
fall
Static and dynamic data structures, recursive and iterative sorting and searching, object-oriented design and programming, software design models and implementation/testing strategies, professional responsibilities. Fee. Prerequisites: ACO 102; MAT 210.
General Studies: CS

W ACO 210 Introduction to Systems Programming. (3)
spring
Introduces operating systems as resource managers, processes, threads, memory allocation, file systems, protection, system calls, application program interfaces. Fee. Prerequisite: ACO 201.
General Studies: CS

W ACO 220 Introduction to Database Systems. (3)
spring
Introduces database management systems concepts. Entity-relationship and relational data models. Database design. Relational algebra, calculus, and SQL query languages. Query optimization. Fee. Prerequisites: ACO 201; MAT 243.
General Studies: CS

W ACO 320 Database Systems and Transaction Processing. (3)
fall
Relational database normalization theory, stored procedures, triggers, and call-level interface. Data-centric XML. Transaction processing in centralized and distributed databases. Security. Fee. Prerequisite: ACO 220.

W ACO 420 Object Databases. (3)
spring
Object-oriented conceptual modeling, object-oriented databases, object-relational databases, applications. Fee. Prerequisite: ACO 320.

W ACO 421 Data Mining and Warehousing. (3)
fall
Introduces data mining from a database perspective, including classification, clustering, and association rules. Data warehousing methodologies. Fee. Prerequisite: ACO 320.

W ACO 422 XML and Databases. (3)
spring
XML data model, schema specification and validation, querying, storage, indexing, and current research topics. Fee. Prerequisite: ACO 320.

W ACO 484 Internship. (1–12)
selected semesters

W ACO 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

MATHEMATICS (MAT)

For more MAT courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

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

W MAT 117 College Algebra. (3)
fall and spring
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.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W MAT 119 Finite Mathematics. (3)
fall and spring
Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. Prerequisite: MAT 117 (or its equivalent).
General Studies: MA

W MAT 142 College Mathematics. (3)
fall and spring
Applies 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: MA

W MAT 170 Precalculus. (3)
fall and spring
Intensive preparation for calculus (MAT 270). Topics include functions (including trigonometric), matrices, polar coordinates, vectors, complex numbers, and mathematical induction. Prerequisite with a grade of "B" (3.00) or higher: MAT 106. Prerequisite with a grade of "C" (2.00) or higher: MAT 117 or two years of high school algebra.
General Studies: MA

W MAT 210 Brief Calculus. (3)
fall and spring
Differential and integral calculus of elementary functions with applications. Not open to students with credit in MAT 260 or 270 or 290. Prerequisite: MAT 117 (or its equivalent).
General Studies: MA

W MAT 243 Discrete Mathematical Structures. (3)
fall
Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science. Prerequisite: 1 semester of calculus or computer programming.

W MAT 270 Calculus with Analytic Geometry I. (4)
selected semesters
Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. Not open to students with credit in MAT 290. Prerequisite with a grade of "C" (2.00) or higher: MAT 170 or satisfactory score on placement examination.
General Studies: MA

W MAT 271 Calculus with Analytic Geometry II. (4)
selected semesters
Methods of integration; applies calculus, elements of analytic geometry, improper integrals, sequences, and series. Not open to students with credit in MAT 291. Prerequisite with a grade of "C" (2.00) or higher: MAT 270 (or its equivalent).
General Studies: MA

W MAT 272 Calculus with Analytic Geometry III. (4)
selected semesters
Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. Prerequisite with a grade of "C" (2.00) or higher: MAT 271 (or its equivalent).
General Studies: MA

W MAT 300 Mathematical Structures. (3)
fall
Introduces rigor and proof in mathematics. Basic logic, set theory, mathematical induction, combinatorics, functions, relations, and problem solving. Prerequisites: both ENG 101 (or 105) and one semester of calculus or only instructor approval.

W MAT 310 Introduction to Geometry. (3)
spring
Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. Prerequisite: MAT 272 (or its equivalent).

W MAT 342 Linear Algebra. (3)
once a year
Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. Prerequisite: MAT 272 (or its equivalent).

W MAT 371 Advanced Calculus I. (3)
fall
Continuity, Taylor's theorem, partial differentiation, implicit function theorem, vectors, linear transformations and norms in Rn, multiple integrals, and power series. Prerequisites: MAT 300, 342.

W MAT 411 History and Philosophy of Mathematics. (3)
once a year
Examines nature of mathematics from origins to present, revealed by its history and philosophy. Strong background in mathematics not required. Cross-listed as IAS 411. Credit is allowed for only MAT 411 or IAS 411.
General Studies: HU, H

W MAT 443 Abstract Algebra. (3)
spring
Introduces the most important algebraic structures, including groups, rings, integral domains, and fields. Prerequisites: both MAT 300 and 342 or only instructor approval.

W MAT 445 Theory of Numbers. (3)
spring
Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. Prerequisites: both MAT 300 and 342 or only instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

STATISTICS AND PROBABILITY (STP)

For more STP courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W STP 220 Conceptual Statistics. (3)
fall and spring
Concepts and vocabulary needed to evaluate statistical reports on health, technology, and society. Aggressively emphasizes understanding over computation. Lecture, teamwork. Prerequisite: MAT 117 or 142.
General Studies: CS

W STP 226 Elements of Statistics. (3)
fall and spring
Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation. Prerequisite: MAT 117 or 142.
General Studies: CS

W STP 300 Introduction to Probability. (3)
spring
Probability models and computations, joint and conditional distributions, moments, families of distribution, stochastic processes, simulation. Prerequisite: MAT 210.

W STP 420 Introductory Applied Statistics. (3)
once a year
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 its equivalent).
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Religious Studies Program

602/543-6003
FAB N281

Linda Stryker, Director

MINOR IN RELIGIOUS STUDIES

The minor in Religious Studies consists of 21 semester hours of religious studies course work, of which 18 must be upper-division hours. Fifteen semester hours of campus resident credit is required. Only courses in which the student earns a minimum grade of "C" (2.00) can be counted toward the minor. Courses are to be selected in consultation with the religious studies director to create a coherent and complete program of study for the minor.

Requirements

Choose one from the following courses 3
- AMS 417 Religious Traditions of the American Southwest *C* (3)
- REL 320 Religion in America *HU, H* (3)
- REL 321 Religion in America *L/HU, H* (3)
- REL 420 Religion in American Life and Thought (3)

Choose two from the following courses 6
- M ENG 424 Milton *HU* (3)
- HIS 363 Reformation (3)
- REL 305 Ritual, Symbol, and Myth (3)
- REL 390 Women and World Religions *L/SB, G* (3) or WST 390 Women and World Religions *L/SB, G* (3)
- REL 494 ST: Psychology of Religion (3) or AMS 494 ST: Psychology of Religion (3)
- REL 494 ST: Science and Religion (3) or IAS 494 ST: Science and Religion (3)

Choose at least one special topics course[1] 3

Religious Studies Electives

Choose three additional religious studies courses[2] 9
Program total 21

[1] Select from the following prefixes: AMS, COM, IAS, REL, WST. Examples of topics may include Spiritual Narratives, Communication as Theology, Testimony in a Post-Metaphysical World, The Goddess Religions, and Gender and the Environment.

[2] These courses, or other approved courses, must be chosen in consultation with the director, and may include Internship (484) and/or Individual Instruction (499).

RELIGIOUS STUDIES (REL)

For more REL courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W REL 100 Religions of the World. (3)
fall
Introduces the history of religious traditions of the world, including Buddhism, Christianity, Hinduism, Islam, Judaism, and others. Credit is allowed for only REL 100 or 200.
General Studies: HU, G

W REL 200 The Study of Religious Traditions. (3)
selected semesters
Writing-intensive course introducing analytical skills necessary for understanding religious traditions. Beliefs, practices, and communities of several religious traditions of the world. Credit is allowed for only REL 200 or 100. Prerequisite: ENG 101 or 105.
General Studies: L/HU, G

W REL 201 Religion and the Modern World. (3)
selected semesters
Introduces the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W REL 202 Religion and Popular Culture. (3)
selected semesters
Explores various intersectors between religion and the popular media, including music, news, advertising, the visual arts, literature, performance, and film. Lecture, discussion.
General Studies: HU, C

W REL 203 Saints and Sinners: Explorations in Sacred Biography. (3)
selected semesters
Compares the role of biography across religions to examine the process of categorizing people as saints or sinners. Lecture, discussion.
General Studies: HU, H

W REL 305 Ritual, Symbol, and Myth. (3)
fall and spring
Ritual, symbol, and myth as types of religious expression, with examples selected from the nonliterate religions of the world. Prerequisite: ENG 101 or 105.

W REL 320 Religion in America. (3)
fall
The emergence of religious ideas and institutions up to the Civil War.
General Studies: HU, H

W REL 321 Religion in America. (3)
spring
The emergence of religious ideas and institutions from the Civil War to the present. Prerequisite: ENG 101 or 105.
General Studies: L/HU, H

W REL 390 Women and Religion. (3)
selected semesters
The role of women in several organized religions and/or religious sects, including a study of myth and symbols as they are used to establish, maintain, and enforce sex roles within specific religions. Prerequisite: ENG 101 or 105.
General Studies: L/SB, G

W REL 420 Religion in Americah Life and Thought. (3)
fall
The influence of religion on American society, culture, and ideas; the distinctive character of religion in America. Prerequisite: REL 321 recommended.

W REL 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Psychology of Religion. (3)
- Science and Religion. (3)

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Department of Social and Behavioral Sciences

www.west.asu.edu/sbs
602/543-6058
FAB N250-1

Barbara Tinsley, Chair

Professors: Keil, Kirby, Mueller, Náñez, Tinsley

Associate Professors: Ávalos, Burleson, Coon, Gutierres, Koptiuch, Miller, Murphy Erfani, Robles, Vaughan

Assistant Professors: Anastasi, Cabrera, Champion, Glavac, Guevarra, Juris, McQuiston-Surrett, Plascencia, Simmons

Senior Lecturer: Wosinska

Lecturer: Ackroyd

The Department of Social and Behavioral Sciences offers students the opportunity to enroll in traditional social and behavioral science courses (anthropology, family studies, geography, political science, psychology, and sociology), as well as interdisciplinary courses. The faculty offers interdisciplinary Bachelor of Arts and Bachelor of Science degree programs in Social and Behavioral Sciences and Bachelor of Arts and Bachelor of Science degree programs in Political Science, Psychology, and Sociology.

SOCIAL AND BEHAVIORAL SCIENCES—BA AND BS

Nature of the Programs

The Bachelor of Arts and Bachelor of Science programs in Social and Behavioral Sciences provide an interdisciplinary foundation in the social and behavioral science disciplines. The objective of the Social and Behavioral Sciences degree program is to

1. provide a basic understanding of the assumptions underlying the social and behavioral sciences;
2. develop the research skills necessary for the analysis of complex social issues;
3. offer a flexible program tailored to the career goals of the individual student; and
4. offer both individual and group experiences in working with faculty on concrete intellectual and policy issues.

The interdisciplinary program is designed to provide students with a substantive understanding of the theoretical assumptions and methodological techniques underlying the latter. Students can choose either a social science (ISS) or a behavioral science (IBS) emphasis. Each contains a number of course clusters: in the ISS emphasis they are titled Identity/Difference, Power/Knowledge and Local/Global; in the IBS emphasis they are titled Biological Foundations, The Individual and the Family, and The Individual and the Group. All courses provide students with knowledge about the biological and/or social principles related to the behavior of individuals across multiple social contexts and institutions (family, community, society, and culture). For more information, contact the department.

Career Outlook

The interdisciplinary degrees are an excellent means of creating a degree program that matches the individual's interests and fulfills many employers' expectations of a baccalaureate degree, namely that it should expose the student to a variety of outlooks and challenges. Such a degree will be competitive in most situations where the disciplinary social and behavioral degrees are accepted and is advantageous when seeking entry to broad professional programs such as regional planning or urban studies.

Major Requirements

The Bachelor of Arts or Bachelor of Science in Social and Behavioral Sciences consists of 45 semester hours of required course work. Students must select one of two emphases: Interdisciplinary Social Sciences or Interdisciplinary Behavioral Sciences. Each emphasis consists of

1. required interdisciplinary core in theory and methodology;
2. cluster requirements; and
3. electives.

Interdisciplinary Social Sciences Emphasis for BA

Core Requirements for BA		
SBS	300 Interdisciplinary Approaches to Social and Behavioral Sciences *SB*	3
SBS	301 Cultural Diversity *L/SB, C*	3
SBS	302 Qualitative Methods	3
	SBS 303 Quantitative Methods (3)	
SBS	304 Social Statistics I *CS*	3
Total		12

Cluster Requirements for BA

Required Topics Courses	
SBS 410 Topics in Identity/Difference	3
SBS 430 Topics in Power/Knowledge *SB*	3
SBS 450 Topics in Local/Global *SB, G*	3
Choose courses from the following clusters	9
Identity/Difference	
Power/Knowledge	
Local/Global	
Electives*	15
Total	45

* Choose elective courses with these prefixes: ASB, FAS, GCU, POL, PGS, SBS, or SOC.

Interdisciplinary Social Sciences Emphasis for BS

Core Requirements for BS		
SBS	300 Interdisciplinary Approaches to Social and Behavioral Sciences *SB*	3
SBS	301 Cultural Diversity *L/SB, C*	3
SBS	302 Qualitative Methods	3
SBS	303 Quantitative Methods	3

SBS 304 Social Statistics I *CS*	3
SBS 404 Social Statistics II: Multivariate Analysis *CS*	3
Total	18

Cluster Requirements for BS

Required Topics Courses	
SBS 410 Topics in Identity/Difference	3
SBS 430 Topics in Power/Knowledge *SB*	3
SBS 450 Topics in Local/Global *SB, G*	3
Choose courses from the following clusters	9
Identity/Difference	
Power/Knowledge	
Local/Global	
Electives*	9
Total	45

* Choose elective courses with these prefixes: ASB, FAS, GCU, POL, PGS, SBS, or SOC.

Interdisciplinary Behavioral Sciences Emphasis for BA

Core Requirements for BA	
SBS 300 Interdisciplinary Approaches to Social and Behavioral Sciences *SB*	3
SBS 302 Qualitative Methods	3
SBS 303 Quantitative Methods	3
SBS 304 Social Statistics I *CS*	3
C or G awareness course[1]	3

Cluster Requirements for BA

Required Topics Courses	
Choose courses from each cluster as indicated	18
Biological foundations (6)	
The individual and the family (6)	
The individual and the group (6)	
Electives[2]	12
Total	45

1 Choose courses from the department.

2 Choose elective courses with these prefixes: ASB, FAS, GCU, POL, PGS, SBS, or SOC.

Interdisciplinary Behavioral Sciences Emphasis for BS

Core Requirements for BS	
SBS 300 Interdisciplinary Approaches to Social and Behavioral Sciences *SB*	3
SBS 302 Qualitative Methods	3
SBS 303 Quantitative Methods	3
SBS 304 Social Statistics I *CS*	3
SBS 404 Social Statistics II: Multivariate Analysis *CS*	3
C or G awareness course[1]	3

Cluster Requirements for BS

Required Topics Courses	
Choose courses from each cluster as indicated	15
Biological foundations (9)	
The individual and the family (3)	
The individual and the group (3)	
Electives*	12
Total	45

1 Choose courses from the department.

2 Choose elective courses with these prefixes: ASB, FAS, GCU, POL, PGS, SBS, or SOC.

Alternative Options for Electives in Either Emphasis. All course substitutions must be appropriately related to the student's interdisciplinary program of study within the major, as determined in consultation with and approved by a faculty advisor. A grade of "C" (2.00) or higher is required of all substitutions. The student may elect to combine options (1) up to 12 semester hours of lower-division courses in any of the social sciences for the ISS emphasis, or the behavioral sciences for the IBS emphasis; or (2) up to six semester hours of upper-division courses taken in related fields outside the SBS department; or (3) Senior Thesis—a two-course sequence, six semester hours: SBS 490 and 491. Under the supervision of an SBS faculty member, students conduct research and write up the results as the Senior Thesis. The Senior Thesis is optional but strongly encouraged. For students who complete a thesis, the degree is posted on the transcript with the notation "with Senior thesis."

Minor in Social and Behavioral Sciences

The minor offers students an interdisciplinary focus across several fields of the social and behavioral sciences, including sociocultural anthropology, geography, political science, psychology, and sociology.

The minor consists of 18 semester hours, at least 12 semester hours of which must be in upper-division courses. All courses must be completed with a minimum grade of "C" (2.00). Students wishing to pursue a minor must meet with an SBS faculty advisor to construct a minor that reflects a particular area of specialty and interest.

Requirements	
SBS 300 Interdisciplinary Approaches to Social and Behavioral Sciences *SB*	3
SBS 302 Qualitative Methods or SBS 303 Quantitative Methods (3)	3
Electives*	12

* Choose courses from at least two fields of social and behavioral sciences, including SBS and excluding internships or individualized instruction.

POLITICAL SCIENCE—BA AND BS

Nature of the Program

The Political Science degree program is designed to help students gain an understanding of theory, practice and policy underlying political processes locally, nationally and internationally, as well as to train students in research skills necessary for the analysis of complex sociopolitical issues locally and globally. The program strives to meet these goals by offering students learner-centered course work in political theory, American political institutions, and international relations and world affairs. These goals are accomplished by offering a flexible program of course work focusing on international, urban, and race/ethnic sociopolitical areas, internships, and service-learning/action research opportunities. Under the direction of faculty, students throughout the degree program focus on intellectual and

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

concrete policy issues in the greater Phoenix metropolitan area, Arizona, the Arizona-Mexico borderlands, the Americas, and the world.

Career Outlook

The Political Science major provides students with the background and skills necessary to gain employment in a relevant profession or to continue their studies in graduate degree programs in political science, social science disciplines, urban planning, or in professional schools. The baccalaureate degree in Political Science is also a good precursor to staff, manager, or policy analyst positions in local, state, and federal government. Some graduates work in the U.S. Foreign Service; as policy analysts/aides in Congress or in state legislatures; some are elected to those bodies. Alternate careers can be found in linking business interests and legislators. In addition, a Political Science degree is a recognized qualification for many careers in business (for profit and nonprofit) and industry, particularly as firms become more global in scope. Some graduates may work in binational, cross-border positions linking U.S. and Mexican businesses, Arizona-Sonora local government, or local community groups on both sides of the border. Some students view a degree in Political Science as a valuable gateway to law school; many use the degree as a basis for further study in such applied fields as urban affairs/urban and regional planning, public administration, public policy, or community development.

Major Requirements

Bachelor of Arts. The Bachelor of Arts degree in Political Science consists of 42 semester hours, of which 12 are core requirements, 18 are political science electives, and 12 are electives in related fields or in POL internships. For the BA, at least 15 semester hours in political science must be in upper-division courses.

Required Core

POL	101	Political Ideologies *SB*	3
		or POL 340 Political Theory *SB/HU* (3)	
POL	110	Government and Politics *SB*	3
		or POL 310 American National Government: Ideas and Institutions *SB, H* (3)	
POL	160	Global Politics *SB, G*	3
		or POL 360 World Politics Theory *SB, G* (3)	
SBS	302	Qualitative Methods	3
		or SBS 303 Quantitative Methods (3)	
Political science electives[1]			18
Electives in internships and related fields[2]			12

[1] Electives exclude POL internships.

[2] Choices include POL 484 Internship (six semester hours maximum), or courses from anthropology, communication studies, criminal justice and criminology, economics, geography, history, psychology, social and behavioral sciences, sociology, and women's studies, or other courses approved by the departmental advisor.

Bachelor of Science. The Bachelor of Science degree in Political Science consists of 48 semester hours, including all of the core requirements and electives listed for the BA degree. Six additional semester hours are required for the BS degree, including three semester hours in political science and three semester hours in SBS 304 Social Statistics I (CS). For the BS, at least 21 semester hours in political science must be in upper-division courses.

Minor in Political Science

The minor in Political Science consists of 18 semester hours in POL courses, 12 of which must be in upper-division courses.

Minor Requirements

Core Courses (Minimum of Three Upper-Division Hours)			
POL	101	Political Ideologies *SB*	3
		or POL 340 Political Theory *SB/HU* (3)	
POL	110	Government and Politics *SB*	3
		or POL 310 American National Government: Ideas and Institutions *SB, H* (3)	
POL	160	Global Politics *SB, G*	3
		or POL 360 World Politics Theory *SB, G* (3)	
Political science electives*			9

* A maximum of three semester hours of internship and three semester hours of individualized instruction may be used to fulfill requirements.

PSYCHOLOGY—BA AND BS

Nature of the Program

Psychology is the scientific study of the behavior and mental processes of individuals and groups. The West campus program provides a diverse curriculum of basic and applied courses that cover multiple perspectives within the field, including clinical, cognitive systems/behavioral neuroscience, cross-cultural, developmental, organizational, and social psychology. Courses are presented in the context of cultural, sociohistorical, and transnational issues, enabling the student to understand the relationship between psychology and other social and behavioral sciences.

Students may add practical experiences to enrich their program of study through service learning, internships, and research with individual faculty members. A strong emphasis is placed on developing skills in critical thinking and reasoning, quantitative and qualitative research methods, and writing to round out the student's preparation for a career or graduate studies.

Career Outlook

A baccalaureate degree in psychology is a logical choice for careers in the mental health professions, the social services, education, government, and many areas of business, (e.g., sales and marketing, human services management). It is also an excellent foundation for graduate study in fields such as public administration, law, family studies, communication, and the various programs of psychology such as clinical and counseling, developmental, environmental, experimental, physiological, cognitive neuroscience, and social.

Major Requirements

The Bachelor of Arts and the Bachelor of Science programs in Psychology consist of 31 semester hours in psychology and 18 semester hours of related course work, including at least 15 upper division semester hours. Required course work in the major, or the equivalent, must be passed with a minimum grade of "C" (2.00). Psychology

internships may not be used to fulfill psychology credit requirements; however, a maximum of six semester hours may be applied toward the related course work requirement. No more than a total of three semester hours in PGS 399 Supervised Research or PGS/PSY 499 Individualized Instruction may be used to complete the major requirements.

Required Courses

Lower-Division Required Courses
PGS 101 Introduction to Psychology *SB* 3
PSY 230 Introduction to Statistics *CS* 3
PSY 290 Research Methods *SG* 4

Upper-Division Required Psychology Courses
Choose one from the following courses 3
- PGS 315 Personality Theory and Research *SB* (3)
- PGS 341 Developmental Psychology *SB* (3)
- PGS 350 Social Psychology *SB* (3)

Choose one from the following courses 3
- PSY 323 Sensation and Perception (3)
- PSY 324 Memory and Cognition *SB* (3)
- PSY 325 Physiological Psychology (3)

Additional Required Psychology Courses
One additional upper-division PSY course (excluding PSY 394, 494, and 499) 3
Two additional upper-division psychology courses (PGS or PSY) 6
Two additional psychology courses (excluding PGS 270) 6

Related Course Work Requirements

Choose courses related to psychology that are approved by an advisor and include one of the following courses 18
- W CSE 180 Computer Literacy *CS* (3)
- M CSE 185 Internet and the World Wide Web (3)

For the Bachelor of Arts in Psychology
MAT 119 Finite Mathematics *MA* (3)
or higher-level math course

For the Bachelor of Science in Psychology*
MAT 210 Brief Calculus *MA* (3)
One life science lab course from biology, life sciences, microbiology, or zoology (3)
One physical science lab course from astronomy, chemistry, geology, or physics (3)

* The lab science courses are taken to satisfy the BA and the BS requirements (including PSY 290) are in addition to the lab science courses used to meet the University General Studies requirement.

Minor in Psychology

The minor consists of 22 semester hours in psychology, including the following:

Lower-Division Required Courses
PGS 101 Introduction to Psychology *SB* 3
PSY 230 Introduction to Statistics *CS* 3
PSY 290 Research Methods *SG* 4

Upper-Division Required Courses
Choose one from the following courses 3
- PGS 315 Personality Theory and Research *SB* (3)
- PGS 341 Developmental Psychology *SB* (3)
- PGS 350 Social Psychology *SB* (3)

Choose one from the following courses 3
- PSY 323 Sensation and Perception (3)
- PSY 324 Memory and Cognition *SB* (3)
- PSY 325 Physiological Psychology (3)

PGS or PSY upper-division electives 6

Total 22

A maximum of three semester hours of research (PGS 399 Supervised Research and PGS/PSY 499 Individualized Instruction) may be used to meet the minor requirements. Students with an appropriate equivalent course may exclude PSY 230 Introduction to Statistics and PSY 290 Research Methods from the requirements with prior approval of the psychology advisor. PGS 484 Internship may be taken for elective credit only. All courses must be passed with a minimum grade of "C" (2.00) or higher.

SOCIOLOGY—BA AND BS

Nature of the Program

The Sociology program provides students with an understanding of theory, practice, and policy underlying issues of social change and of inequality and diversity from multiple perspectives, including race/ethnicity, gender, economic position, age, geographic location, and position in the global political economy. The student majoring in sociology will learn how it enhances one's understanding of social realities and institutions at local, national, and international levels, and how sociology contributes to the other social sciences and to the humanities. Students gain a basic understanding of the assumptions underlying the discipline of sociology and develop the research skills necessary for analysis of complex social issues. These objectives are met by offering a flexible program and by providing the student with individual and group experiences in working with faculty on concrete intellectual and policy issues.

Career Outlook

Graduates with a baccalaureate degree in sociology apply the sociological perspective to a wide variety of jobs in business, the health professions, the criminal justice system, social services, and government. The discipline also offers valuable preparation for careers in journalism, politics, public relations, or public administration, all fields that involve investigative skills and an ability to work with diverse groups. Graduates with an advanced degree in sociology may become research analysts, survey researchers, gerontologists, statisticians, urban planners, community developers, criminologists, or demographers.

Major Requirements

The Sociology major consists of 45 semester hours, of which 30 to 33 must be in SBS or SOC courses and 12 to 15 in closely related fields approved by the faculty advisor in consultation with the student. At least 18 semester hours must be in upper-division courses. The 30 semester hours must include:

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

BA in Sociology

Required Core for the BA

SBS	302	Qualitative Methods	3
		or SBS 303 Quantitative Methods (3)	
SBS	304	Social Statistics I *CS*	3
SOC	101	Introductory Sociology *SB*	3
		or SOC 301 Principles of Sociology *SB* (3)	
SOC	486	Contemporary Theory *SB*	3

Cluster Requirements for the BA

Choose from the following clusters[1]	18
Culture and Power	
Social Conflict and Change	
Family, Work, and Community	
Social Inequality: Race, Class, and Gender	
Electives[2]	15
Total	45

[1] Choose one course from three of four clusters for nine semester hours, and three additional courses for nine semester hours from any of the four clusters.

[2] Choose courses in sociology or related fields: anthropology, American studies, criminal justice and criminology, geography, integrative studies, political science, psychology, and women's studies.

BS in Sociology

Required Core for the BS

SBS	302	Qualitative Methods	3
SBS	303	Quantitative Methods	3
SBS	304	Social Statistics I *CS*	3
SOC	101	Introductory Sociology *SB*	3
		or SOC 301 Principles of Sociology *SB* (3)	
SOC	486	Contemporary Theory *SB*	3

Cluster Requirements for the BS

Choose from the following clusters[1]	18
Culture and Power	
Social Conflict and Change	
Family, Work, and Community	
Social Inequality: Race, Class, and Gender	
Electives[2]	12
Total	45

[1] Choose one course from three of four clusters for nine semester hours, and three additional courses for nine semester hours from any of the four clusters.

[2] Choose courses in sociology or related fields: anthropology, American studies, criminal justice and criminology, geography, integrative studies, political science, psychology, and women's studies.

Minor in Sociology

The minor in Sociology requires 18 semester hours in sociology, nine of which must be upper division.

Required Core

SBS	303	Quantitative Methods	3
SBS	304	Social Statistics I *CS*	3
		or SOC 486 Contemporary Theory *SB* (3)	
SOC	101	Introductory Sociology *SB*	3
		or SOC 301 Principles of Sociology *SB* (3)	
Sociology Electives*			12

* These courses must be chosen in consultation with the student's advisor.

MINOR IN INTERDISCIPLINARY ORGANIZATIONAL STUDIES

Nature of the Program

The minor in Interdisciplinary Organizational Studies is designed to increase students' understanding of the behavior and the dynamics of individual, group, and organizational processes in the workplace. It incorporates perspectives from the behavioral and social sciences, communication studies, and management. The minor is learner-centered and allows students to select course work that matches their career and educational goals.

For more information, visit FAB N255, call 602/543-3011, or access the Web site at www.west.asu.edu/sbs/aboutSBS/degrees/MIOS.htm.

Career Outlook

The minor is relevant to students who seek employment in corporate and small business, governmental agencies, and nonprofit organizations, such as in the health professions, social services, education, public relations, and community services. The minor is also good preparation for students who intend to pursue graduate studies in organizational psychology, human relations, industrial relations, or related fields in sociology and communication.

Minor Requirements

The minor in Interdisciplinary Organizational Studies is open to all undergraduate majors. However, students should consult with the advisors in the department of their major to determine if the minor is consistent with their educational goals. Students are encouraged to take courses outside their major and college. No more than six credits may be applied from major requirements toward completion of the minor. The minor consists of 21 semester hours, of which 18 must be upper-division course work.

Required Courses

Research methods course[1]			3
ASB	440	Women in the Global Factory *SB, G*	3
		or POL 435 Women, Power, Politics *SB, C* (3)	
PGS	430	Industrial Psychology	3
		or SBS 461 Program Evaluation and Policy Research (3)	
PGS	453	Organizational Behavior *SB*	3

Electives[2]

Cluster 1: Courses Focused on Organizations

Choose two from the following courses			6
COM	450	Theory and Research in Organizational Communication *SB*[3] (3)	
COM	451	Employee Participation Processes in Organizations[3] (3)	
COM	453	Communication Training and Development[3] (3)	
GLB	303	Relationship Management (3)	
MGT	301	Principles of Management (3)	
MGT	412	Managing Human Resources (4)	
PGS	430	Industrial Psychology[4] (3)	
PGS	482	Social Influence and Consumer Behavior *SB* (3)	
PHI	360	Business and Professional Ethics *HU* (3)	
RTM	301	Leadership in Recreation and Tourism (3)	
SBS	461	Program Evaluation and Policy Research[4] (3)	
SOC	324	Work and the Workplace *SB, H* (3)	
SOC	419	Organizations and Technological Change *G* (3)	
Internship in Organizations[5, 6] (3)			

Cluster 2: Courses Focused on Diversity Within Organizations

Choose one from the following courses 3
- COM 463 Cultural and Intercultural Communication Theory and Research *SB, G*[3] (3)
- PGS 480 Cross-Cultural Social Psychology *SB, G* (3)
- POL 435 Women, Power, and Politics *SB, C* (3)
- SOC 370 Racial and Ethnic Minorities *SB, C* (3)
- SOC 400 Perspectives on Aging *SB* (3)
- SOC 426 Social Inequality *SB* (3)
- WST 350 Race, Class, and Gender *SB, C* (3)
- WST 487 Gender and International Development *SB, G* (3)

[1] SBS advisor's approval is required.
[2] Other approved courses may be used to secure credit.
[3] Prerequisites COM 308 and 309 may be waived for students not majoring in Communication Studies.
[4] Course may be selected if not used to fulfill core requirements.
[5] Intern course examples are PGS 494, COM 494, or SOC 494.
[6] The internship site must be approved by the SBS advisor.

Minor in Sociocultural Anthropology

The Sociocultural Anthropology minor focuses on sociocultural anthropology with an interdisciplinary social science component. The minor requires 18 semester hours, at least 12 of which must be in upper-division courses. Two courses, ASB 311 and SBS 302, are required. The remaining 12 semester hours may be drawn from ASB courses and from several key SBS courses in the interdisciplinary social science degree. All courses must be passed with a minimum grade of "C" (2.00) or higher.

Upper division ASB courses offered at the Tempe campus may be applied toward the minor in Sociocultural Anthropology. Up to six semester hours of lower-division ASB credit and three semester hours of ASB 499 Individualized Instruction may also be applied toward the minor.

Upper-Division Required Courses

ASB 311 Principles of Social Anthropology *SB, G, H* 3
SBS 302 Qualitative Methods 3
Choose four from the following courses* 12
- ASB 319 Indigenous Peoples of North America (3)
- ASB 340 Migration and Culture *SB, G* (3)
- ASB 346 Marriage and Family Diversity *SB, C* (3)
- ASB 350 Anthropology and Art *HU* (3)
- ASB 353 Death and Dying in Cross-Cultural Perspective *HU/SB, G* (3)
- ASB 394 Special Topics (3)
- ASB 440 Women and the Global Factory *SB, G* (3)
- ASB 441 Sexuality and Culture *SB, G* (3)
- ASB 442 Urban Anthropology *SB* (3)
- ASB 494 Special Topics (3)
- ASB 499 Individualized Instruction (3 hours maximum)
- SBS 301 Cultural Diversity *L/SB, C* (3)
- SBS 410 Topics in Identity/Difference (3)
- SBS 430 Topics in Power/Knowledge *SB* (3)
- SBS 440 Family Studies *SB* (3)
- SBS 450 Topics in Local/Global *SB, G* (3)
- SBS 460 Urban Studies *SB* (3)

* Other approved courses may be selected.

SECONDARY EDUCATION—BAE

Social Studies Specialization

The requirements for the Bachelor of Arts in Secondary Education with a specialization in social studies consist of the Professional Teacher Preparation Programs for Secondary Education majors (see "College of Teacher Education and Leadership," page 745) and 39 semester hours in social and behavioral sciences course work.

Required Courses

Economics

ECN 111 Macroeconomic Principles *SB* 3
ECN 112 Microeconomic Principles *SB* 3

History

HIS 300 Historical Methods *L, H* 3
HIS 443 Constitutional History of the United States *SB, H* 3
Choose one combination from the following* 6
- HIS 103 The United States *SB, H* (3)
- HIS 104 The United States *SB, H* (3)

— or —

- HIS 303 American Cultural History I *SB, H* (3)
- HIS 304 American Cultural History II *SB, H* (3)

— or —

- HIS 305 History of American Systems to 1865 *L, C, H* (3)
- HIS 306 History of American Systems since 1865 *H* (3)

Choose two courses from the following* 6
- HIS 101 Western Civilization *SB, H* (3)
- HIS 102 Western Civilization *SB, G, H* (3)
- HIS 355 World History to 1500 *G, H* (3)
- HIS 356 World History since 1500 *G, H* (3)

Political Science

Choose one course from the following 3
- POL 101 Political Ideologies *SB* (3)
- POL 340 Political Theory *SB/HU* (3)
- POL 446 Democracy HU (3)

POL 160 Global Politics *SB, G* 3
or POL 360 World Politics Theory *SB, G* (3)
POL 460 Politics of Globalization *SB, G* 3
or POL 486 Global Political Economy *SB, G* (3)

Anthropology, Geography, Sociology

Choose two courses from the following 6
- ASB 311 Principles of Anthropology *SB, G, H* (3)
- ASB 340 Migration and Culture *SB, G* (3)
- GCU 357 Social Geography *SB* (3)
- SOC 352 Social Change *SB, G, H* (3)
- SOC 456 Political Sociology (3)

Total 39

* A maximum of nine semester hours of history courses may be from the lower division.

ANTHROPOLOGY (SOCIAL AND BEHAVIORAL) (ASB)

For more ASB courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

(Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ASB 102 Introduction to Cultural and Social Anthropology. (3)
selected semesters
Principles of cultural and social anthropology, with illustrative materials from a variety of cultures. The nature of culture. Social, political, and economic systems; religion, aesthetics, and language.
General Studies: SB, G

W ASB 211 Women in Other Cultures. (3)
selected semesters
Cross-cultural analysis of the economic, social, political, and religious factors that affect women's status in traditional and modern societies.
General Studies: HU/SB, G

W ASB 311 Principles of Social Anthropology. (3)
fall
Comparative analysis of domestic groups and economic and political organizations in primitive and peasant societies. Prerequisite: ENG 101 or 105.
General Studies: SB, G, H

W ASB 319 Indigenous Peoples of North America. (3)
selected semesters
Ethnology of the range of Native North American Indian cultural history. Comparative analysis of historical and contemporary issues.

W ASB 340 Migration and Culture. (3)
spring
Examines migration and culture embedded in a transnational field of social, economic, and political processes.
General Studies: SB, G

W ASB 342 Mexico-U.S. Borderlands. (3)
selected semesters
Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. Integrated lecture/seminar. Cross-listed as SBS 342/SOC 342. Credit is allowed for only ASB 342 or SBS 342 or SOC 342.
General Studies: SB, C

W ASB 346 Marriage and Family Diversity. (3)
fall and spring
Social, economic, and cultural factors that shape family diversity in relation to generational and gender dynamics within the family.
General Studies: SB, C

W ASB 350 Anthropology and Art. (3)
selected semesters
Art forms of people in relationship to their social and cultural setting.
General Studies: HU

W ASB 353 Death and Dying in Cross-Cultural Perspective. (3)
fall and spring
Humanistic and scientific study of aging, sickness, dying, death, funerals, and grief and their philosophy and ecology in non-Western and Western cultures. Cross-listed as SOC 353. Credit is allowed for only ASB 353 or SOC 353.
General Studies: HU/SB, G

W ASB 389 Ethnographic Field Lab. (1–6)
selected semesters
Hands-on, guided ethnographic qualitative research and interpretative analysis. May be repeated for credit when topics vary. Fieldwork practicum. Integrated seminar/field lab. Cross-listed as SBS 389/SOC 389. Credit is allowed for only ASB 389 or SBS 389 or SOC 389.

W ASB 394 Special Topics. (1–4)
fall and spring
Topics may include the following:
- Anthropology of Gender. (3)
- Cross-Cultural Perspectives on Art. (3)

May be repeated for credit when topics vary.

W ASB 440 Women in the Global Factory. (3)
selected semesters
Examines the impact of Third World women's incorporation into the new global division of labor in the late 20th century.
General Studies: SB, G

W ASB 441 Sexuality and Culture. (3)
selected semesters
Uses a global, comparative approach to examine the cultural and historical construction of sexualities.
General Studies: SB, G

W ASB 442 Urban Anthropology. (3)
spring
Issues in understanding urban culture and social space from interdisciplinary anthropological perspective. May involve fieldwork. May be repeated for credit when topics vary.
General Studies: SB

W ASB 445 Globalization, Development, and Resistance. (3)
fall
Explores the interconnections among globalization, development, and grassroots movements for social change in Africa, Asia, and Latin America. Lecture, seminar. Prerequisite: social science course recommended.
General Studies: SB, G

W ASB 447 Citizenship, Nationalism, and Identity. (3)
selected semesters
Historical and contemporary examination of citizenship as a form of belonging and fidelity, and the creation of "good citizens" within the U.S. Integrated lecture/seminar. Cross-listed as POL 447/SBS 447. Credit is allowed for only ASB 447 or SBS 447 or POL 447.
General Studies: SB, C

W ASB 494 Special Topics. (1–4)
selected semesters

W ASB 499 Individualized Instruction. (1–3)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

FAMILY STUDIES (FAS)

For more FAS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W FAS 301 Introduction to Parenting. (3)
summer
Integrated approach to understanding parenting and parent-child interactions. Prerequisites: ENG 101 (or 105); PGS 101, SOC 101 (or its equivalent).
General Studies: SB

W FAS 330 Personal Growth in Human Relationships. (3)
fall, spring, summer
Personal development and behavior as related to competency in interpersonal relationships with the family. Processes of family interaction. Prerequisites: PGS 101, SOC 101 (or its equivalent).
General Studies: SB

W FAS 331 Marriage and Family Relationships. (3)
fall and spring
Issues, challenges, and opportunities relating to present-day marriage and family living. Factors influencing interrelations within the family. Prerequisite: course in psychology or sociology.

W FAS 332 Human Sexuality. (3)
selected semesters
Relationship of sexuality to family life and to major societal issues. Emphasizes developing healthy, positive, responsive ways of integrating sexual and other aspects of human living. Prerequisite: PGS 101.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

CULTURAL GEOGRAPHY (GCU)

For more GCU courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—E

(Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W GCU 102 Introduction to Human Geography. (3)
selected semesters
Systematic study of human use of the earth. Spatial organization of economic, social, political, and perceptual environments.
General Studies: SB

W GCU 121 World Geography. (4)
selected semesters
Description and analysis of areal variations in social, economic, and political phenomena in major world regions.
General Studies: SB, G

W GCU 253 Introduction to Cultural and Historical Geography. (3)
spring
Cultural patterns, including such phenomena as language, religion, and various aspects of material culture. Origins and diffusion and division of the world into cultural areas.
General Studies: SB, G

W GCU 351 Population Geography. (3)
spring
Demographic patterns. Spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental favors. Cross-listed as SBS 351. Credit is allowed for only GCU 351 or SBS 351. Prerequisite: MAT 117 or higher.
General Studies: SB, G

W GCU 357 Social Geography. (3)
selected semesters
Environmental perception of individuals and groups. Stresses the spatial aspect of social and physical environments.
General Studies: SB

W GCU 361 Urban Geography. (3)
selected semesters
External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States.
General Studies: SB

W GCU 373 Introduction to Geographic Information Science. (4)
fall
Introduces theoretical and computer-based aspects of Geographic Information Systems, involving data analysis and map generation. Fee. Prerequisite: PSY 230 or SBS 304.
General Studies: SG

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PSYCHOLOGY (SOCIAL AND BEHAVIORAL) (PGS)

For more PGS courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W PGS 101 Introduction to Psychology. (3)
fall, spring, summer
Major areas of theory and research in psychology. Requires participation in department-sponsored research or an educationally equivalent alternative activity.
General Studies: SB

W PGS 250 Psychology and Society. (3)
fall
Addresses how social and behavioral science theory and research are used to understand behavior related to various social issues.
General Studies: SB

W PGS 304 Effective Thinking. (3)
spring and summer
Understanding and improving intellectual and behavioral skills; information analysis, inference, logic, problem solving, and decision making. Prerequisites: ENG 101 (or 105) and either MAT 119 or PSY 230 (or its equivalent).
General Studies: L

W PGS 306 Environmental Psychology. (3)
fall and summer
Concepts and research strategies in the study of behavior in interaction with physical environment. Prerequisite: PGS 101.
General Studies: SB

W PGS 315 Personality Theory and Research. (3)
fall and summer
Definition and description of personality in terms of theoretical and methodological approaches. Prerequisites: PGS 101; PSY 290.
General Studies: SB

W PGS 341 Developmental Psychology. (3)
fall
Analyzes behavior development in terms of psychological principles. Current research in human development. Prerequisites: PGS 101; PSY 290.
General Studies: SB

W PGS 344 Directed Child Study. (3)
spring
Theories and methods of intervention with preschool children and supervised practicum in the Child Study Laboratory. 1 hour lecture, 6-8 hours practicum. Prerequisites: ENG 101 (or 105); PGS 101.
General Studies: L/SB

W PGS 350 Social Psychology. (3)
fall, spring, summer
Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion. Prerequisite: PGS 101.
General Studies: SB

W PGS 370 Interpersonal Relationships. (3)
fall and spring
Development of personal skills for competent functioning in interpersonal relationships across multiple social contexts. Principles of mental health adjustment. Prerequisite: PGS 101 (or its equivalent).
General Studies: SB

W PGS 385 Psychology of Gender. (3)
fall
Examines, from a psychological perspective, the similarities and differences in beliefs, attitudes, and behaviors of women and men. Cross-listed as WST 385. Credit is allowed for only PGS 385 or WST 385.
General Studies: SB

W PGS 399 Supervised Research. (1–3)
fall, spring, summer
Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. "Y" grade only. May be repeated for a total of 6 hours. Prerequisites: approval of faculty member before registration; "B" (3.00) GPA average in major. Pre- or corequisite: PSY 230 (or its equivalent).

W PGS 427 Psychology of Aging. (3)
fall
Behavioral, experiential, and emotional phenomena associated with aging. Analysis of retained abilities and resources as well as losses and stresses. Prerequisite: PGS 101.
General Studies: SB

W PGS 430 Industrial Psychology. (3)
selected semesters
Organizations and management systems: motivation and work performance; human factors in systems design and evaluation; personnel selection and testing. Prerequisite: MGT 301 or PGS 350.

W PGS 442 Life Span Development. (3)
spring
Methods and findings of recent studies of the development, growth, and problems of adolescents and adults, with implications for education. Prerequisite: PGS 341.
General Studies: SB

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W PGS 443 Abnormal Child Psychology. (3)
spring
Covers the major disorders of childhood and adolescence (e.g., autism, hyperactivity, phobias, and delinquency), including cause, diagnosis, treatment, and prevention. Prerequisites: ENG 101 (or 105); PGS 101; one course from among PGS 315, 341, 350 or instructor approval.
General Studies: L/SB

W PGS 444 Adolescent Psychology and Psychopathology. (3)
fall
Advanced-level survey of normal adolescent psychological development and psychological disorders of this age period. Lecture, discussion. Prerequisites: PGS 101, 341; PSY 290.

W PGS 446 Social Development. (3)
selected semesters
Discusses theory, research, and issues regarding social development. Topics may include formation of attachments, prosocial development, and gender-role development. Lecture, seminar. Prerequisite: PGS 341.
General Studies: L/SB

W PGS 453 Organizational Behavior. (3)
spring
Surveys psychological theory and research as applied to the behavior of individuals in organizational settings. Lecture, discussion. Prerequisites: both PGS 101 and 350 or only instructor approval.
General Studies: SB

W PGS 462 Health Psychology. (3)
selected semesters
Contributions of psychology to health promotion and illness prevention, adaptation to acute and chronic illness, and to the health care system. Prerequisites: PSY 230, 290.

W PGS 465 Psychology of Stress and Coping. (3)
fall
Readings in theory and research in the area of stress and coping. Lecture, discussion, class presentations. Prerequisites: PGS 315 (or 350); PSY 290.
General Studies: SB

W PGS 466 Abnormal Psychology. (3)
fall and summer
Historical and current definitions, theory, and research concerning abnormal behavior. Major categories of psychopathology, including related treatment approaches. Prerequisites: PGS 101; PSY 290.
General Studies: SB

W PGS 468 Psychology and Law. (3)
selected semesters
Theories, research, and practice in psychology as related to law, including criminal, civil, domestic relations, and professional issues. Prerequisite: PGS 101.

W PGS 472 Clinical Psychology. (3)
selected semesters
Clinical psychology as a science and profession. Historical development, methods of interviewing, assessment, and therapeutic intervention. Prerequisite: PGS 466.

W PGS 473 Psychology and Politics of Child Maltreatment. (3)
spring
Examines psychological literature on child maltreatment in the context of development. Explores interactions between professionals responding to maltreatment. Prerequisites: PGS 101, 341; PSY 290.
General Studies: SB

W PGS 480 Cross-Cultural Social Psychology. (3)
spring
Focuses on patterns of social behavior in individualistic and collectivistic cultures. Includes multidisciplinary research using qualitative and quantitative methodologies. Prerequisites: PGS 101, 350.
General Studies: SB, G

W PGS 482 Social Influence and Consumer Behavior. (3)
spring
Discusses social influence principles, emphasizing strategies employed by professionals that affect consumer behavior. Analyzes consumer defenses against manipulations. Prerequisite: PGS 350.
General Studies: SB

W PGS 494 Special Topics. (3)
fall, spring, summer
Topics may include theoretical and applied areas of psychology (e.g., infant development).

W PGS 499 Individualized Instruction. (1–3)
selected semesters
Advanced individual scholarship with faculty member. Prerequisite: PGS 399.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

POLITICAL SCIENCE (POL)

W POL 101 Political Ideologies. (3)
fall and spring
Leading political ideas and belief systems, e.g., Marxism, liberalism, conservatism, theories of democracy, and alternative futures. Credit is allowed for only POL 101 or 340.
General Studies: SB

W POL 110 Government and Politics. (3)
spring
Major institutions of modern government and processes of individual and group political activity, with emphasis on the American experience. Meets the federal government requirement for teacher certification. Credit is allowed for only POL 110 or 310.
General Studies: SB

W POL 160 Global Politics. (3)
fall
The nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas. Credit is allowed for only POL 160 or 360.
General Studies: SB, G

W POL 247 Introduction to Latin American Politics. (3)
selected semesters
General introduction to the politics and socioeconomic structures of Latin America.
General Studies: SB, G

W POL 260 Current Issues in International Politics. (3)
fall
Analyzes major current problems in world politics.
General Studies: SB, G

W POL 310 American National Government: Ideas and Institutions. (3)
fall and summer
Historical, analytic context of constitutionalism and citizenship vis-à-vis social, economic, and political institutions. Meets the federal government requirement for teacher certification. Credit is allowed for only POL 310 or 110.
General Studies: SB, H

W POL 313 The Congress. (3)
spring
The modern American Congress: its role, power and interrelationship in the American political system.
General Studies: SB

W POL 314 The American Presidency. (3)
fall
Office, role, and power of the American presidency in the American political system.
General Studies: SB

W POL 320 Latino Politics. (3)
fall
Examines contemporary political issues in the diverse Latino community.
General Studies: SB, C

W POL 331 Public Opinion. (3)
selected semesters
Examines U.S. public opinion, the diversity of its cultural sources, and political influence.
General Studies: SB

W POL 336 Electoral Behavior. (3)
selected semesters
Voting behavior and the attitudes, perceptions, and activities of the citizenry in the political process.
General Studies: SB

W POL 340 Political Theory. (3)
fall and summer
Surveys ancient, modern, and contemporary political theorists and ideas in European and American contexts. Prerequisite: ENG 101 or 105.
General Studies: HU/SB

W POL 350 Comparative Politics. (3)
spring and summer
Theoretical approaches and political institutions, such as parties, pressure groups, legislatures, and executives, from a cross-national perspective.
General Studies: SB, G

W POL 360 World Politics Theory. (3)
spring
Theoretical examination of one or more aspects of international politics, e.g., foreign policy, negotiations, alliances, crises, wars, and international systems. Credit is allowed for only POL 360 or 160.
General Studies: SB, G

W POL 361 American Foreign Policy. (3)
fall
United States in world affairs; foreign policy since World War I. Techniques in formulating American foreign policies.
General Studies: SB

W POL 417 The Arizona Political System. (3)
selected semesters
Contemporary political problems within the context of Arizona's political, social, and constitutional frameworks. Meets the Arizona Constitution requirement for teacher certification.

W POL 430 Race and Politics in the Americas. (3)
selected semesters
Studies racial politics in North, Central, and South America with a focus on the United States.
General Studies: SB, C

W POL 434 Media and Politics. (3)
selected semesters
Studies mass media and politics in the United States, e.g., media and elections, media and government.
General Studies: SB

W POL 435 Women, Power, and Politics. (3)
spring
The roles and treatment of women within various political contexts. Specific focus may vary with instructor.
General Studies: SB, C

W POL 436 Gender, Sexuality, Nation-States. (3)
selected semesters
Issues and problems related to the interface of gender, sexualities, nationalisms, and states in various world contexts.
General Studies: SB, G

W POL 440 Political Futures through Science Fiction. (3)
selected semesters
Examines the relationship between politics and science fiction literature and film. Prerequisite: ENG 101 or 105.
General Studies: L/HU

W POL 446 Democracy. (3)
spring
Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation.
General Studies: HU

W POL 447 Citizenship, Nationalism, and Identity. (3)
selected semesters
Historical and contemporary examination of citizenship as a form of belonging and fidelity, and the creation of "good citizens" within the U.S. Integrated lecture/seminar. Cross-listed as ASB 447/SBS 447. Credit is allowed for only ASB 447 or SBS 447 or POL 447.
General Studies: SB, C

W POL 453 Latin American Cities. (3)
spring
Urban studies of Latin American world cities, e.g., Mexico City, Santiago, emphasizing integration with U.S. cities, including Los Angeles, Phoenix.
General Studies: SB, G

W POL 454 Mexico: Politics, Economy, Cultures. (3)
fall and spring
Politics, economy, and cultures in Mexico in historical and contemporary perspective.
General Studies: SB, G

W POL 460 Politics of Globalization. (3)
fall
Theories and analysis of the politics of economic and technological globalization in the contemporary world.
General Studies: SB, G

W POL 464 Border Cities: Action Research on Globalization. (3)
spring
Examines the effects of globalization on U.S.-Mexico border cities and towns with particular emphasis on Mexican border cities. Lecture, computer-mediated research labs, field trip, online discussions.
General Studies: SB, G

W POL 470 Law and the Political Order. (3)
spring and summer
Investigates concepts of justice, political rights, adjudication and legislation, legal ordering, constitutional law, law as an instrument of change.
General Studies: SB

W POL 480 Global Justice. (3)
fall
Explores questions of justice that cross national borders, including delivery of foreign aid, immigration, and military intervention. Cross-listed as SBS 480. Credit is allowed for only POL 480 or SBS 480.
General Studies: G

W POL 484 Internship. (1-6)
fall, spring, summer
Structured practical experience supervised in the field by practitioners and overseen by the departmental internship coordinator.
Prerequisite: internship coordinator and department chair approvals.

W POL 486 Global Political Economy. (3)
fall
Contending approaches to historical and contemporary issues of international political economy, including global welfare, equality, ecology, and peace.
General Studies: SB, G

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

PSYCHOLOGY (SCIENCE AND MATHEMATICS) (PSY)

For more PSY courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W PSY 230 Introduction to Statistics. (3)
fall, spring, summer
Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology. Prerequisites: MAT 117; PGS 101.
General Studies: CS

W PSY 290 Research Methods. (4)
fall, spring, summer
Planning, execution, analysis, and reporting of experiments. Literature, procedures, and instruments in representative areas of psychological research. 3 hours lecture, 3 hours lab. Prerequisites: ENG 101 (or 105); PSY 230.
General Studies: SG

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/ quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W PSY 323 Sensation and Perception. (3)
fall, spring, summer
Underlying processes of vision, audition, and the other senses. Applies current research and theory in a lab environment. Prerequisite: PSY 290 or instructor approval.

W PSY 324 Memory and Cognition. (3)
fall, spring, summer
Processes underlying information storage and retrieval, including different kinds of memory, forgetting, depth of processing, and control processes. Prerequisite: PSY 290.
General Studies: SB

W PSY 325 Physiological Psychology. (3)
fall
Relationships of physiological processes to behavior. Emphasizes nervous system functioning. Prerequisites: PSY 290 (or two courses in biological science); instructor approval.

W PSY 330 Statistical Methods. (3)
spring
Advanced application of statistics to psychology. Highly recommended for students interested in attending graduate school. 3 hours lecture, 1 hour lab. Prerequisites: PSY 230, 290.
General Studies: CS

W PSY 394 Special Topics. (1–4)
selected semesters

W PSY 425 Biological Bases of Behavior. (3)
spring
Critical study of physiological psychology, e.g., brain mechanisms underlying motivation, learning. Prerequisites: ENG 101 (or 105); PSY 325.
General Studies: L

W PSY 494 Special Topics. (1–4)
selected semesters

W PSY 499 Individualized Instruction. (1–3)
selected semesters
Advanced individual scholarship with faculty member. Prerequisite: PGS 399.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

SOCIAL AND BEHAVIORAL SCIENCES (SBS)

W SBS 200 Introduction to Social and Behavioral Sciences. (3)
once a year
Overview of the social and behavioral sciences, indicating their contributions to society and emphasizing interdisciplinary integration Lecture, discussion.
General Studies: SB

W SBS 205 Cybercultures. (3)
spring
Explores culture, identity, and politics within and around the Internet, including cyberpunks, virtual communities, MUDs, free software, blogs, and hacktivism. Lecture, collaborative learning.
General Studies: SB

W SBS 300 Interdisciplinary Approaches to Social and Behavioral Sciences. (3)
fall and spring
Interdisciplinary approach to the study of social life.
General Studies: SB

W SBS 301 Cultural Diversity. (3)
fall and spring
Socially structured differences in historical and cross-cultural perspective. Prerequisite: ENG 101 or 105.
General Studies: L/SB, C

W SBS 302 Qualitative Methods. (3)
spring
Basic methodological issues in the systematic application of qualitative analysis of human social life. Surveys range of qualitative methods used by social and behavioral scientists.

W SBS 303 Quantitative Methods. (3)
fall
Concepts underlying design and implementation of quantitative research methods.

W SBS 304 Social Statistics I. (3)
fall and spring
Statistical techniques of the social and behavioral sciences.
General Studies: CS

W SBS 342 Mexico-U.S. Borderlands. (3)
selected semesters
Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. Integrated lecture/seminar. Cross-listed as ASB 342/SOC 342. Credit is allowed for only ASB 342 or SBS 342 or SOC 342.
General Studies: SB, C

W SBS 351 Population Geography. (3)
spring
Demographic patterns. Spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental favors. Cross-listed as GCU 351. Credit is allowed for only GCU 351 or SBS 351. Prerequisite: MAT 117 or higher.
General Studies: SB, G

W SBS 389 Ethnographic Field Lab. (1–6)
selected semesters
Hands-on, guided ethnographic qualitative research and interpretative analysis. May be repeated for credit when topics vary. Fieldwork practicum. Integrated seminar/field lab. Cross-listed as ASB 389/SOC 389. Credit is allowed for only ASB 389 or SBS 389 or SOC 389.

W SBS 404 Social Statistics II: Multivariate Analysis. (3)
selected semesters
Analysis of variance, multiple regression, dummy variable regression, path analysis, and related topics. Computer application to problem solving. Prerequisites: both SBS 303 and 304 or only instructor approval.
General Studies: CS

W SBS 410 Topics in Identity/Difference. (3)
fall and spring
Topics which focus on race/ethnic, gender, sexual or cultural identity/difference. May be repeated for credit when topics vary. Topics may include the following:
- Introduction to Asian American Experiences

W SBS 430 Topics in Power/Knowledge. (3)
fall and spring
Selected topics concerning the effects of political and social institutions on perceptions of politics and political culture. May be repeated for credit when topics vary.
General Studies: SB

W SBS 440 Family Studies. (3)
fall and spring
Theoretical frameworks for analyzing the development of family systems. Impact of social and economic conditions on family forms. May be repeated for credit when topics vary.
General Studies: SB

W SBS 447 Citizenship, Nationalism, and Identity. (3)
selected semesters
Historical and contemporary examination of citizenship as a form of belonging and fidelity, and the creation of "good citizens" within the U.S. Integrated lecture/seminar. Cross-listed as ASB 447/POL 447. Credit is allowed for only ASB 447 or SBS 447 or POL 447.
General Studies: SB, C

W SBS 450 Topics in Local/Global. (3)
fall and spring
Examines links among social, political, economic changes at local, national, global levels. May be repeated for credit when topics vary.
General Studies: SB, G

W SBS 460 Urban Studies. (3)
fall and spring
Studies local and global urban issues such as social geography, political economy, culture and social space, urban social diversity. May be repeated for credit when topics vary.
General Studies: SB

W SBS 461 Program Evaluation and Policy Research. (3)
spring
Examines design, data collection/analysis, and political/ethical issues in planning and evaluating social programs and policies in community organizations. Prerequisite: research course in social or behavioral sciences or instructor approval.

Las Casas, an apartment-style, living- and learning-based housing facility, opened on the West campus in 2003. Tim Trumble photo

W SBS 480 Global Justice. (3)
fall
Explores questions of justice that cross national borders, including delivery of foreign aid, immigration, and military intervention. Cross-listed as POL 480. Credit is allowed for only POL 480 or SBS 480.
General Studies: G

W SBS 484 Internship. (1–6)
fall, spring, summer
Structured practical experience supervised in the field by practitioners and overseen by the departmental internship coordinator.
Prerequisites: internship coordinator and department chair approvals.

W SBS 490 Senior Thesis I. (3)
fall, spring, summer
Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. First part of a six-semester-hour sequence, followed by SBS 491. Prerequisites: departmental advisor and department chair approvals.

W SBS 491 Senior Thesis II. (3)
fall, spring, summer
Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. Second part of a six-semester-hour sequence. Prerequisites: SBS 490; departmental advisor and department chair approvals.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

SOCIOLOGY (SOC)

For more SOC courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W SOC 101 Introductory Sociology. (3)
fall, spring, summer
Fundamentals of sociology, organization of human groups and society, processes of interaction, and social change. Credit is allowed for only SOC 101 or 301. 2 hours lecture, 1 hour discussion.
General Studies: SB

W SOC 210 Sociology of Murder. (3)
fall
Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder.
General Studies: SB

W SOC 301 Principles of Sociology. (3)
spring
Intensive and critical analysis of the concepts of sociology. Credit is allowed for only SOC 301 or 101.
General Studies: SB

W SOC 315 Courtship and Marriage. (3)
fall and spring
Overview of courtship, marriage, and related processes, focusing on problematical aspects of these institutions from the sociological perspective. Prerequisite: SOC 101 (or 301) or instructor approval.
General Studies: SB

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

W SOC 324 Work and the Workplace. (3)
selected semesters
Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives.
General Studies: SB, H

W SOC 328 Migration. (3)
spring
Introduces the definition and analysis of migration in all forms.
General Studies: SB, G

W SOC 332 The Modern City. (3)
spring
Growth, characteristics, and problems of the modern city. Prerequisite: SOC 101 or 301.

W SOC 340 Sociology of Deviant Behavior. (3)
spring
Sociological analysis of stigmatized behaviors and conditions, including the causes, effects, and management of stigma. Prerequisite: SOC 101 (or 301) or instructor approval.
General Studies: SB

W SOC 341 Modern Social Problems. (3)
once a year
Race relations, poverty, unemployment, and other current issues. Prerequisite: ENG 101 or 105.
General Studies: L/SB

W SOC 342 Mexico-U.S. Borderlands. (3)
selected semesters
Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. Integrated lecture/seminar. Cross-listed as ASB 342/SBS 342. Credit is allowed for only ASB 342 or SBS 342 or SOC 342.
General Studies: SB, C

W SOC 352 Social Change. (3)
fall and spring
Patterns of social change, resistance to change, and change-producing agencies and processes. Prerequisite: SOC 101 or 301.
General Studies: SB, G, H

W SOC 353 Death and Dying in Cross-Cultural Perspective. (3)
fall and spring
Humanistic and scientific study of aging, sickness, dying, death, funerals, and grief and their philosophy and ecology in non-Western and Western cultures. Cross-listed as ASB 353. Credit is allowed for only SOC 353 or ASB 353.
General Studies: HU/SB, G

W SOC 354 Popular Music and Society. (3)
summer
Places contemporary music in its social, economic, and political context; usually offered with MUS 354.
General Studies: HU

W SOC 360 Sociological Psychology. (3)
selected semesters
Interaction patterns between the sociocultural order and individuals; socialization process; norms, roles, and statuses; collective behavior. Prerequisite: SOC 101 or 301.
General Studies: SB

W SOC 364 Popular Culture. (3)
fall and spring
Studies the social approaches to popular culture, focusing on the function of various forms (literature, film, theatre, and music).
General Studies: SB

W SOC 365 Sociology of Mass Communication. (3)
selected semesters
Sociological exploration of the major mass media as a communicative process in American society.
General Studies: SB

W SOC 366 Film and Society. (3)
fall and spring
Studies the social approaches to film as an art form, mass medium, and ideological construct.
General Studies: SB

W SOC 370 Racial and Ethnic Minorities. (3)
spring
Problems of minorities in the United States and in other racially and ethnically heterogeneous societies. Evaluates theories of prejudice and of research dealing with discrimination, desegregation, and assimilation. Prerequisite: SOC 101 or 301.
General Studies: SB, C

W SOC 389 Ethnographic Field Lab. (1–6)
selected semesters
Hands-on, guided ethnographic qualitative research and interpretative analysis. May be repeated for credit when topics vary. Fieldwork practicum. Integrated seminar/field lab. Cross-listed as ASB 389/SBS 389. Credit is allowed for only ASB 389 or SBS 389 or SOC 389.

W SOC 394 Special Topics. (1–4)
fall, spring, summer
Topics may include the following:
- Film and Society. (3)
- Sports and Society. (3)
- Women and Religion. (3)
- Women. (3)
- Work and the Border Economy. (3)

W SOC 400 Perspectives on Aging. (3)
fall and spring
Broad overview of gerontological issues; e.g., physical aging, retirement, living options, caregiving, theoretical background, death. Cross-listed as GRN 400. Credit is allowed for only SOC 400 or GRN 400.
General Studies: SB

W SOC 418 Aging and the Life Course. (3)
selected semesters
Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. Prerequisite: SOC 101 or 301.
General Studies: SB, H

W SOC 419 Organizations and Technological Change. (3)
spring
Explores the increasing impact of information technology on corporate, governmental, and private organizations. May involve fieldwork.
General Studies: G

W SOC 426 Social Inequality. (3)
fall
Examines stability and change in social inequality based on age, class, ethnicity, gender, and race.
General Studies: SB

W SOC 443 Sociology of Corporations. (3)
spring
Examines corporations as social institutions and the implications of their status as a legal "person" on politics, culture, and economy.
General Studies: SB, G

W SOC 456 Political Sociology. (3)
fall
Social factors associated with voting; nature and structure of the electorate and political parties and the nature of national and international power structure. Prerequisite: SOC 101 (or 301) or instructor approval.

W SOC 457 Social Movements and Social Change. (3)
spring
The processes by which groups mobilize and collectively pursue social goals such as equality, justice, peace, and salvation. Prerequisite: ENG 101 or 105.
General Studies: SB, G

W SOC 484 Internship. (1–6)
fall, spring, summer
Structured practical experience supervised in the field by practitioners and overseen by the departmental internship coordinator. Prerequisite: internship coordinator and department chair approvals.

W SOC 486 Contemporary Theory. (3)
fall and spring
Contemporary issues and crises in social theory with major focus on particular theorists. Ideological factors in theory, philosophical issues, the nature of theory, and its relationship with methodology. Prerequisite: SOC 101 (or 301) or instructor approval.
General Studies: SB

W SOC 494 Special Topics. (1–4)
selected semesters

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Women's Studies Program

www.west.asu.edu/ws
602/543-3300
FAB N291

Astair Gebre Mariam Mengesha, Chair

Professor: Stage

Associate Professors: Elenes, Mengesha

Assistant Professor: Tellez

Lecturer: Share

Nature of the Program

Women's Studies is an interdisciplinary program with strong cross-cultural, national, and global perspectives at the center of the curriculum. Both curriculum transformation and social change are central to the program. The curriculum includes courses offered by the Women's Studies Program and by other academic programs and departments throughout the university. Women's Studies courses can be used to fulfill the requirements of the Bachelor of Arts, Bachelor of Science, minor, and certificate in Women's Studies. The courses also fulfill General Studies requirements and serve as electives. The goals of the Women's Studies Program are to

1. provide the university and the community with academic programs of study and research that place *women at the center of the university curriculum;*
2. provide a model for interdisciplinary teaching and research with cross-cultural, national, and global perspectives on women;
3. generate and facilitate research on women's experience and the social construction of gender; and
4. stand as a visible example of the university's commitment to improve the status of women.

The Women's Studies Program offers the BA and BS in Women's Studies, the Certificate in Women's Studies, and the Women's Studies Resource Center. As a multicomponent program of Women's Studies, the Women's Studies Resource Center supports research pertaining to local, national and global issues in Women's Studies.

Career Outlook

A student majoring in Women's Studies receives a valuable educational background that provides the knowledge and critical thinking skills needed to deal with changing gender roles in our society. A major, minor, or certificate in Women's Studies prepares students for opportunities in many settings: business and professional schools, education and training, health care services, human resources development, public and business administration, social services, and graduate study in the humanities and social sciences.

WOMEN'S STUDIES—BA OR BS

Major Requirements

The major consists of 45 semester hours, 30 in Women's Studies and 15 in a coherent set of related courses. At least 30 of the 45 semester hours required for the major must be completed in upper-division courses. In addition, for the BS degree, students must complete six semester hours of statistics, computer science, or quantitative research methods. This sequence must be approved by the Women's Studies advisor.

Students must complete all course work in the major with a grade of "C" (2.00) or higher. No pass/fail credit may be used for major requirements.

Core Requirements[1]

WST 100 Women and Society *SB, C*	3
or WST 300 Women in Contemporary Society *SB, C* (3)	
WST 350 Race, Class, and Gender *SB, C*	3
WST 457 Women, Cultures, and Societies *SB, G*	3
WST 498 PS: Theory and Method in Women's Studies *L*	3
Choose one global perspective course from the following[2]	3
WST 390 Women and World Religions *L/SB, G* (3)	
WST 475 Women of the Diaspora Across Cultures *HU, G* (3)	
WST 483 Contemporary Women Writers *HU, G* (3)	
WST 487 Gender and International Development *SB, G* (3)	
Choose one representation course form the following[2]	3
WST 370 Chronicling Women's Lives *HU, C* (3)	
WST 376 Feminist Theory *L, C* (3)	
WST 467 Ethnic Women Writers *L/HU, C* (3)	
WST 473 Latina/Chicana Representation *SB, C* (3)	
Choose one culture studies course from the following[2]	3
WST 320 Women in Popular Culture *HU, C* (3)	
WST 431 Women and Film *L, G* (3)	
Related course work[3]	15
WST electives	9
Program total	45

[1] No course may be used to satisfy more than one of these seven core requirements.

[2] Other approved course may be used to meet this requirement.

[3] The plan for completing the related courses requirement must be worked out with and approved in writing by the Women's Studies advisor.

Internships. Women's Studies offers internships with business and nonprofit organizations that are designed to enable students to balance theory with practice, to gain valuable training, and to serve as potential placement opportunities. Women's Studies students at their own initiative have the opportunity to work with organizations as varied as Planned Parenthood, the Women's Studies Resource Center at the West campus, the Center for New Directions, Motorola, Viad, and others.

Certificate in Women's Studies

A certificate in Women's Studies is awarded for the successful completion of all 21 semester hours of core requirements. The certificate program is recommended for

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

graduate students, nondegree students, and students with majors in professional programs.

Minor in Women's Studies

The Women's Studies minor consists of 18 semester hours. Required courses consist of WST 100 (or WST 300), WST 350, WST 457, WST 498, and one course each in two of the following three areas: global, representation, and culture studies.

WOMEN'S STUDIES (WST)

For more WST courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

WST Note 1. Completion of the First-Year Composition requirement (ENG 101 and 102 or ENG 105 or ENG 107 and 108 [available at Tempe campus] with a grade of "C" [2.00] or higher) is a prerequisite for all English courses above the 100 level.

W WST 100 Women and Society. (3)
spring
Interdisciplinary introduction examining critical issues in women's studies. Credit is allowed for only WST 100 or 300.
General Studies: SB, C

W WST 276 Feminist Foundations: Going to the Sources. (3)
spring in odd years
Historical survey of sources influential in the development of the feminist movement in the United States. Lecture, discussion.
General Studies: H

W WST 300 Women in Contemporary Society. (3)
fall and spring
Interdisciplinary examination of such topics as gender roles, work, education, sexuality, politics, health, and law. Credit is allowed for only WST 300 or 100. Prerequisite: ENG 101 or 105.
General Studies: SB, C

W WST 320 Women in Popular Culture. (3)
fall
Analyzes from a historical perspective the images of women in magazines, films, advertising, toys, and other popular culture forms.
General Studies: HU, C

W WST 350 Race, Class, and Gender. (3)
fall and spring
Explores the intersections of race, class, and gender in the U.S. and world, as forces of social control, oppression, and liberation.
General Studies: SB, C

W WST 370 Chronicling Women's Lives. (3)
spring in even years
Explores the lives of a selected group of American women as a point of departure for the chronicling of contemporary women's lives.
General Studies: HU, C

W WST 376 Feminist Theory. (3)
once a year
Explores feminist theories and the intersection of gender, race, ethnicity, and class through critical analyses. Prerequisite: ENG 101 or 105.
General Studies: L, C

W WST 378 Global Feminist Theory. (3)
spring
Global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis. Prerequisite: WST 100 or 300.
General Studies: L, C, G

W WST 385 Psychology of Gender. (3)
fall
Examines, from a psychological perspective, the similarities and differences in beliefs, attitudes, and behaviors of women and men. Cross-listed as PGS 385. Credit is allowed for only WST 385 or PGS 385.
General Studies: SB

W WST 390 Women and World Religions. (3)
once a year
Comparative examination of vital issues about women and religions in different places of the world and different historical periods. Prerequisite: ENG 101 or 105.
General Studies: L/SB, G

W WST 394 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Cultural Diversity. (3)
  fall and spring
- Gender and Sexuality. (3)
  fall and spring

W WST 431 Women and Film. (3)
once a year
Comparative international course explores ways feminist directors have broken the Hollywood mold in films focusing on women. Prerequisite: ENG 101 or 105.
General Studies: L, G

W WST 457 Women, Cultures, and Societies. (3)
fall
Examines issues such as poverty, dependency, interdependency, race, class, and gender in different societies of the world.
General Studies: SB, G

W WST 467 Ethnic Women Writers. (3)
fall
Concentrates on selected women writers of the U.S. who are Native American, African American, Latina, and Asian-American. Cross-listed as ENG 460. Credit is allowed for only WST 467 or ENG 460. See WST Note 1.
General Studies: L/HU, C

W WST 473 Latina/Chicana Representation. (3)
fall
Examines from an interdisciplinary perspective contemporary issues experienced by Chicana/Latina women in the U.S.
General Studies: SB, C

W WST 475 Women of the Diaspora Across Cultures. (3)
selected semesters
Examines the socioeconomic condition, political formation, and identities of contemporary indigenous, ethnic minority, immigrant, and migrant women globally.
General Studies: HU, G

W WST 483 Contemporary Women Writers. (3)
once a year
Comparative approach to contemporary writings by women from around the world.
General Studies: HU, G

W WST 487 Gender and International Development. (3)
fall, spring, summer
Addresses conceptual, methodological, and theoretical issues concerning gender, development, and internationalism; evaluates theories and models for change.
General Studies: SB, G

W WST 494 Special Topics. (1–4)
selected semesters
Topics may include the following:
- Aging: Women/Minority Issues. (3)
  fall and spring
- Social History of American Women. (3)
  fall and spring
- Women, Power, and Politics. (3)
  fall and spring

W WST 498 Pro-Seminar: Theory and Method in Women's Studies. (3)
spring
Reading and research on important theoretical and methodological issues in women's studies. Prerequisites: both ENG 101 (or 105) and WST 100 (or 300) or only instructor approval.
General Studies: L

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

College of Teacher Education and Leadership

www.west.asu.edu/ctel **Joseph M. Ryan, PhD, Interim Dean**

Elementary Education, Department of **747**
Secondary Education, Department of **752**
Special Education, Department of **753**
Graduate Studies and Professional Development, Department of **756**

PURPOSE

The college prepares tomorrow's educators to teach in ever-changing settings through commitment to high standards of innovative teaching, broad-based scholarship, and quality service to the university and the community.

The College of Teacher Education and Leadership balances academic concepts with current research and practices, accompanied by prompt exposure to the classroom environment. This integration of theory with practical experience strengthens future teachers' abilities to refine their instruction skills continually.

Programs in the College of Teacher Education and Leadership offer flexible scheduling and small classes. The college prepares students to be leaders in the field of education.

ORGANIZATION

The college houses the following academic units:

Department of Elementary Education
Department of Graduate Studies and Professional Development
Department of Secondary Education
Department of Special Education

DEGREE PROGRAMS

See the "College of Teacher Education and Leadership Baccalaureate Degrees and Majors" table, page 746, and the "College of Teacher Education and Leadership Graduate Degrees and Majors" table, page 756.

CERTIFICATION PROGRAMS

Education programs are approved by the Arizona Department of Education for the preparation of elementary, secondary, and special education teachers. Other programs of study offered by the faculty of the College of Teacher Education and Leadership include

1. concentrations in bilingual education and English as a second language required for endorsement of teachers specifically responsible for providing bilingual or English as a second language instruction to students in elementary grades;
2. an early childhood concentration that allows students to specialize in teaching kindergarten through grade three;
3. a middle school endorsement for elementary and secondary education students; and
4. at the graduate level, educational administration and supervision courses that meet the state certification requirements for supervision, principalship, and superintendency.

UNDERGRADUATE PROFESSIONAL TEACHER PREPARATION

Nature of Program

The College of Teacher Education and Leadership faculty is dedicated to developing and continually improving high quality teacher education programs that support and improve education for all children.

Career Outlook

The career outlook for the teaching profession is promising in Arizona and the nation. Students seeking endorsements in bilingual and English as a second language, as well as those seeking certification in special education, will find that demand is great in these areas. Demand for elementary and early childhood educators will continue to be strong. In secondary education, demand in the sciences and mathematics will be substantial. There will be more competition for teaching positions in English, history, and social studies at the secondary level. Our education graduates are highly sought after by area school districts.

GENERAL INFORMATION

Admission

To be considered for admission as undergraduate education majors, students must

1. be admitted to West campus as a degree-seeking student;
2. complete required postsecondary course work as specified for each major with a grade of "C" (2.00) or higher and attain a cumulative GPA of 2.50 or higher; and
3. submit a completed application form for the desired professional education program to the college Academic Advising Office by the appropriate deadline date.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

College of Teacher Education and Leadership Baccalaureate Degrees and Majors

Major	Degree	Concentration*	Administered By
Elementary Education	BAE	Optional: bilingual education/English as a second language or early childhood education*	Department of Elementary Education
Secondary Education	BAE	Academic specializations: English, history, mathematics, or social studies	Department of Secondary Education
Special Education	BAE	—	Department of Special Education

* If a major offers concentrations, one must be selected unless noted as *optional*.

Students are considered for admission to undergraduate education programs in the spring of each year for the following fall semester and in the fall of each year for the following spring semester. Applicants should contact the college Academic Advising Office for specific deadlines, which are determined annually.

Admission to undergraduate education programs is selective. Meeting minimum requirements does not ensure admission to any program.

Transfer

To be considered for admission to an undergraduate education major, prospective students must meet all admission requirements to ASU as well as those for undergraduate education programs. Students must complete the first two years of specified course work at an accredited community college or four-year institution.

Prospective students are discouraged from taking courses on a pass/fail basis. Pass/fail courses may be transferred to the College of Teacher Education and Leadership for only elective credit. For assistance in planning a program of study for transfer to the Bachelor of Arts in Education (BAE) degree program, call the college Academic Advising Office at 602/543-6354.

Degree Requirements

Students seeking a BAE must satisfactorily complete a minimum of 120 semester hours and attain a cumulative GPA of 2.50 or higher. Specific requirements for majors in Elementary Education, Secondary Education, and Special Education are provided in this catalog.

Education students must file a Declaration of Graduation during the first semester by consulting a college academic advisor. The four semesters of the program are sequential.

The College of Teacher Education and Leadership grades some courses, field experiences, and student teaching on a satisfactory/fail basis. Students who successfully complete these courses receive a grade of "Y" (satisfactory). Such grades are acceptable for meeting program requirements, but these grades are not included in computing the student's GPA.

Any exceptions to these requirements must be approved by a college academic advisor.

Field-Experience Requirements

In addition to course work, students admitted to all undergraduate education programs are required to participate in structured field experiences during each of the semesters of the program.

The field experiences progress from observation and short-term participation to long-term supervised student teaching. Students should expect these field experiences to be above and beyond the class times listed in the *Schedule of Classes* for each semester. Such field experiences typically take place in public schools throughout the greater Phoenix area. The Elementary Education degree program includes at least one semester of field experiences at a local public school campus taken concurrently with university course work. Students should plan extra travel time and expect to confer with mentor teachers and student teacher supervisors before or after scheduled field experiences. Regular attendance is required during all field experiences. To meet field experience requirements, students must plan to have their own transportation and be available during regular school hours.

Student Teaching

The major field experience, called student teaching, occurs in the last semester and is a full-day, full-semester obligation. Student teaching is possible during only fall and spring semesters.

Applications for student teaching must be completed early in the semester before the student teaching semester and turned in to the Office of Field Experiences. To be accepted for student teaching, students must

1. have a cumulative ASU GPA of 2.50 or higher;
2. have a GPA of 2.50 or higher in professional teacher preparation course work;
3. complete all required professional teacher preparation course work;
4. successfully complete the CTEL Writing Assessment or, for Special Education majors only, successfully complete writing requirements established in a Professional Improvement Plan;
5. remove all academic deficiencies, such as grades of "D" (1.00), "E" (0.00), or "I" before placement;
6. demonstrate appropriate professional conduct; and
7. complete the application procedure and secure approval to teach from the Offices of Field Experiences and Academic Advising before the deadline.

Student teachers must adhere to the calendar, regulations, and philosophy of the schools in which the student teachers are placed. Beginning and ending dates for student teaching are determined by the Office of Field Experiences in cooperation with the placement schools. Because student teaching is on a full-day schedule, 8 A.M. to 4 P.M. Monday

through Friday for 15 consecutive weeks, student teachers are strongly encouraged to avoid extra activities and course work that would interfere with the heavy demands placed upon them while student teaching.

ACADEMIC POLICIES

Students enrolled in undergraduate education programs are expected to maintain academic standards and demonstrate qualifications for the teaching profession, including mental health, interpersonal skills, basic communication skills, a positive attitude, appropriate professional conduct, and satisfactory performance in field experiences.

To be in good standing, students must maintain an overall cumulative GPA of 2.50 or higher with at least a grade of "C" (2.00) in each undergraduate education course. Any undergraduate education student whose cumulative GPA falls below 2.50 may be placed on academic probation or suspended from enrollment in professional courses for the next semester. Students on academic probation or suspension from the university and/or the College of Teacher Education and Leadership must seek advising from a college academic advisor before registering for additional course work. Probation and/or suspension status for academic reasons begins on the first day of classes of the semester after the probation or suspension action. Students placed on probation or suspension for any reason are subject to disqualification by the College of Teacher Education and Leadership at the end of the following semester if the conditions imposed for reinstatement are not met. Students placed on probation or suspension for any reason are reviewed at the end of the following semester.

Students demonstrating behaviors or characteristics that make it questionable whether they can succeed in the teaching profession may be disqualified or prescribed specific conditions under which continued participation is permitted, that is, probation or suspension.

Students who wish to appeal decisions of the College of Teacher Education and Leadership's Student Issues Committee may do so in writing to the dean of the college. Any exceptions to the above retention and disqualification policies and procedures must be approved by the College of Teacher Education and Leadership's Student Issues Committee and the dean of the college.

Department of Elementary Education

www.west.asu.edu/ctel/elem
602/543-6315
FAB S218

Michael F. Kelley, Chair

Professor: Wetzel

Associate Professors: De La Cruz, Hess, Irwin, Kelley, Ridley, R. Zambo

Assistant Professors: Beardsley, Coulter, Foulger, Hansen, Herold, Hinde, Jimenez-Silva, Kochanoff, Mitchell-Kay, Olson, Osborn-Popp, Perry, D. Zambo

Lecturers: Buscher, Califano, Carter, George, Hurwitz, Larson, Lewallen, Messner, Rojas, Williams

ELEMENTARY EDUCATION—BAE

Admission Requirements

To be considered for admission to the Elementary Education major, applicants must

1. complete a minimum of 56 semester hours of course work as outlined at West campus or equivalent courses at another accredited college or university, with a grade of "C" (2.00) or higher and an overall GPA of 2.50 or higher;
2. applicants in bilingual education only must show proficiency in Spanish by
   a. a grade of "C" (2.00) or higher in SPA 202 Intermediate Spanish, or
   b. a CLEP score of 62 or higher on College Spanish General Examination, or
   c. passing scores on all four areas of the Arizona Spanish Proficiency Examination; and
3. submit a completed application form for the Elementary Education degree program to the college Academic Advising Office by the appropriate deadline.

Required Courses

Choose one of the following combinations 3–6
ENG 101 First-Year Composition (3)
ENG 102 First-Year Composition (3)
— or —
ENG 105 Advanced First-Year Composition (3)
CSE 180 Computer Literacy *CS* 3
or EDT 321 Computer Literacy *CS* (3)
HIS 103 The United States *SB, H* 3
or HIS 104 The United States *SB, H* (3)
MAT 142 College Mathematics *MA* 3
or higher level math course (3)

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

MTE	180	Theory of Elementary Mathematics	3
MTE	181	Theory of Elementary Mathematics	3
SPE	222	Orientation to Education of Exceptional Children *SB*	3
TEL	111	Exploration of Education *SB*	3
TEL	212	Understanding the Culturally Diverse Child *C*	3

Selected Courses

G course	3
HU courses	6
L course	3
SQ course	4
SQ/SG course	4
Electives	6–9
Total	56

Some General Studies courses may be used to satisfy a General Studies core area requirement and one or two awareness area requirements at the same time, leaving the student more electives. Selected courses and General Studies courses should be chosen in consultation with a college academic advisor. Credit for SPA 101, 102, 201, 202 may also be counted as elective credit toward the 56-semester-hour requirement.

Program Requirements

Candidates for the BAE degree in Elementary Education are required to complete an approved program of 120 semester hours. These hours include

1. 56 semester hours of specified lower-division courses for admission;
2. 35 semester hours of General Studies courses;
3. 51 semester hours of specified upper-division course work in professional education; and
4. six semester hours of upper-division content course work selected in consultation with a college academic advisor, including
   a. one course from AMS, ENG, GCU, HIS, POL, or SPA (bilingual education majors only);
   b. one course from LSC or PHS; and
   c. three semester hours of upper-division elective course work.

The bilingual education concentration requires proficiency in Spanish; the English as a second language concentration requires six semester hours in a single foreign language or its equivalent.

For efficient progress toward the baccalaureate degree, much of this course work must be taken at the lower division and selected so that courses count toward more than one requirement simultaneously. Prospective students are encouraged to contact the college Advising Office to plan their program of study beyond the required course work noted for admission above.

Upper-division, professional education courses include College of Teacher Education and Leadership core curriculum courses, elementary education courses, field experience courses, and student teaching. This course work prepares individuals with abilities and attitudes to work in elementary schools. The combination of course work and field experience is aligned with the Arizona Professional Teaching Standards. Specified courses in elementary education are listed in this section.

Middle School Endorsement

Students in Elementary Education and bilingual/ESL education may elect to pursue the Middle School endorsement. Those who seek this endorsement must take 24 semester hours of course work in a content area (e.g., English, mathematics, science, social studies). A decision to pursue the Middle School endorsement should be made very early in the pursuit of a degree, certainly before admission to the program. Content course work should be selected in consultation with a college academic advisor. Students electing this option must also take EED 464 Middle School Curriculum and Organization and perform their student teaching at the middle school level.

Elementary Education students should review general information, field experience requirements, student teaching, and academic policies.

Elementary Education (K–8) Major

Semester 1

BLE	312	ESL, Diversity, and Culture in Education *L*	3
TEL	311	Instruction and Management in the Inclusive Classroom	3
TEL	313	Educational Technology in the K–12 Curriculum	3
TEL	314	Classroom Assessment	3
TEL	315	Child and Adolescent Development *SB*	3
TEL	396	Field Experience 1	0
Total			15

Semester 2

BLE	321	ESL Methods for Diverse Language Classrooms	3
EDP	323	Professional Development, Learning, and Motivation	3
EED	324	Social Studies in Elementary Schools	3
EED	397	Field Experience in Elementary Schools 2	0
RDG	322	Language Literacy 1 in Elementary Schools	3
Total			12

Semester 3

EED	411	Science in Elementary Schools	3
EED	412	Mathematics in Elementary Schools	3
EED	414	Elementary Curriculum and Organization or EED 464 Middle School Curriculum and Organization (3)	3
EED	496	Field Experience 3	0
RDG	413	Language Literacy 2 in Elementary Schools	3
Total			12

Semester 4

EED	478	Student Teaching in the Elementary School or EED 578 Student Teaching in the Elementary School (9)	9
EED	479	Capstone Seminar in Elementary Education	3
Total			12

Major total 51

Elementary Education (K–8) Major with a Concentration in Bilingual Education or English as a Second Language Education

Semester 1

BLE	312	ESL, Diversity, and Culture in Education *L*	3
TEL	311	Instruction and Management in the Inclusive Classroom	3
TEL	313	Educational Technology in the K–12 Curriculum	3
TEL	314	Classroom Assessment	3
TEL	315	Child and Adolescent Development *SB*	3

TEL 396 Field Experience 1 0

Total 15

Semester 2

BLE 321 ESL Methods for Diverse Language Classrooms 3
BLE 322 Second-Language Literacy 1 in Elementary Schools ... 3
BLE 324 Social Studies for Diverse Language Classrooms 3
EDP 323 Professional Development, Learning, and Motivation.. 3
EED 397 Field Experience in Elementary Schools 2 0

Total 12

Semester 3

BLE 413 Second-Language Literacy 2 in Elementary Schools ... 3
BLE 414 Bilingual/ESL Curriculum and Organization 3
EED 411 Science in Elementary Schools 3
EED 412 Mathematics in Elementary Schools 3
EED 496 Field Experience 3 0

Total 12

Semester 4

BLE 478 Student Teaching in Diverse Language Classrooms 9
or BLE 578 Student Teaching in Diverse Language Classrooms (9)
BLE 479 Capstone Seminar in Bilingual/ESL Education 3

Total 12

Major total 51

Elementary Education (K–8) Major with a Concentration in Early Childhood Education

Semester 1

BLE 312 ESL, Diversity, and Culture in Education *L* 3
TEL 311 Instruction and Management in the Inclusive Classroom 3
TEL 313 Educational Technology in the K–12 Curriculum 3
TEL 314 Classroom Assessment 3
TEL 315 Child and Adolescent Development *SB* 3
TEL 396 Field Experience 1 0

Total 15

Semester 2

BLE 321 ESL Methods for Diverse Language Classrooms 3
ECD 324 Social Studies and Creative Arts for Primary Level Children 3
EDP 323 Professional Development, Learning, and Motivation.. 3
EED 397 Field Experience in Elementary Schools 2 0
RDG 322 Language Literacy 1 in Elementary Schools 3

Total 12

Semester 3

ECD 414 Early Childhood Curriculum and Organization 3
EED 411 Science in Elementary Schools 3
EED 412 Mathematics in Elementary Schools 3
EED 496 Field Experience 3 0
RDG 413 Language Literacy 2 in Elementary Schools 3

Total 12

Semester 4

ECD 479 Capstone Seminar in Early Childhood Education 3
EED 478 Student Teaching in the Elementary School 9
or EED 578 Student Teaching in the Elementary School (9)

Total 12

Major total 51

BILINGUAL/BICULTURAL EDUCATION (BLE)

For more BLE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W BLE 312 ESL, Diversity, and Culture in Education. (3)
fall and spring
Examines social, historical, philosophical, and legal issues affecting racially, linguistically, culturally, and exceptionally diverse students in US schools. Prerequisites: ENG 101 (or 105); admission to PTPP or postbaccalaureate programs.
General Studies: L

W BLE 321 ESL Methods for Diverse Language Classrooms. (3)
fall and spring
Strategies and materials for second-language learning, including research on language acquisition/learning, practical applications of ESL methodologies, phonics. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W BLE 322 Second-Language Literacy 1 in Elementary Schools. (3)
fall and spring
Instructional/assessment strategies, including systematic, research-based phonics, vocabulary, comprehension, spelling, writing, phonemic writing in Spanish/English. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W BLE 324 Social Studies for Diverse Language Classrooms. (3)
fall and spring
Social studies education standards, curriculum, and instructional strategies for English language learners. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W BLE 413 Second-Language Literacy 2 in Elementary Schools. (3)
fall and spring
Literacy and language arts instruction; assessment of reading and writing; transition literacy skills, particularly critical reading of content. Prerequisites: BLE 321, 322, 324; EDP 323; EED 397. Corequisite: EED 496.

W BLE 414 Bilingual/ESL Curriculum and Organization. (3)
fall and spring
ESL curriculum content and organization, including program model effectiveness, language assessment and language usage, special needs and parent involvement. Prerequisites: BLE 321, 322, 324; EDP 323; EED 397. Corequisite: EED 496.

W BLE 478 Student Teaching in Diverse Language Classrooms. (9)
fall and spring
Student teaching in diverse language classrooms. Focuses on use of English language learning and bilingual strategies; integrates all previous course work. Fee. Prerequisites: BLE 413, 414; EED 411, 412, 496. Corequisite: BLE 479.

W BLE 479 Capstone Seminar in Bilingual/ESL Education. (3)
fall and spring
Reflective, experience-based integration of theory and practice; professional development for bilingual/ESL teachers. Prerequisites: BLE 413, 414; EED 411, 412, 496. Corequisite: BLE 478 or 578.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

COMPUTER SCIENCE AND ENGINEERING (CSE)

For more CSE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W CSE 180 Computer Literacy. (3)
fall and spring
Introduces personal computer operations and their place in society. Problem-solving approaches using databases, spreadsheets, and word processing. Lecture, lab, demonstration.
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

EARLY CHILDHOOD EDUCATION (ECD)

For more ECD courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W ECD 324 Social Studies and Creative Arts for Primary Level Children. (3)
fall and spring
Social studies and creative arts standards, curriculum, and instructional and assessment strategies for all primary-level children; developmentally appropriate methods and strategies for effective instruction. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W ECD 414 Early Childhood Curriculum and Organization. (3)
fall and spring
Historical and legal influences on early childhood education; advanced preparation for curriculum designs and developmentally appropriate practices; school organization topics. Prerequisites: BLE 321; ECD 324; EDP 323; EED 397; RDG 322. Corequisite: EED 496.

W ECD 479 Capstone Seminar in Early Childhood Education. (3)
fall and spring
Reflective, experienced-based integration of theory and practice; professional development for early childhood teachers. Prerequisites: ECD 414; EED 411, 412, 496; RDG 413. Corequisite: EED 478 or 578.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

EDUCATIONAL PSYCHOLOGY (EDP)

For more EDP courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W EDP 310 Educational Psychology. (3)
selected semesters
Human behavior in educational situations. Individual differences, factors affecting learning, behavioral and cognitive learning, motivation, testing, and assessment.
General Studies: SB

W EDP 323 Professional Development, Learning, and Motivation. (3)
fall and spring
Applies educational psychology principles in classrooms; strategies for building classroom community; learner-centered and intentional teaching; and proactive professional development. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

ELEMENTARY EDUCATION (EED)

For more EED courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W EED 324 Social Studies in Elementary Schools. (3)
fall and spring
Social studies education standards, curriculum, and instructional and assessment strategies for all children. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W EED 397 Field Experience in Elementary Schools 2. (0)
fall and spring
Observation, instruction, and management of small groups and the whole class. Fee. Prerequisite: completion of core curriculum courses.

W EED 411 Science in Elementary Schools. (3)
fall and spring
Science education standards, curriculum, instructional and assessment strategies for all children. Fee. Prerequisites: BLE 321; EDP 323; EED 397. Corequisite: EED 496.

W EED 412 Mathematics in Elementary Schools. (3)
fall and spring
Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. Prerequisites: BLE 321; EDP 323; EED 397. Corequisite: EED 496.

W EED 414 Elementary School Curriculum and Organization. (3)
fall and spring
Rationales for instructional curricula; alternative curriculum designs and broad-based content; selected topics in school governance, finance, and law. Prerequisites: BLE 321; EDP 323; EED 324; RDG 322. Corequisite: EED 496.

W EED 464 Middle-School Curriculum and Organization. (3)
fall and summer
Educational implications of the characteristics of a diverse adolescent population on middle-level organization and components, curriculum, instructional strategies, assessment. Cross-listed as SED 464. Credit is allowed for only EED 464 or SED 464. Prerequisite: semester 2 of the PTPP.

W EED 478 Student Teaching in the Elementary School. (9)
fall and spring
Student teaching in elementary school classrooms; integration of all previous course work. Fee. Prerequisites: EED 411, 412, 496; RDG 413. Corequisite: ECD 479 or EED 479.

W EED 479 Capstone Seminar in Elementary Education. (3)
fall and spring
Reflective, experienced-based integration of theory and practice; professional development for K–8 teachers. Prerequisites: EED 411, 412, 496; RDG 413. Corequisite: EED 478.

W EED 496 Field Experience 3. (0)
fall and spring
Instruction and management of small groups and substantial work with the whole class. Fee. Prerequisites: BLE 321; EDP 323; EED 397.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/catalog on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

MATHEMATICS EDUCATION (MTE)

For more MTE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W MTE 180 Theory of Elementary Mathematics. (3)
fall and spring
Numbers, number systems, operations on numbers, algebraic reasoning, and problem solving. For prospective elementary and special education majors. Prerequisite: MAT 117 (or 142).

W MTE 181 Mathematics for Elementary Teachers 2. (3)
fall and spring
Data analysis, probability, geometry, and measurement. For prospective Elementary Education and Special Education majors. Prerequisite: MTE 180.

W MTE 380 Arithmetic in the Elementary School. (3)
selected semesters
Historical numeration systems, overview of elementary number theory, including primes, factorization, divisibility, bases, modular systems, linear congruence, and continued fractions. Prerequisite: MTE 180 or instructor approval.

W MTE 482 Methods of Teaching Mathematics in Secondary School. (3)
summer
Examines secondary school curricular material and analyzes instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. Prerequisite: instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

MUSIC EDUCATION (MUE)

For more MUE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W MUE 310 Music in Early Childhood Education. (3)
selected semesters
Identifies and understands musical needs of young children. Methods and materials for program development for classroom teachers.

W MUE 311 Music for the Classroom Teacher. (3)
selected semesters
Develops the classroom music program in the elementary school. No previous music experience or course work required. Not for music majors or minors.

W MUE 464 Music of World Cultures in the Classroom. (3)
selected semesters
Studies contemporary music of representative cultures within the context of a people's total way of life.
General Studies: HU, G

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

READING EDUCATION (RDG)

For more RDG courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W RDG 322 Language Literacy 1 in Elementary Schools. (3)
fall and spring
Instructional strategies for teaching reading using systematic research-based phonics to aid decoding; vocabulary; and comprehension development; writing, speaking, and listening skills. Prerequisite: completion of core curriculum courses. Corequisite: EED 397.

W RDG 323 Literacy Processes in Content Areas. (3)
fall and spring
Principles and practices for planning subject matter units of instruction that explicitly address learning with texts across academic disciplines. Prerequisite: completion of core curriculum. Corequisite: SED 397.

W RDG 413 Language Literacy 2 in Elementary Schools. (3)
fall and spring
Applies literacy strategies, including instruction and diagnostic assessment, literacy lessons with adaptations for diverse learners, extended classroom experiences. Prerequisites: BLE 321; EDP 323; EED 397; RDG 322. Corequisite: EED 496.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

TEACHER EDUCATION AND LEADERSHIP (TEL)
Department of Elementary Education

For more TEL courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W TEL 111 Exploration of Education. (3)
fall and spring
Education as an instrument in the development of the individual and society and its significance as an American Institution.
General Studies: SB

W TEL 212 Understanding the Culturally Diverse Child. (3)
fall, spring, summer
Surveys cultural and linguistic diversity in American education, including education equity, pluralism, learning styles, and roles of schools in a multiethnic society. Prerequisite: TEL 111.
General Studies: C

W TEL 311 Instruction and Management in the Inclusive Classroom. (3)
fall and spring
Planning and delivering instruction, organizing and managing classrooms, and making adaptations for English language learners and students with special needs. Prerequisite: admission to PTPP or postbaccalaureate programs. Corequisite: TEL 396.

W TEL 313 Educational Technology in the K–12 Curriculum. (3)
fall and spring
Applies and integrates educational technologies in all curricular areas; examines theoretical and practical issues for diverse learners. Fee. Prerequisite: admission to PTPP or postbaccalaureate programs. Corequisite: TEL 396.

W TEL 314 Classroom Assessment. (3)
fall and spring
Assessment and evaluation of student leaning; emphasizes integration and adaptation of curriculum, instruction, and evaluation of all students. Prerequisite: admission to PTPP or postbaccalaureate programs. Corequisite: TEL 396.

W TEL 315 Child and Adolescent Development. (3)
fall and spring
Physical, cognitive, social, and emotional development during childhood and adolescence; developmentally appropriate principles and practices to facilitate development for all students. Prerequisite: admission to PTPP or postbaccalaureate programs. Corequisite: TEL 396.
General Studies: SB

W TEL 396 Field Experience I. (0)
fall and spring
Observation in classrooms and individual and small group instruction. Fee. Prerequisite: admission to PTPP or postbaccalaureate programs.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Department of Secondary Education

www.west.asu.edu/ctel/sed
602/543-6445
FAB S5251A

Peter Rillero, Interim Chair

Professor: Moore

Associate Professor: Rillero

Assistant Professors: Amobi, Onofrey, Wilhelm

SECONDARY EDUCATION—BAE

Admission Requirements

To be considered for admission to the Secondary Education major, applicants must complete a minimum of 56 semester hours of course work as outlined below at West campus or equivalent courses at another accredited college or university, with a grade of "C" (2.00) or higher and an overall GPA of 2.50 or higher:

Required Courses

Choose one of the following combinations	3–6
ENG 101 First-Year Composition (3)	
ENG 102 First-Year Composition (3)	
— or —	
ENG 105 Advanced First-Year Composition (3)	
MAT 142 College Mathematics *MA*	3
or higher level math course (3)	
SPE 222 Orientation to Education of Exceptional Children *SB*	3

Selected Courses

C course	3
CS course	3
G course	3
H course	3
HU courses	6
L course	3
SB course	3
SQ course	4
SQ/SG course	4
Electives	12–15
Total	56

Program Requirements

Candidates for the BAE degree in Secondary Education are required to complete an approved program of 120 semester hours. These hours include

1. 56 semester hours of specified lower division courses for admission;
2. 35 semester hours of General Studies courses;
3. 37 to 39 semester hours of specified upper-division course work in professional education; and
4. 36 to 39 semester hours of course work in an academic specialization.

Some General Studies courses may be used to satisfy a General Studies core area requirement and one or two awareness area requirements at the same time, leaving the student more electives. Academic specialization courses may be used to fulfill General Studies or elective requirements. Selected courses and General Studies courses should be chosen in consultation with a college Academic Advisor.

Students majoring in Secondary Education should also review general information, field experience requirements, student teaching, and academic policies.

Secondary Education (7–12) Major

Semester 1

BLE 312 ESL, Diversity, and Culture in Education *L*	3
TEL 311 Instruction and Management in the Inclusive Classroom	3
TEL 313 Educational Technology in the K–12 Curriculum	3
TEL 314 Classroom Assessment	3
TEL 315 Child and Adolescent Development *SB*	3
TEL 396 Field Experience 1	0
Total	15

Semester 2

RDG 323 Literacy Processes in Content Areas	3
SED 321 Critical Issues in Secondary Education	3
SED 322 Classroom Leadership in Secondary Schools	3
SED 397 Field Experience 2	0
Major methods course	3
Total	12

Semester 3

SED 478 Student Teaching in the Secondary School	10–12
Major total	37–39

Additional Requirements

Additional course work, taken outside the College of Teacher Education and Leadership, is required for the academic specialization in secondary education. The New College of Interdisciplinary Arts and Sciences offers courses that are required for secondary education certification in four areas: English, history, social studies, and mathematics. Since these four secondary specializations are well supported at the West campus, preference in admissions is given to students applying to these areas. Students majoring in Secondary Education who elect a specialization other than the four offered at West campus must complete a substantial portion of their specialization course work and the major methods course at the Tempe campus. Refer to the pages shown below for descriptions of the academic specializations available at West campus.

Academic Specialization

Course	Page
English	715
History	717
Mathematics	726
Social studies	730

SECONDARY EDUCATION (SED)

For more SED courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W SED 321 Critical Issues in Secondary Education. (3)
fall and spring
Examines perspectives of critical issues in contemporary education and encourages students to think critically and to develop their own viewpoints. Prerequisite: completion of core curriculum. Corequisite: SED 397.

W SED 322 Classroom Leadership in Secondary Schools. (3)
fall and spring
Theories and practices for managing and maintaining secondary classrooms for learning; strategies for home/school communication; and leadership roles for teachers. Prerequisite: completion of core curriculum. Corequisite: SED 397.

W SED 397 Field Experience 2. (0)
fall and spring
Applies course content in a secondary school setting. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. Fee. Prerequisite: completion of core curriculum courses.

W SED 464 Middle-School Curriculum and Organization. (3)
fall and summer
Educational implications of the characteristics of a diverse adolescent population on middle-level organization and components, curriculum, instructional strategies, assessment. Cross-listed as EED 464. Credit is allowed for only SED 464 or EED 464. Prerequisite: semester 2 of the PTPP.

W SED 478 Student Teaching in the Secondary School. (3–12)
fall and spring
The practice of teaching; relationship of theory and practice in teaching. Fee. Prerequisites: 2.50 GPA; completion of all professional course work; approval of Offices of Field Experiences and Academic Advising.

W SED 480 Special Methods of Teaching Social Studies. (3)
fall and spring
Interdisciplinary approaches; production and collection of materials.

W SED 481 English Teaching Methods for Secondary Schools. (3)
fall and spring
Instructional, organizational, and presentation methods for English in secondary schools. Prerequisite: ENG 312 or 314 or instructor approval.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

Department of Special Education

www.west.asu.edu/ctel/spe
602/543-6380
FAB S252A

Ida Malian, Chair

Professor: Malian

Associate Professor: Puckett

Assistant Professors: Bradshaw, Brady, Renne

SPECIAL EDUCATION—BAE

Career Outlook

The career outlook for this teaching profession is promising. Special educators are in high demand in Arizona as well as many other states. Demand is expected to remain strong. Special educators are highly regarded by school districts. There are also many opportunities for special education program graduates to take positions in K–8 classrooms as graduates may be eligible for elementary education certification. Increasing proportions of school districts practice full inclusion of students with disabilities into general education classes, which increases the demand for qualified special educators.

Admission Requirements

To be considered for admission to the Special Education major, applicants must complete a minimum of 56 semester hours of course work as outlined at West campus or equivalent courses at another accredited college or university, with a grade of "C" (2.00) or higher and an overall GPA of 2.50 or higher.

Required Courses

Choose one of the following combinations			3–6
	ENG	101 First-Year Composition (3)	
	ENG	102 First-Year Composition (3)	
		— or —	
	ENG	105 Advanced First-Year Composition (3)	
CSE	180	Computer Literacy *CS*	3
		or EDT 321 Computer Literacy *CS* (3)	
HIS	103	The United States *SB, H*	3
		or HIS 104 The United States *SB, H* (3)	
MAT	142	College Mathematics *MA* or higher level math course	3
MTE	180	Theory of Elementary Mathematics	3
MTE	181	Theory of Elementary Mathematics	3
SPE	222	Orientation to Education of Exceptional Children *SB*	3
TEL	111	Exploration of Education *SB*	3
TEL	212	Understanding the Culturally Diverse Child *C*	3

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

Selected Courses

G course	3
HU courses	6
L course	3
SQ course	4
SQ/SG course	4
Electives	6–9
Total	56

Some General Studies courses may be used to satisfy a General Studies core area requirement and one or two awareness area requirements at the same time, leaving the student more electives. Selected courses and General Studies courses should be chosen in consultation with a college Academic Advisor.

Program Requirements

Candidates for the BAE degree in Special Education are required to complete an approved program of 120 semester hours. These hours include

1. 56 semester hours of specified lower-division courses for admission;
2. 35 semester hours of General Studies courses; and
3. 60 semester hours of specified upper-division course work in professional education.

Upper-division, professional education courses include College of Teacher Education and Leadership core curriculum courses, special education courses, field experience courses, and student teaching. This course work prepares individuals with abilities and attitudes to work in special education classrooms. The combination of course work and field experience is aligned with the Arizona Professional Teaching Standards. Special education students should review general information, field experience requirements, student teaching, and academic policies within this catalog.

Special Education (K–12) Major

Semester 1

BLE	312	ESL, Diversity, and Culture in Education *L* 3
TEL	311	Instruction and Management in the Inclusive Classroom 3
TEL	313	Educational Technology in the K–12 Curriculum 3
TEL	314	Classroom Assessment 3
TEL	315	Child and Adolescent Development *SB* 3
TEL	396	Field Experience I 0
Total		15

Semester 2

RDG	322	Language Literacy I in Elementary Schools 3
SPE	310	Professional Practices in Special Education 3
SPE	317	Special Education for Culturally and Linguistically Diverse Children and Youth 3
SPE	320	Assessment and Evaluation in Special Education *L* 3
SPE	322	Behavior Management and Consultation 3
SPE	397	Field Experience II 0
Total		15

Semester 3

EED	412	Mathematics in Elementary Schools 3
SPE	318	Family-School Collaboration: An Integrated Approach for Children and Adolescents with Special Needs 3
SPE	423	Technology and Instructional Methods in Language, Reading, and Mathematics for Students with Mild/Moderate Disabilities 3
SPE	424	Methods in Cross-Categorical Special Education 3
SPE	431	Collaborative Teaching Methods for General Education Classroom Environments 3
SPE	496	Field Experience III 0
Total		15

Semester 4

SPE	478	Student Teaching in Special Education 12
SPE	440	Professional Seminar in Special Education 3
Total		15

Major total 60

SPECIAL EDUCATION (SPE)

For more SPE courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W SPE 222 Orientation to Education of Exceptional Children. (3)
fall, spring, summer
Includes gifted, mildly handicapped, severely handicapped, and the bilingual/multicultural exceptional child.
General Studies: SB

W SPE 310 Professional Practices in Special Education. (3)
fall and spring
Emphasizes the roles and professional responsibilities of special educators in all service delivery models. Prerequisite: completion of core curriculum courses. Corequisites: SPE 317, 320, 322, 397.
General Studies: L

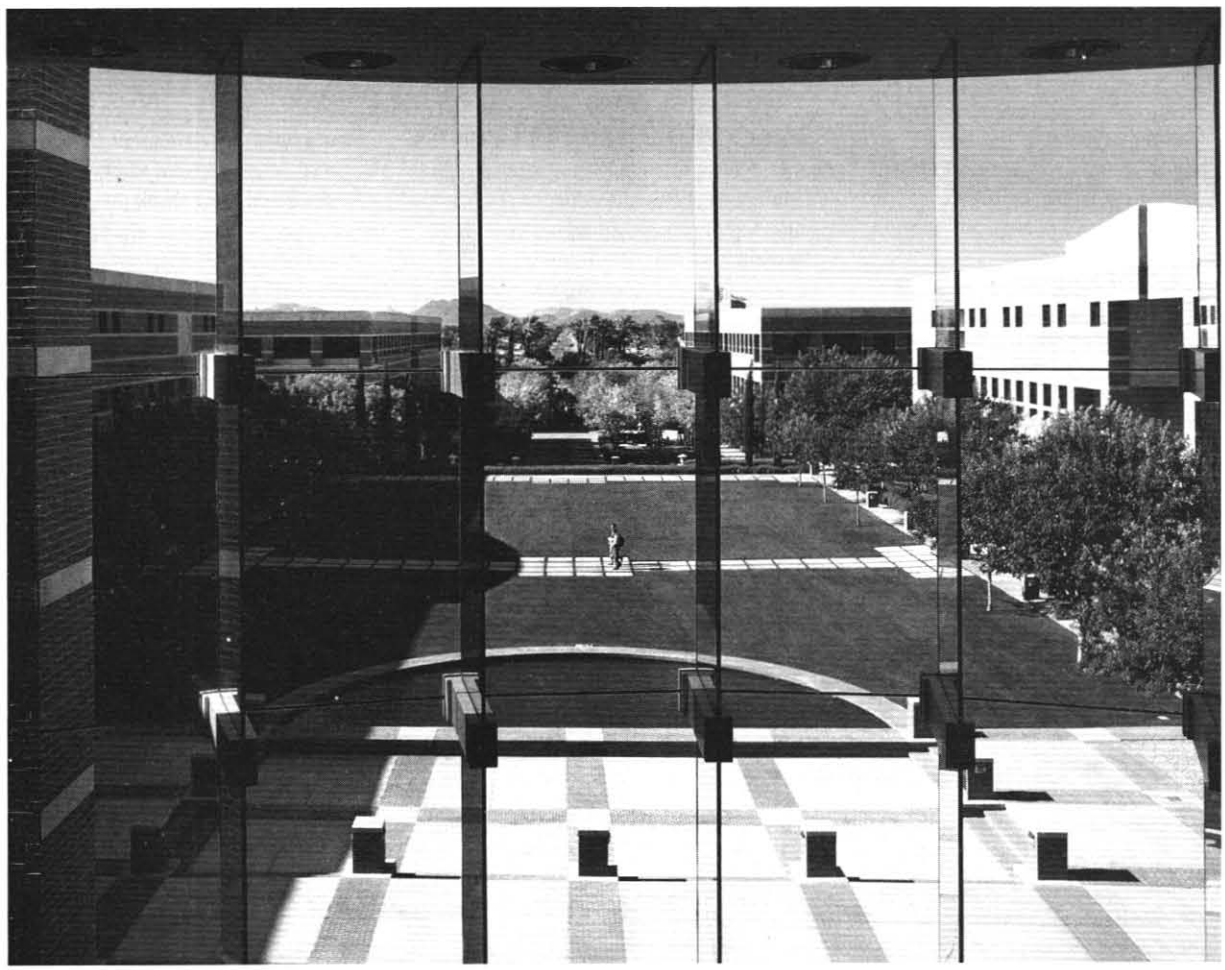
W SPE 317 Special Education for Culturally and Linguistically Diverse Children and Youth. (3)
fall and spring
General issues and practical applications regarding the education of culturally and linguistically diverse students with disabilities. Prerequisite: completion of core curriculum courses. Corequisites: SPE 310, 320, 322, 397.

W SPE 318 Family-School Collaboration: An Integrated Approach for Children and Adolescents with Special Needs. (3)
fall and spring
Explores relationships between families of children with special needs and professionals in educational institutions and community agencies. Prerequisite: completion of core curriculum courses. Corequisites: SPE 423, 424, 431, 496.

W SPE 320 Assessment and Evaluation in Special Education. (3)
fall and spring
Norm-referenced, criterion-referenced, and authentic strategies to determine eligibility, plan individualized programs, and monitor progress of students with disabilities. Prerequisites: ENG 101 (or 105); completion of core curriculum courses. Corequisites: SPE 310, 317, 322, 397.
General Studies: L

W SPE 322 Behavior Management and Consultation. (3)
fall and spring
Develops and implements analysis, intervention, and consultation strategies for effective management of classroom behavior for students with disabilities. Prerequisite: completion of core curriculum. Corequisites: SPE 310, 317, 320, 397.

W SPE 397 Field Experience II. (0)
fall and spring
Applies course content in a special education setting. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. Fee. Prerequisite: completion of core curriculum. Corequisites: SPE 310, 317, 320, 322.



View of the West campus from Fletcher Library

Arthur Holeman photo

W SPE 423 Technology and Instructional Methods in Language, Reading, and Mathematics for Students with Mild/Moderate Disabilities. (3)
fall and spring
Effective use of technology; instruction and assessment of performance in language, reading, and mathematics for students with mild/moderate disabilities. Prerequisites: SPE 310, 317, 320, 322, 397. Corequisites: SPE 318, 424, 431, 496.

W SPE 424 Methods of Cross-Categorical Special Education. (3)
Assessment and instructional methods for students with mild to moderate retardation, learning disability, emotional disabilities, and physical/health impairment. Prerequisites: SPE 310, 317, 320, 322, 397. Corequisites: SPE 318, 423, 431, 496.

W SPE 431 Collaborative Teaching Methods for General Education Classroom Environments. (3)
fall and spring
Methods and issues in cooperative teaching for special education students in general education classrooms. Prerequisites: SPE 310, 317, 320, 322, 397. Corequisites: SPE 318, 423, 424, 496.

W SPE 440 Professional Seminar in Special Education. (3)
fall and spring
Examines critical issues in the delivery of special education services. Emphasizes self reflection and professional development. Prerequisites: SPE 318, 423, 424, 431. Corequisite: 478.

W SPE 478 Student Teaching in Special Education. (12)
fall and spring
Student teaching in special education setting. Fee. Prerequisites: a 2.50 GPA; completion of all professional course work; approval of Offices of Field Experiences and Academic Advising.

W SPE 496 Field Experience III. (0)
fall and spring
Applies course content in a special education setting. Emphasizes observation pupil management, planning and delivering instruction, and assessment. Fee. Prerequisites: SPE 310, 317, 320, 322, 397. Corequisites: SPE 318, 423, 424, 431.

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

L literacy and critical inquiry / **MA** mathematics / **CS** computer/statistics/quantitative applications / **HU** humanities and fine arts / **SB** social and behavioral sciences / **SG** natural science—general core courses / **SQ** natural science—quantitative / **C** cultural diversity in the United States / **G** global / **H** historical / See "General Studies," page 93.

College of Teacher Education and Leadership Graduate Degrees and Majors

Major	Degree	Concentration*	Administered By
Educational Administration and Supervision	MEd	—	Department of Graduate Studies and Professional Development
Elementary Education	MEd	Optional: bilingual education, educational technology, ESL education, or reading*	Department of Graduate Studies and Professional Development
Leadership and Innovation	EdD	Leadership in policy and administration or leadership of teaching innovation	Department of Graduate Studies and Professional Development
Secondary Education	MEd	Optional: educational technology*	Department of Graduate Studies and Professional Development
Special Education	MEd	Infants and young children	Department of Graduate Studies and Professional Development

* If a major offers concentrations, one must be selected unless noted as *optional*.

Department of Graduate Studies and Professional Development

www.west.asu.edu/ctel/graduate

602/543-3634

FAB S220

Stephen B. Lawton, Chair

See the "College of Teacher Education and Leadership Graduate Degrees and Majors" table, on this page, for programs available at the West campus.

In addition the Department of Graduate Studies and Professional Development offers Master's Programs with Teacher Certification in Elementary, Secondary, and Special Education. Consult the *Graduate Catalog* for information regarding Master's degree programs and requirements.

EDUCATIONAL ADMINISTRATION AND SUPERVISION (EDA)

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.

EDUCATIONAL TECHNOLOGY (EDT)

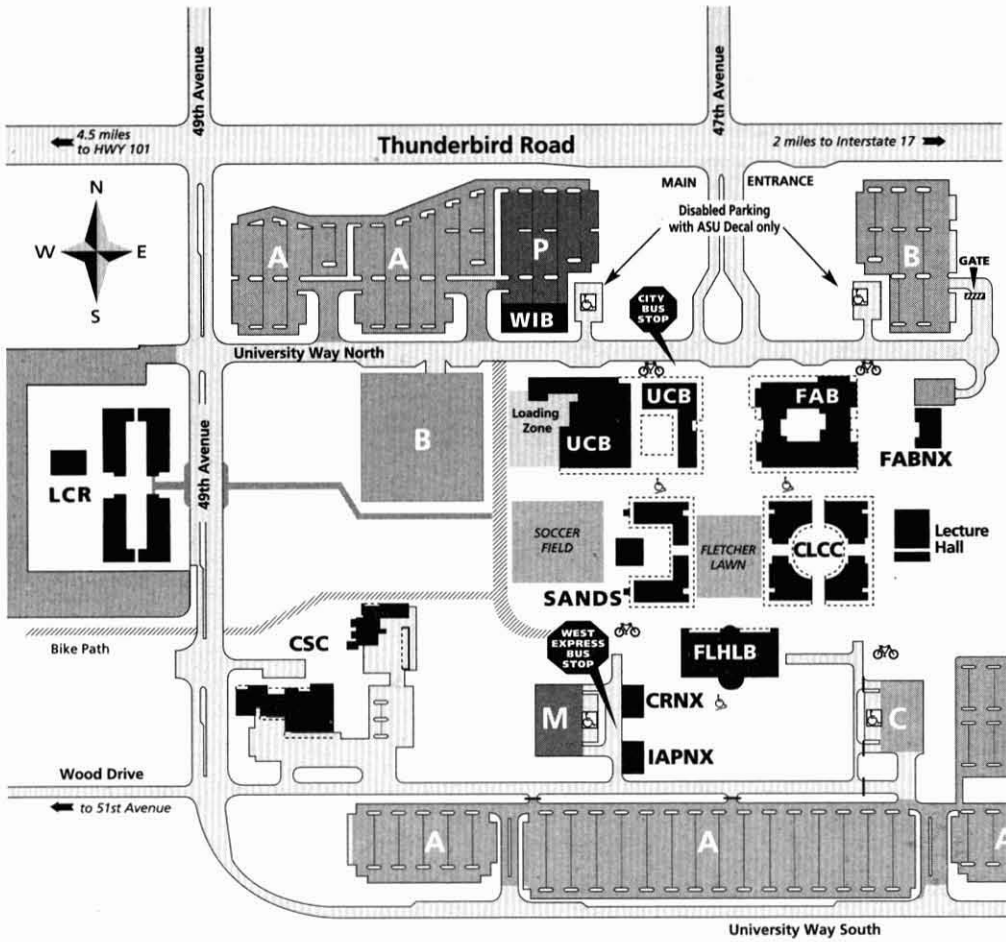
Department of Elementary Education

For more EDT courses, see the "Course Prefixes" table, or access www.asu.edu/aad/catalogs/courses. The campus designation—D (Downtown Phoenix), E (Polytechnic), M (Tempe), or W (West)—may affect how courses may be used to fulfill requirements.

W EDT 321 Computer Literacy. (3)
fall and spring
Computer software applications. Problem-solving approaches using databases, spreadsheets, word processing, Web publishing, and other current applications. Lecture, lab, demonstration.
General Studies: CS

Omnibus Courses. For an explanation of courses offered but not specifically listed in this catalog, see "Omnibus Courses," page 63.

Graduate-Level Courses. For information about courses numbered from 500 to 799, see the *Graduate Catalog*, or access www.asu.edu/aad/catalogs on the Web. In some situations, undergraduate students may be eligible to take these courses; for more information, see "Graduate-Level Courses," page 62.



BUILDING LEGEND

Welcome & Information Building (WIB)
- Arizona State Savings & Credit Union
- Campus Information Center
- Parking Services Office
- Testing Services

Las Casas Student Housing (LCR)

University Center Building (UCB)
- Admission Services
- Bank of America ATM
- Barrett Honors College
- Bookstore
- Cafeteria
- Career Services/Personal Counseling Center
- Cashier's Office
- Child Care Center
- Devils' Den game room
- Disability Resource Center
- Financial Aid/Student Employment
- GCC- ASU Partnership
- Information Desk
- La Sala A,B,C
- Multicultural Student Services
- Registration Services
- Second Stage West Theatre
- Student Affairs Administration
- Student Health Services
- Student Life
- Student Support Services Program
- University College at the West campus
- Veteran Student Services
- Wellness/Fitness Center
- Women's Studies Resource Center

Faculty/Administration Building (FAB)
- Academic Affairs
- Basement classrooms
- College of Human Services
- College of Teacher Education & Leadership
- Copy Center
- Information Desk
- Institutional Planning & Research
- Instructional Technology Lab
- New College of Interdisciplinary Arts & Sciences
- Office of Administrative Affairs/Planning & Budget
- Office of the Provost
- Public Affairs
- School of Global Management & Leadership

FAB Annex (FABNX)
- Human Resources

Classroom Lab/Computer Classroom Building (CLCC)
- Information Technology
- Lecture Hall
- Life Sciences

Fletcher Library (FLHLB)
- Technopolis
- Learning Enhancement Center

Interdisciplinary Arts Annex (IAPNX)

Classroom Annex (CRNX)

Sands Classroom Building (SANDS)
- Kiva Lecture Hall
- Sand Trap snack bar

Central Services Complex (CSC)
- Central Plant
- DPS/University Police
- Facilities Development & Management
- Mail Services

SYMBOLS LEGEND

- Disabled Permit Parking
- A — Permit Parking *(Students, faculty & staff only)*
- M — Metered Parking *(25¢ per 15 minutes)*
- B — Faculty/Staff Permit Parking *7 am to 5:30 pm - Student permit parking allowed after 5:30 pm)*
- P — Visitor Parking *Fee lot - 24 hours/day*
- C — Faculty/Staff Permit Parking *(24 hours/day)*
- Accessible Ramp
- Bicycle Racks

Parking regulations are enforced at all times. Parking permits are required on campus from 7am through 10pm. Meters are enforced from 7am until 10pm. Parking regulations are enforced 24 hours a day, 7 days a week.

ASU ARIZONA STATE UNIVERSITY

West campus

(602) 543-5500 • www.west.asu.edu
Street Address: 4701 West Thunderbird Road • Glendale, AZ 85306-4908
Mailing Address: PO Box 37100, Phoenix, AZ 85069-7100

President's and Regents' Professors

President's Professors

The title "president's professor" is bestowed upon tenured faculty who have made substantial contributions to undergraduate education at ASU through their demonstrated commitment to teaching, creative scholarship, and student success.

RANDALL S. CERVENY
Geography

ALICE A. CHRISTIE
Graduate Studies and Professional Development

IAN R. GOULD
Chemistry and Biochemistry

Regents' Professors

The title "regents' professor" is conferred on selected members of the ASU tenured faculty who have achieved and are sustaining the highest level of distinction by their exceptional contributions to the mission of the university in research or other creative activity and in teaching or professional service.

JOHN ALCOCK
Life Sciences

DAVID L. ALTHEIDE
Justice and Social Inquiry

C. AUSTEN ANGELL
Chemistry and Biochemistry

CHARLES J. ARNTZEN
Life Sciences

CONSTANTINE A. BALANIS
Electrical Engineering

DAVID C. BERLINER
Educational Leadership and Policy Studies and Psychology in Education

PETER R. BUSECK
Chemistry and Biochemistry and Geological Sciences

CORDELIA CHAVEZ CANDELARIA
Chicana and Chicano Studies and English

RON CARLSON
English

CARLOS CASTILLO-CHAVEZ
Mathematics and Statistics

PHILLIP R. CHRISTENSEN
Geological Sciences

ROBERT B. CIALDINI
Psychology

GEOFFREY A. CLARK
Anthropology

NORMAN DUBIE
English

NANCY H. EISENBERG
Psychology

DAVID K. FERRY
Electrical Engineering

DAVID WILLIAM FOSTER
Languages and Literatures

GENE V GLASS
Educational Leadership and Policy Studies and Psychology in Education

LUIS R. GOMEZ-MEJIA
Management

WILLIAM L. GRAF
Geography, Emeritus

RONALD GREELEY
Geological Sciences

GERALD THOMAS HEYDT
Electrical Engineering

DAVID R. HICKMAN
Music

PETER IVERSON
History

DAVID H. KAYE
Law

GARY D. KELLER
Languages and Literatures

MARK C. KLETT
Art

DANIEL M. LANDERS
Kinesiology

SHENG H. LIN
Chemistry and Biochemistry, Emeritus

JANE MAIENSCHEIN
Biology and Society

JAMES W. MAYER
Chemical and Materials Engineering and Solid State Science

DOUGLAS C. MONTGOMERY
Industrial Engineering

CARLETON B. MOORE
Chemistry and Biochemistry and Geological Sciences, Emeritus

JEFFRIE G. MURPHY
Law and Philosophy

MICHAEL O'KEEFFE
Chemistry and Biochemistry, Emeritus

CAIO PAGANO
Music

DENNIS J. PALUMBO
Justice and Social Inquiry, Emeritus

G. ROBERT PETTIT
Chemistry and Biochemistry

GEORGE H. POSTE
Biology

EDWARD C. PRESCOTT
Economics

STEPHEN J. PYNE
Life Sciences

ALBERTO ALVARO RÍOS
English

NANCY FELIPE RUSSO
Psychology

IRWIN N. SANDLER
Psychology

DAVID J. SMITH
Physics and Astronomy and Solid State Science

MARY LEE SMITH
Educational Leadership and Policy Studies and Psychology in Education

JOHN C. H. SPENCE
Physics and Astronomy

SUMNER G. STARRFIELD
Physics and Astronomy

MARY BETH STEARNS
Physics and Astronomy, Emerita

CHRISTY G. TURNER II
Anthropology, Emeritus

J. BRUCE WAGNER JR.
Chemistry and Biochemistry and Solid State Science, Emeritus

KURT WEISER
Art

ROGIER A. WINDHORST
Physics and Astronomy

Faculty and Academic Professionals

Downtown Phoenix Campus **760**
Polytechnic Campus **767**
Tempe Campus **772**
West Campus **837**

The faculty and academic professionals listed are involved in undergraduate and graduate instruction and research. The year of first appointment follows the name. Emeritae and emeriti are included.

Downtown Phoenix Campus

A

Adams, Donna (1983), Professor Emerita of Nursing; BSN, University of Missouri, Columbia; MS, Arizona State University; DNSc, University of San Diego

Adams, Sue (2001), Clinical Associate Professor of Nursing; BSN, University of Arizona; MS, Arizona State University

Aerni, Wayne (1991), Faculty Associate of Public Affairs; BA, University of Oregon; MPA, PhD, Arizona State University

Allison, Maria T. (1984), Professor of Community Resources and Development; Vice Provost and Dean of Graduate Studies; BS, MS, University of New Mexico; PhD, University of Illinois

Alpers, Rojann R. (1995), Associate Professor of Nursing; Curator, American Museum of Nursing; BSN, MS, Arizona State University; PhD, University of Iowa

Alvarado, Ronald H. (1974), Professor Emeritus of Life Sciences; Dean Emeritus, School of Extended Education; BA, University of California, Riverside; MS, PhD, Washington State University

Al-Yahya, Khalid (2005), Assistant Professor of Public Affairs; BA, Imam University (Saudi Arabia); MBA, MPA, University of Hartford; PhD, University of Connecticut, Storrs

Anderson, Jonna (2004), Clinical Assistant Professor of Nursing; BSN, Lewis-Clark State College; MSN, Idaho State University

Armbruster, Charlotte (1997), Clinical Associate Professor of Nursing; BSN, MS, Arizona State University

Ashcraft, Robert F. (1995), Associate Professor of Community Resources and Development; Director, Center for Nonprofit Leadership and Management; BA, University of Arizona; MA, Northern Arizona University; PhD, Arizona State University

Ashford, Jose B. (1984), Professor of Social Work; BA, Loyola University, New Orleans; MSW, Ohio State University; PhD, Bowling Green State University

Augsburg, Tanya (1997), Senior Lecturer of Interdisciplinary Studies; BA, New York University; MA, PhD, Emory University

B

Bacchus, Denise N.A. (2003), Assistant Professor of Social Work; BA., Ithaca College; MA, PhD, State University of New York, Albany

Backer, Linda R. (1997), Assistant Instructional Professional, School of Extended Education; Manager, Interdisciplinary Programs, Academic and Professional Programs, School of Extended Education; BA, University of Colorado; MS, Colorado State University

Bagwell, Marilyn (1972), Professor Emerita of Nursing; BSN, University of California, Los Angeles; MA, Arizona State University; PhD, Texas Woman's University

Baldwin, Carol (2004), Associate Professor of Nursing; BSN, MSN, University of Phoenix; PhD, University of Arizona

Bardewyck, Loretta A. (1957), Professor Emerita of Nursing; Dean Emerita, College of Nursing; PHN, BS, University of Minnesota, Twin Cities; MS, Cornell University

Barry, Rebecca E. (2002), Lecturer of Community Resources and Development; BA, University of Utah; MA, Middlebury College; PhD, University of Utah

Beck, Lasca (1984), Professor Emerita of Nursing; BSN, Texas Woman's University; MS, Texas A&M University, Commerce

Bell, Shirley (1988), Clinical Professor of Nursing; BSN, University of Cincinnati; MSN, Wayne State University; EdD, West Virginia University

Belyea, Michael (2005), Research Professor of Nursing; BA, MA, University of North Dakota; PhD, North Carolina State University, Chapel Hill

Benesh, Susan (1999), Clinical Assistant Professor of Nursing; BSN, MS, Arizona State University

Blessing, Linda (1995), Professor of Practice in Public Affairs; BS, California State Polytechnic University, Pomona; MBA, California State University, San Bernardino; PhD, Arizona State University

Bley, Patricia (2002), Faculty Associate of Nursing; BSN, Arizona State University; MSN, University of Phoenix

Boylan, Amy Cooper (1986), Academic Associate, University College; Academic Advisor; BSW, MC, Arizona State University

Bozzette, Maryann (2005), Associate Professor of Nursing; BSN, D'Youville College; MN, PhD, University of Washington

Bradley, Eula D. (1979), Academic Specialist Coordinator of Nursing; BMEd, Southwest Baptist University

Bragg, Chris (2006), Assistant Director, Special Programs, American English and Culture Program, School of Extended Education; BA, MTESL, Arizona State University; MA, University of Chicago

Branstetter, Ellamae (1967), Professor Emerita of Nursing; BS, St. Louis University; MPH, University of Minnesota, Twin Cities; PhD, University of Chicago

Brillhart, Barbara (1996), Associate Professor of Nursing; BSN, MSN, California State University, Los Angeles; PhD, Texas Woman's University

Brooks, Ruth (2000), Manager, Learning Resource Center; BS, University of Wyoming; MS, University of Colorado at Denver and Health Sciences Center

Brown, Brent W. (1972), Professor Emeritus of Public Affairs; BA, Brigham Young University; MA, Arizona State University; PhD, University of Illinois

Brown, Theresa (2000), Faculty Associate of Nursing; BSN, Arizona State University

Brown, William A. (1999), Assistant Professor of Community Resources and Development; BS, Northeastern University; MA, PhD, Claremont Graduate University

Bruner, May I. (1961), Professor Emerita of Nursing; BS, University of Hawaii, Honolulu; MS, University of Colorado

Brzuzy, Stephanie (1995), Associate Professor of Social Work; BSW, Indiana University, Bloomington; MSW, University of Illinois, Urbana-Champaign; PhD, Ohio State University

Budruk, Megha (2004), Assistant Professor of Community Resources and Development; BS, University of Poona (India); MS, Arizona State University; PhD, University of Vermont

C

Campbell, Heather E. (1991), Associate Professor of Public Affairs; Director, Public Administration Master's Program; BA, University of California, San Diego; MPhil, PhD, Carnegie Mellon University

Campesino, Maureen (2005), Assistant Professor of Nursing; BSN, Rutgers, The State University of New Jersey; MS, Arizona State University; PhD, University of Arizona

Catlaw, Thomas J. (2004), Assistant Professor of Public Affairs; BA, Trinity College; MPA, PhD, George Washington University

Cayer, N. Joseph (1980), Professor of Public Affairs; BA, MPA, University of Colorado; PhD, University of Massachusetts, Amherst

Cesarotti, Evelyn (1992), Associate Professor of Nursing; Site Coordinator, West Campus; BSN, University of West Florida; MS, PhD, University of Arizona

Chang, Mary (2006), Assistant Director, American English and Culture Program, School of Extended Education; BA, Arizona State Unviersity; MA, Monterey Institute of International Studies

Chapman, Jeffrey (1999), Professor of Public Affairs; AB, Occidental College; MA, PhD, University of California, Berkeley

Chen, Angela Chia-Chen (2005), Assistant Professor of Nursing; BSN, National Taiwan University, Medical College (Taiwan); MS, PhD, University of Washington

Chilton, Leslie Anne (1998), Academic Associate, University College; Coordinator, Writing Center; BA, MA, PhD, Arizona State University

Cole, Tom (1981), Lecturer, School of Extended Education; Associate Director, American English and Culture Program, School of Extended Education; BS, Northern Arizona University; MA, Arizona State University

Cook, Sue (2004), Assistant Professor of Nursing; BSN, University of Phoenix; MS, Arizona State University; MEd, Northern Arizona University; PhD, University of Arizona

Cooke, Cheryl L. (2004), Assistant Professor of Nursing; BSN, University of Washington, Bothell; MSN, PhD, University of Washington

Cooper, Janet (2005), Faculty Associate of Nursing; BSN; California State University, Dominguez Hills; MSN, California State University, Long Beach

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Hendrickson, Suzanne B. (1990), Senior Lecturer of French; BS, MA, Louisiana State University, Baton Rouge; PhD, Washington University

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Herald, Cherry L. (1973), Research Professor, Cancer Research Institute; Associate Director, Cancer Research Institute; BS, MS, PhD, Arizona State University

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Jacobowitz, Ronald (1970), Professor Emeritus of Mathematics and Statistics; BA, City College of New York; MS, University of Chicago; PhD, Princeton University

Jacobs, Bertram L. (1985), Professor of Life Sciences; BS, Rutgers, The State University of New Jersey; PhD, University of California, Berkeley

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Jacobs, Mark (2003), Professor of Life Sciences; Dean, Barrett Honors College; BA, Harvard University; PhD, Stanford University

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Jacobson, David (1992), Professor of Global Studies; Director, Department of Global Studies; BA, Hebrew University of Jerusalem, (Israel); MSc, London School of Economics (United Kingdom); PhD, Princeton University

Jacobson, Dean L. (1974), Professor Emeritus of Materials Science and Engineering; BS, MS, University of Notre Dame; PhD, University of California, Los Angeles

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Jiang, Nan (2000), Associate Research Scientist of Physics and Astronomy; BSc, Jilin University (China); MS, Chinese Science Academy (China); PhD, University of Birmingham (United Kingdom)

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