

UNDERGRADUATE EDUCATION



● **2005** The Division of Biological Sciences becomes the College of Biological Sciences.



1920

2000

● **1922** Four-year degree program is initiated.



UNDERGRADUATE EDUCATION

Students may choose from over 150 major programs and more than 90 minor programs in a wide variety of disciplines offered by the four undergraduate colleges.

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Office of the Dean
150 Mrak Hall
(530) 752-0108; <http://www.caes.ucdavis.edu>

Major programs in the College of Agricultural and Environmental Sciences highlight the multiple connections among agricultural sciences, environmental sciences and human sciences within the larger context of the quality of life in the global economy. The majors fall into three broad areas of study described below. The College of Agricultural and Environmental Sciences also offers two collegewide degree programs and two collegewide non-degree programs.

The Undergraduate Programs

Agricultural Sciences

These majors prepare students in animal biology and the management of environmental resources as needed to develop sustainable animal production technologies. Also considered is the impact of production and management processes on animal health and welfare, human diet and health, and the natural environment.

The majors that focus on plant science provide a strong background in the context of agricultural and environmental systems and societal needs; ecological understanding of food and fiber production systems; biological and economic principles that underlie management decisions in agribusiness; and a basic background in all areas of plant biology, including plant development, plant protection, biotechnology and post-harvest physiology.

Majors:

- Agricultural and Environmental Education, B.S.
- Agricultural Management and Rangeland Resources, B.S.; see Ecological Management and Restoration
- Animal Biology, B.S.
- Animal Science, B.S.
- Animal Science and Management, B.S.
- Avian Sciences, B.S.
- Biotechnology, B.S.
- Crop Science and Management, B.S.; see Plant Sciences
- Entomology, B.S.
- Plant Sciences, B.S.
- Viticulture and Enology, B.S.

Minors:

- Agricultural Entomology and Bee Biology (Entomology)
- Applied Computing and Information Systems (Plant Sciences)
- Animal Biology (Animal Science)
- Animal Genetics (Animal Science)
- Apiculture Entomology (Entomology)
- Aquaculture (Animal Science)
- Avian Sciences
- Dairy/Livestock (Animal Science)
- Entomology
- Environmental Horticulture (Plant Sciences)
- Fungal Biology and Ecology (Plant Pathology)
- Insect Biology (Entomology)

- Insect Ecology and Evolution (Entomology)
- Medical-Veterinary Entomology (Entomology)
- Nematology
- Precision Agriculture (Biological and Agricultural Engineering)

Environmental Sciences

These majors focus on the broad facets of the human and natural environments and their interactions. They draw on the social, physical and biological sciences as needed to prepare students for leadership and advanced studies in the areas of natural resource management, environmental quality and stewardship, community planning and design, and public policy decision making.

Majors:

- Agricultural and Environmental Education, B.S.
- Atmospheric Science, B.S.
- Ecological Management and Restoration, B.S.
- Environmental and Resource Sciences, B.S.; see Environmental Science and Management
- Environmental Biology and Management, B.S.; see Environmental Science and Management
- Environmental Horticulture and Urban Forestry, B.S.
- Environmental Science and Management, B.S.
- Environmental Policy Analysis and Planning, B.S.
- Environmental Toxicology, B.S.
- Hydrology, B.S.
- Landscape Architecture, B.S.
- Soil and Water Science, B.S.; see Environmental Science and Management
- Wildlife, Fish, and Conservation Biology, B.S.

Minors:

- Atmospheric Science (Land, Air, and Water Resources)
- Environmental Policy Analysis (Environmental Science and Policy)
- Environmental Toxicology
- Geographic Information Systems (Biological and Agricultural Engineering)
- Geographic Studies (Environmental Design)
- Hydrology (Land, Air, and Water Resources)
- Landscape Restoration (Plant Sciences)
- Soil Science (Land, Air, and Water Resources)
- Wildlife, Fish, and Conservation Biology

Human Sciences

These majors foster a deeper understanding of the multiple connections between scientific and cultural issues in the context of human health and the quality of life. Basic physical and biological science, social science, design, and economic principles are taught in this context, linking food and fiber production to consumption, emerging knowledge to societal applications and policy, and human development to active, informed citizenship. Emphasis is on linking resources for humans with humans as resources. Physiological, social and aesthetic dimensions of the human experience are explored.

Majors:

- Agricultural and Environmental Education, B.S.
- Clinical Nutrition, B.S.
- Community and Regional Development, B.S.
- Fiber and Polymer Science, B.S.
- Food Science, B.S.

- Human Development, B.S.
- Managerial Economics, B.S.
- Nutrition Science, B.S.
- Textiles and Clothing, B.S.

Minors:

- Aging and Adult Development (Human and Community Development)
- Community Development (Human and Community Development)
- Community Nutrition (Nutrition)
- Fiber and Polymer Science (Textiles and Clothing)
- Food Service Management (Nutrition)
- Human Development (Human and Community Development)
- Managerial Economics (Agricultural and Resource Economics)
- Nutrition and Food (Nutrition)
- Nutrition Science (Nutrition)
- Textiles and Clothing

Collegewide Programs

The collegewide programs cut across all of the above areas, providing students in a variety of majors with a background in such areas as public policy, economic principles in a global context and the intersections among environmental, agricultural and socio-economic issues. Collegewide programs also include non-degree, lower division curricula aimed at providing students with a foundational knowledge base and the potential for developing individualized programs.

Majors:

- Individual Major, B.S.
- International Agricultural Development, B.S.

Minors:

- Contemporary Leadership
- International Agricultural Development
- Science and Society

Non-degree programs:

- Undeclared/Exploratory
- Science and Society

COLLEGE OF BIOLOGICAL SCIENCES

Dean's Office
202 Life Sciences
(530) 752-0410; <http://biosci.ucdavis.edu/>

The College of Biological Sciences administers undergraduate programs in fundamental aspects of biology. The college is organized into five departments that represent major themes of modern biology: Evolution and Ecology; Microbiology; Molecular and Cellular Biology; Neurobiology, Physiology, and Behavior; and Plant Biology. The individual departments offer a total of eight specialized majors, each focusing on one of the core disciplines of biology. The Biological Sciences major, the Individual major, the Undeclared-Life Sciences program and the Bodega Marine Laboratory Spring Quarter Program are offered by the entire college.

The Undergraduate Programs**Biological Sciences**

The Biological Sciences major is broad in concept, designed to span the numerous core disciplines of biology. The major covers most dimensions of the study of life, ranging from molecules and cells to populations of organisms. While emphasizing breadth, the

Bachelor of Science degree also requires the student to select an area of emphasis that provides concentrated study in one facet of biology at the upper division level. Areas of emphasis are Evolution, Ecology and Biodiversity; Marine Biology; Microbiology; Molecular and Cellular Biology; Neurobiology, Physiology, and Behavior; and Plant Biology.

Major:

- Biological Sciences, A.B., B.S.

Minor:

- Biological Sciences

Evolution and Ecology

The major in Evolution, Ecology and Biodiversity offers the student a broad background in the theoretical and empirical basis of our understanding of the evolution and ecology of living organisms. The program of study begins with a core of introductory courses in mathematics, physical sciences and biology. These are followed by survey courses in evolution and ecology and more specialized courses that focus the student on particular disciplines or organisms, with an emphasis on problem-solving and critical thinking.

Major:

- Evolution, Ecology and Biodiversity, A.B., B.S.

Minor:

- Evolution, Ecology and Biodiversity

Microbiology

Microbiology deals with bacteria, yeasts and other fungi, algae, protozoa and viruses. These microorganisms are ubiquitous in nature and play a crucial role in areas such as agriculture, biotechnology, ecology, medicine and veterinary science. The field of microbiology contributes to areas of fundamental inquiry such as biochemistry, cell biology, evolution, genetics, molecular biology, pathogenesis and physiology.

Major:

- Microbiology, A.B., B.S.

Molecular and Cellular Biology

The Department of Molecular and Cellular Biology offers three majors.

The Biochemistry and Molecular Biology major introduces students to the chemistry of living organisms and the experimental techniques that are used to probe the structures and functions of biologically important molecules. Students who enjoy both chemistry and biology and who are comfortable with quantitative approaches to problem-solving will find this major a rewarding field of study.

The Cell Biology major provides a comprehensive understanding of the cell, the basic structural and functional unit of all living organisms. The major emphasizes the principles that govern how biomolecules interact with one another to organize themselves into higher order structures that comprise cells and how cellular organization and function contribute to the development, maintenance and reproduction of adult organisms.

The Genetics major provides a broad background in the biological, mathematical and physical sciences basic to the study of heredity and evolution. The major provides a dual focus on the molecular

mechanisms that regulate utilization of information encoded within the genome as well as the mechanisms and analysis of inheritance of genetic information. The major is sufficiently flexible to accommodate students interested in the subject either as a basic discipline in the biological sciences or in terms of its applied aspects in medicine, biotechnology and agriculture.

Majors:

- Biochemistry and Molecular Biology, B.S.
- Cell Biology, B.S.
- Genetics, B.S.

Neurobiology, Physiology, and Behavior

The Department of Neurobiology, Physiology, and Behavior offers two majors.

The major in Exercise Biology is an integrative program of study, encompassing the physiological, biomechanical and behavioral aspects of exercise and physical activity. The focus is on both the acute and adaptive effects of physical activity (and inactivity). Exercise biology deals with the mechanisms and consequences of activity from the molecular to the organismal (human ecological) level. We examine these mechanisms and consequences during growth, development, aging, disease and in altered environmental conditions. The exercise biology major encompasses the critical aspects of an integrative program in applied human biology.

The Neurobiology, Physiology, and Behavior major emphasizes the understanding of vital functions common to all animals. All animals perform certain basic functions—they grow, reproduce, move, respond to stimuli and maintain homeostasis. The physiological mechanisms upon which these functions depend are precisely regulated and highly integrated. Actions of the nervous and endocrine systems determine behavior and the interaction between organisms and their physical and social environments. Students in this major will study functional mechanisms; the control, regulation and integration of these mechanisms; and the behavior which relates to those mechanisms at the level of the cell, the organ system and the organism.

Major:

- Exercise Biology, A.B., B.S.
- Neurobiology, Physiology, and Behavior, B.S.

Minor:

- Exercise Biology
- Human Physiology
- Neuroscience

Plant Biology

Plant Biology is the study of plants as organisms. It includes the newer disciplines of cellular and molecular plant biology and the traditional areas of botany, such as anatomy, morphology, systematics, physiology, mycology, phycology, ecology and evolution. The major provides breadth in diverse areas of plant biology and depth in one of several areas of specialization.

Major:

- Plant Biology, A.B., B.S.

Minor:

- Plant Biology

Collegewide Programs

Quantitative Biology and Bioinformatics

The interdisciplinary minor in Quantitative Biology and Bioinformatics is an integrative program that introduces students to the quantitative and computational approaches that are redefining all disciplines in the biological sciences, from molecular and cell biology, through genetics and physiology, to ecology and evolutionary biology. The minor in Quantitative Biology and Bioinformatics is open to all undergraduates regardless of major and is sponsored by the College of Biological Sciences.

Minor:

- Quantitative Biology and Bioinformatics

Individual Major

Students whose academic interests are not met by any established major, or combinations of majors and minors may develop an Individual major. Students work in conjunction with the Committee on Undergraduate Petitions and a faculty member in the college.

Major:

- Individual Major, A.B., B.S.

Students who wish to explore the array of life science majors offered at UC Davis before declaring a major may be admitted to the college through the Undeclared—Life Sciences program. These students use the College of Biological Sciences Dean's Office for their advising center. Students in this program must declare a major before completing 90 units.

Bodega Marine Laboratory Program

<http://bml.ucdavis.edu/>

Spring Quarter Program

A full quarter of undergraduate course work in marine biology is available each spring quarter at the Bodega Marine Laboratory, located in Bodega Bay, California. Course offerings include lecture and laboratory instruction in the developmental biology and physiological adaptation of marine organisms, and population biology and ecology; a weekly colloquium; and an intensive individual research experience under the direction of laboratory faculty (Biological Sciences courses 120, 120P, 122, 122P, 123; Neurobiology, Physiology, and Behavior 141, 141P). This is a 15 unit program and course offerings and instructors may vary from year to year. Applications are due January 31. For more course detail, see [Bodega Marine Laboratory Program, on page 173](#) or <http://bml.ucdavis.edu/>.

Summer Special Session Courses

This integrated program offers students a multidisciplinary understanding of coastal ecosystems through intensive, hands on courses taught at BML. The program offers students three sequences of instruction with up to 10 units in each. Two sequences occur during the first Summer Session dates and one sequence in the second Summer Session dates. Applications are due May 1. For more course detail see full description under appropriate academic department listing or <http://bml.ucdavis.edu/>.

The programs are residential with students housed on the laboratory grounds. Participants are assessed a room and board fee in addition to standard campus registration fees. Additional informa-

tion is available directly from the Bodega Marine Laboratory at (707) 875-2002, P.O. Box 247, Bodega Bay, CA 94923.

COLLEGE OF ENGINEERING

Undergraduate Advising Office
1050 Kemper Hall
(530) 752-1979; <http://engineering.ucdavis.edu>

Engineering is the profession in which the physical and biological sciences are applied in a practical way for the benefit of society. As an engineering student, you will learn to observe and describe technological problems and to seek useful solutions to them. Your skills upon graduation will be useful to you not only as an engineer, but also as a professional in management, sales, operations, manufacturing and other fields.

Sixteen undergraduate majors, including two combined major programs are offered. Each of these is a four-year program leading to the degree of Bachelor of Science.

The Engineering Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012; (410) 347-7700) accredits the following programs:

- Aeronautical Science and Engineering
- Biochemical Engineering
- Biological Systems Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Electrical Engineering/Materials Science and Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Optical Science and Engineering

The Engineering Accreditation Commission and the Computing Accreditation Commission of ABET accredit the following program:

- Computer Science and Engineering

The following programs are not accredited by a Commission of ABET:

- Biomedical Engineering
- Computational Applied Science
- Chemical Engineering/Materials Science and Engineering
- Mechanical Engineering/Materials Science and Engineering

Minor Programs. The College of Engineering currently offers two minor programs:

- Computational Applied Science (in the Department of Applied Science)
- Construction Management and Engineering (in the Department of Civil and Environmental Engineering)

The Undergraduate Programs

Applied Science

The Department of Applied Science offers two majors, one in Optical Science and Engineering and one in Computational Applied Science. The objective of the Optical Science and Engineering program is to provide a basic education in the fundamental principles of optics combined with key courses in physics, mathematics and the engineering applications of optics. There is a rapidly growing national demand for engineers educated in optical science and engineering. Much of the high-technology infrastructure is based upon optics and its applications, the most prominent being optical

digital information transmission. In addition, engineers trained in optical science and engineering are in strong demand in health care and life science, optical sensing for environmental and weather applications, energy-use reduction, commercial camera and space-program optical applications, and national defense applications. Computational Applied Science deals with the interplay between the mathematics of models that arise from physical science and engineering and the numerical techniques for their computational implementation and subsequent solution. The major provides a comprehensive background in mathematics and physical science. The specific objective of the major is to enable students to construct practical numerical solutions to problems in science and engineering. Strong components of the program are the development, analysis and integration of numerical algorithms and an appreciation for the interaction among numerical simulations, theoretical models and experiments.

Majors:

- Computational Applied Science, B.S.
- Optical Science and Engineering, B.S.

Minors:

- Computational Applied Science

Biological and Agricultural Engineering

Biological Systems Engineering majors learn to combine the science and art of engineering with the science of biology to design systems that influence, control, or use biological materials and organisms for improving the quality of life. Specific objectives include designing systems to process biological materials into consumer products; designing machines to interact with biological systems in disciplines ranging from agriculture to medicine; managing, recycling and using wastes; developing systems to protect and preserve our natural resources and environment; developing and improving processing systems for food; designing equipment and systems that improve nutrition and diets; and minimizing waste discharge to the environment.

Majors:

- Biological Systems Engineering, B.S.

Biomedical Engineering

The Department of Biomedical Engineering advances fundamental medical concepts; creates knowledge from the molecular to the organ systems levels; and develops innovative biologics, materials, processes, implants, devices and informatics approaches. These approaches are applied to the prevention, diagnosis and treatment of disease. The objective is to prepare students for employment in companies that manufacture medical assist devices, human tissue products and therapeutics. The program also prepares students to enter a graduate program in biomedical engineering or pursue professional degrees in medicine and related health fields.

Majors:

- Biomedical Engineering, B.S.

Chemical Engineering and Materials Science

The Department of Chemical Engineering and Materials Science offers five majors, including two combined majors.

Chemical Engineering majors learn to apply chemical and engineering principles to create useful products ranging from antibiotics to zirconium, from petroleum to plutonium, from agricultural

chemicals to plastics. Specific objectives include the design of industrial processes as diverse as integrated circuit materials production, integrated waste management and petroleum refining.

Biochemical Engineering majors combine chemical engineering studies with studies in the life sciences and bioprocess engineering. Bioprocess engineering is the application of engineering principles to develop, optimize and commercialize manufacturing processes. Specific objectives include pharmaceuticals production, environmental repair, industrial chemical production and food production.

Materials Science and Engineering majors learn to understand the relationships among microscopic structure, properties and behavior of materials in order to produce new and improved materials with capabilities far superior to common metals, alloys and ceramics. Specific objectives include the development of materials for high-speed transportation systems, surgical and dental implants, new generations of power plants and solid-state electronic devices in computer and optical communications technology.

Majors:

- Biochemical Engineering, B.S.
- Chemical Engineering, B.S.
- Chemical Engineering/Materials Science and Engineering, B.S.
- Materials Science and Engineering, B.S.
- Electrical Engineering/Materials Science and Engineering, B.S.

Civil and Environmental Engineering

Civil Engineering majors learn to apply the principles of the physical and biological sciences and engineering to plan and design systems to improve the quality of life. Specific objectives include providing potable water and freedom from disease-carrying wastes; protecting the natural environment; mitigating the effects of earthquakes and other natural disasters; designing land-, water- and air-transportation systems; and building roads and structures.

Majors:

- Civil Engineering, B.S.

Minors:

- Construction Engineering and Management

Computer Science and Engineering

The field of computer science and engineering encompasses the organization, design, analysis, theory, programming and application of digital computers and computing systems. The curriculum develops versatile engineers with backgrounds spanning a broad computer/software spectrum. The Computer Science and Engineering major provides a solid background in mathematics, physics, chemistry and electronic circuits and systems—all supporting the computer hardware and software courses that form the focus of the curriculum. A key theme is the hardware/software interaction in computer system design; this theme is reflected in the balance between hardware and software course requirements and in the orientation of the courses themselves. The major requires more humanities and social science electives than other college majors, in order to produce the verbal skills and intellectual breadth demanded by today's employers.

Major:

- Computer Science and Engineering, B.S.

Electrical and Computer Engineering

Electrical Engineering majors learn to apply the principles of the physical sciences and engineering to the design, analysis, development, production and evaluation of electronic systems. Specific objectives include the provision of systems for communications, control, signal processing, integrated circuit fabrication, optoelectronics, consumer electronics and digital systems.

Computer Engineering majors study the design, development, analysis, organization, theory, programming and application of digital computers. Specific objectives include developing the student's ability to design both software and hardware. In comparison to the Computer Science and Engineering major, the Computer Engineering major provides greater emphasis on hardware in the key hardware/software interaction in computer system design.

Majors:

- Computer Engineering, B.S.
- Electrical Engineering, B.S.

Mechanical and Aeronautical Science Engineering

Aeronautical Science and Engineering majors learn to apply the principles of the physical sciences and engineering to vehicles whose motion is determined by aerodynamic forces. Specific objectives include the design, development and manufacture of aircraft and other transportation systems integrating the disciplines associated with aerodynamics, propulsion, structures and guidance/control.

Mechanical Engineering majors learn to apply physical and mechanical principles to the design and manufacture of machines and products, energy conversion systems and equipment for guidance and control. Specific objectives include the provision of products and processes for intelligent manufacturing systems, biomechanical and sports equipment, power generation systems, propulsion for transportation, integration of vehicles and automated highways, and applications of computer and automation technologies.

Majors:

- Aeronautical Science and Engineering, B.S.
- Mechanical Engineering, B.S.
- Mechanical Engineering/Materials Science and Engineering, B.S.

COLLEGE OF LETTERS AND SCIENCE

Office of Undergraduate Education
and Advising
Room 200, Social Sciences
and Humanities Building
(530) 752-0392; <http://www.ls.ucdavis.edu>

Major programs in the College of Letters and Science provide students systematic exposure to the key principles, methods, findings and representations of a selected area of study. In pursuing a major, students gain intellectual depth and competency in that subject matter, explore important linkages with collateral fields of inquiry and are encouraged to engage in independent study.

The academic programs offered through the college are grouped in three divisions: Humanities, Arts and Cultural Studies; Mathematical and Physical Sciences; and Social Sciences. One collegewide degree program, the individual major, also is available.

The Undergraduate Programs

Division of Humanities, Arts and Cultural Studies

These majors focus centrally on the artifacts, expressions and concerns of humankind in various cultures and times. They provide students the opportunity to explore the creation, performance and analysis of works of art, the language and customs of non-English speaking societies, the theory and criticism of literature, and the peoples and cultures of this nation and its hemisphere. Students interested in studying these types of issues may select from more than 20 different majors.

Majors:

- African American and African Studies, A.B.
- American Studies, A.B.
- Art History, A.B.
- Art Studio, A.B.
- Asian American Studies, A.B.
- Chicana/Chicano Studies, A.B.
- Chinese, A.B.
- Classical Civilization, A.B.
- Comparative Literature, A.B.
- Design, A.B.
- Dramatic Art, A.B.
- English, A.B.
- Film Studies, A.B.
- French, A.B.
- German, A.B.
- Italian, A.B.
- Japanese, A.B.
- Medieval and Early Modern Studies, A.B.
- Music, A.B.
- Native American Studies, A.B.
- Nature and Culture, A.B.
- Religious Studies, A.B.
- Russian, A.B.
- Spanish, A.B.
- Technocultural Studies, A.B.
- Women's Studies, A.B.

Minors:

- African American and African Studies
- American Studies
- Art History
- Art Studio
- Asian American Studies
- Chicana/Chicano Studies
- Chinese
- Classical Civilization
- Comparative Literature
- Dramatic Art
- English
- Film Studies
- French
- German
- Global and International Studies
- Greek
- Italian
- Japanese
- Latin
- Medieval and Early Modern Studies
- Music
- Native American Studies

- Nature and Culture
- Religious Studies
- Russian
- Sexuality Studies
- Social and Ethnic Relations
- Spanish
- Women's Studies

Division of Mathematical and Physical Sciences

These majors focus primarily on the description and interpretation of the structure, processes and events of the physical universe. They provide students the opportunity to explore in depth the structure, properties and reactions of substances; fundamental mathematical techniques and models and their application to the interpretation and explanation of phenomena; studies of matter and energy and their interconversions; the nature and development of computer languages; and earth and environmental processes. Students interested in studying these types of subjects may select from ten different majors. The division strongly encourages undergraduates to enroll in undergraduate research projects with one-on-one instruction by faculty scholar/researchers.

Majors:

- Applied Mathematics, B.S.
- Applied Physics, B.S.
- Chemistry, A.B., B.S.
- Computer Science, B.S.
- Geology, A.B., B.S.
- Mathematical and Scientific Computation, B.S.
- Mathematics, A.B., B.S.
- Natural Sciences, B.S.
- Physics, A.B., B.S.
- Statistics, A.B., B.S.

Minors:

- Chemistry
- Computer Science
- Environmental Geology
- Geology
- Geophysics
- Mathematics
- Oceanography
- Physics
- Statistics

Division of Social Sciences

These majors focus largely on issues and problems that characterize social, cultural, political and economic life across human societies. They provide students the opportunity to explore the relationships between people and the groups and organizations of which they are a part, the antecedents of individual behavior, the development of political and economic systems, the social forces that have shaped the contemporary world and the foundations of language, thought, knowledge and perception. Students interested in studying these types of issues may select from more than a dozen different majors.

Majors:

- Anthropology, A.B., B.S.
- Communication, A.B.
- East Asian Studies, A.B.
- Economics, A.B.
- History, A.B.

- International Relations, A.B.
- Linguistics, A.B.
- Middle East/South Asia Studies, A.B.
- Philosophy, A.B.
- Political Science, A.B.
- Political Science–Public Service, A.B.
- Psychology, A.B., B.S.
- Science and Technology Studies, A.B.
- Sociology, A.B.
- Sociology–Organizational Studies, A.B.

Minors:

- Anthropology
- Communication
- East Asian Studies
- Economics
- History
- History and Philosophy of Science
- Jewish Studies
- Latin American and Hemispheric Studies
- Linguistics
- Middle East/South Asia Studies
- Philosophy
- Political Science
- Psychology
- Sociology
- War-Peace Studies

Collegewide Program

Students whose academic interests cannot be satisfactorily met through the completion of an established major have the opportunity to develop an individual major. Individual majors may reflect the most recent trends in scholarship and research and are typically interdisciplinary in nature. The major proposal is developed in close and active consultation with two faculty advisers from the academic disciplines most closely related to the subject matter of the individual major. Careful faculty guidance and review assure that individual majors are comparable in academic rigor and intellectual coherence to those regularly available through the departments and programs of the college.

Major:

Individual Major, A.B., B.S.

BACHELOR'S DEGREE REQUIREMENTS

You must satisfy four groups of requirements before you can become eligible for candidacy for the bachelor's degree; see [Bachelor's Degree Requirements](#), below. The four groups are:

- University requirements, which apply to all colleges;
- General Education requirement, which applies to all colleges;
- College requirements; and
- Major requirements.

Every student is responsible for seeing that all of their degree requirements are fulfilled.

Detailed information on university requirements, the General Education requirement and college requirements can be found in this chapter.

Bachelor's Degree Requirements**University Requirements**

All students must fulfill the following University of California requirements:

- Entry-Level Writing Requirement
- American History and Institutions Requirement
- Unit Requirement
- Residence Requirement
- Scholarship Requirement

General Education Requirement

Students must complete three courses in the two areas of *topical breadth* outside the assigned area of their major. Students also must complete three *writing experience* courses and one *social-cultural diversity* course.

College Requirements**College of Agricultural and Environmental Sciences**

- Unit
- Residence
- Scholarship
- English Composition

College of Biological Sciences

- Unit
- Residence
- Scholarship
- English Composition
- Foreign Language (only A.B. & B.A.S. degrees)
- Breadth (only A.B. & B.A.S. degrees)

College of Engineering

- Unit
- Residence
- Scholarship
- English Composition
- Design
- Engineering General Education
- Current Catalog Curriculum

College of Letters and Science

- Unit
- Residence
- Scholarship
- English Composition
- Area (Breadth)
- Foreign Language (A.B. & B.A.S. degrees)

Major Requirements

Course requirements for each major are listed in the Programs and Courses section of this catalog.

UNIVERSITY REQUIREMENTS

All students must fulfill the following University of California requirements.

Entry Level Writing Requirement

The university requires every undergraduate student to demonstrate college-level proficiency in English composition. Satisfaction of the Entry Level Writing Requirement is a prerequisite to all other undergraduate courses in English.

The requirement, as determined by Undergraduate Admissions, may be met in one of the following ways:

- By earning a score of 680 or higher on the Writing section of the new SAT Reasoning Examination, or on the old SAT-II Writing Test.
- By earning a score of 3, 4 or 5 on either College Board Advanced Placement Examination in English.
- By earning a score of 30 or higher on the Combined English/Writing section of the ACT Assessment.
- By earning a score of 5 or above on the International Baccalaureate's Higher Level English A Examination.
- By earning a score of 6 or above on the International Baccalaureate's Standard Level English A Examination
- By entering the university with credentials showing the completion of an acceptable 3 semester-unit or 4 quarter-unit college-level course in English composition with a grade of C or higher.
- By writing a passing essay on the Analytical Writing Placement Examination. This examination may be taken only once prior to enrollment. It is offered in the spring at local sites throughout California; a student admitted for fall quarter who has not already satisfied the Entry Level Writing Requirement must take this examination. Out-of-state students or any California freshmen admitted after mid-April will take another form of the Analytical Writing Placement Examination, which will be offered on the UC Davis campus during the orientation period each quarter. For the time and location, consult the *Class Schedule and Registration Guide (CSRG)*, published before the beginning of each quarter.

If you have not satisfied the requirement in one of the ways described above, you must enroll in *Workload 57* during your first quarter of residence at the university, or as soon thereafter as space is available in the course. *Workload 57*, offered by Sacramento City College on the UC Davis campus, counts as 4.5 units on your study list and toward minimum progress but carries no units toward graduation. To satisfy the requirement, students must earn a course grade of C or higher. Students who receive a grade lower than C must repeat *Workload 57*. If the requirement has not been satisfied by the end of your third quarter, and you were not required to take courses for non-native speakers of English in the Linguistics program, you may be disenrolled from the University.

Students whose native or school language is not English, and some students whose schooling combines work in the United States and in another country, must demonstrate proficiency in English. The level of proficiency must meet the standards of both the Linguistics and the Entry Level Writing programs. The results of the Analytical Writing Placement Examination administered during the orientation period each quarter determine whether a student has met the Entry Level Writing Requirement or must take specific

course work in the Linguistics program. Students held for Linguistics course work have three quarters to meet the Entry Level Writing Requirement plus the number of quarters required in Linguistics.

American History and Institutions

The American History and Institutions requirement ensures that every graduating student will have at least a minimum knowledge of the background of this country's development and an understanding of the political, economic and social interrelationships of its way of life.

You may meet this requirement in any of these ways:

- Complete one high school unit in American history, or 1/2 high school unit in American history and 1/2 high school unit in civics or American government, with a grade of C or better in each course.
- Complete any one of the following courses:
African American and African Studies 10, 100, 120, 121
Asian American Studies 1, 2
Economics 111A, 111B
History 17A, 17B, 17C, 72A, 72B, 170A, 170B, 170C, 171A, 171B, 174A, 174B, 174C, 175A, 175B, 175C, 176A, 176B, 177A, 177B, 179, 180A, 180B, 183A, 183B (upper division courses may be taken only with the consent of the instructor)
Native American Studies 1, 10, 55, 116, 130A, 130B, 130C
Political Science 1, 5, 100, 101, 102, 103, 104, 105, 106, 108, 109, 113, 130, 131, 160, 163

Students electing to complete one of the above courses in order to meet this requirement are subject to the rules for prerequisites and majors.

- Present evidence that the requirement has been accepted as satisfied at another campus of the university.
- Present evidence that the requirement has been satisfied through courses in the area of American History and Institutions at another collegiate institution whose credits are acceptable for transfer to UC Davis.
- Successful completion of the Advanced Placement Examination in American History or American Government and Politics.

International students, regardless of the type of visa they hold, must meet the university's American History and Institutions requirement for graduation.

Unit Requirements

A minimum of 180 quarter units is required for graduation. These must be distributed according to the minimum requirements set forth by the faculty of your college.

A maximum of 12 units of Internship Courses (92, 192, or a combination) may be counted toward the 180-unit bachelor's degree requirement.

The acceptability of transfer courses for unit credit is determined by Undergraduate Admissions. The acceptability of such courses toward specific requirements is determined by the individual college or school.

Students should refer to the Advanced Placement Examination chart and their transcripts to eliminate the possibility of duplication of credit.

Residence Requirements

The minimum residence requirement for a bachelor's degree at the University of California is one academic year (three quarters). Thirty-five of the final 45 quarter units completed by each candidate must be earned while in residence on the UC Davis campus. Each summer session in which a student completes a course of at least 2 quarter units may be counted as half a quarter's residence. Not more than 18 of these 35 quarter units may be completed in summer session courses at UC Davis.

Regularly approved courses (laboratory, field, or other individual work) done outside of a regular session but under the direction of a department of instruction may be accepted upon the recommendation of the department in partial fulfillment of the residence requirement for the bachelor's degree. Registration is with the consent of the instructor only.

UC Davis Extension courses are not accepted as part of the university residence requirement.

There are additional residence requirements for students enrolled in the Colleges of Letters and Science and Engineering. If you are planning to study abroad during your senior year, you should consult your college dean's office.

With the approval of the dean of a student's college or school, a candidate for the bachelor's degree who was in active service in the armed forces of the United States in the year preceding the awarding of the degree may be recommended for the degree after only one quarter of university residence in which the candidate completes at least 16 units or passes a comprehensive examination in the major or field of concentration.

Scholarship Requirement

To receive a bachelor's degree, you must obtain twice as many grade points as units (a 2.000 GPA) for all courses you have attempted in the university. An exception to this rule is made for those students undertaking certain honors courses. For specific college requirements consult the college sections following.

GENERAL EDUCATION REQUIREMENT

The General Education (GE) requirement promotes the intellectual growth of all undergraduates by ensuring that they acquire a breadth of knowledge that will enlarge their perspectives beyond the focus of a major and serve them well as participants in a knowledge-based society. It seeks to stimulate continued intellectual growth by providing students with knowledge not only of the content but also of the methodologies of different academic disciplines. It involves students in the learning process by its expectation of considerable writing and class participation. It encourages students to consider the relationships between disciplines.

The GE requirement has three components: **Topical Breadth**, **Social-Cultural Diversity** and **Writing Experience**.

Topical Breadth

A GE course in topical breadth addresses broad subject areas that are important to the student's general knowledge. It takes a critical, analytical perspective on knowledge, considering how knowledge has been acquired and the assumptions, theories, or paradigms that guide its use.

Topical breadth courses are grouped into three broad subject areas of knowledge:

- 1. Arts and Humanities.** Courses in this area provide students with knowledge of significant intellectual traditions, cultural achievements and historical processes.
- 2. Science and Engineering.** Courses in this area provide students with knowledge of major scientific ideas and applications. They seek to communicate the scope, power, limitations and appeal of science.
- 3. Social Sciences.** Courses in this area provide students with knowledge of the individual, social, political and economic activities of people.

Social-Cultural Diversity

Courses in social-cultural diversity teach students the significance of the many patterned differences that characterize human populations—particularly differences of gender, race, ethnicity, sexuality, religion or social class.

Writing Experience

Courses in writing experience improve student writing through instruction and practice. Writing assignments are designed to encourage students to think critically and communicate effectively. Courses require one extended writing assignment (five pages or more) or multiple short assignments. Writing is evaluated not only for content, but also for organization, style, use of language, and logical coherence.

Fulfilling the General Education Requirement

Topical Breadth Component: 6 courses

To fulfill the topical breadth component of the General Education requirement you must successfully complete three approved courses in each of the two subject areas of topical breadth other than the one that includes your major. To identify the area of topical breadth to which your major belongs, refer to the chart at the back of this catalog. Each academic major has been assigned to one of the three subject areas of GE topical breadth. If you have any questions concerning the subject area to which your major is assigned, consult your college dean's office.

- **Double majors** will satisfy the topical breadth subject areas to which they are assigned. You will still be responsible for completing any topical breadth subject area in which you do not have a major. If, for example, two majors are assigned to the same subject area, you will need to complete the topical breadth component in each of the other two other subject areas. If, on the other hand, you complete two majors that have been assigned to two different areas of topical breadth then you will be responsible for completing the topical breadth component in only the remaining subject area.
- **Individual majors** are assigned to an area of topical breadth at the time they are approved by your college.
- **Each minor** has also been assigned to one of the three subject areas of topical breadth. A minor assigned to a subject area other than the area of your major will satisfy the GE course requirement for topical breadth in that subject area.
- **Courses in your major** may count toward the topical breadth component when those courses are also assigned to subject areas other than the area of your major.

- **A course approved in more than one topical breadth subject area** may only be offered in satisfaction of one of those subject areas.

Fulfilling the General Education Requirement

Freshman student, or Transfer student* who has not completed TCC or IGETC†

6 GE courses in topical breadth—3 courses in each of the two subject areas other than your major's assigned area
1 GE course in social-cultural diversity
3 GE courses in writing experience

Bear in mind that some courses may count toward two or three components of GE. For example, a single course might provide GE credit for *topical breadth*, *writing experience* and *social-cultural diversity*. Depending on the GE courses you choose, you can satisfy the GE requirement with 6 courses.

* Transfer work comparable to approved UC Davis GE courses may be used to satisfy the GE requirement, as determined by the college dean's office.

Transfer student who has successfully completed TCC or IGETC†

GE requirement satisfied; no further GE courses required

† Transfer Core Curriculum (TCC) or Intersegmental General Education Transfer Curriculum (IGETC); completion must be certified by the community college. College of Engineering students still have General Education requirements to complete.

Social-Cultural Diversity Component: 1 course

To fulfill the social-cultural diversity component of the GE requirement, you must successfully complete one course from the approved list at the back of this catalog.

Writing Experience Component: 3 courses

To fulfill the writing experience component of the GE requirement, you must successfully complete three courses from the approved list at the back of this catalog.

- **Entry Level Writing Requirement (formerly Subject A).** You must satisfy the university Entry Level Writing Requirement before you take any writing experience course for GE credit. If you take an approved writing experience course, but have not yet satisfied the Entry Level Writing Requirement, you **will not** receive GE writing experience credit for that course.

Additional Conditions

- **Letter grading.** All courses taken to fulfill the GE requirement must be taken for a letter grade. No GE credit will be awarded for a course that you take on a Passed/Not Passed basis.
- **College and university composition requirements.** The following GE courses may not be used to satisfy university or college requirements in composition and GE writing experience simultaneously:
 - Communication 1
 - Comparative Literature 1, 2, 3, 4
 - English 3
 - Evolution and Ecology 12
 - Native American Studies 5

- University Writing Program 1, 18, 19, 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E

Remember: You must satisfy the university Entry Level Writing Requirement before you take any writing experience course for GE credit.

- **Courses approved for multiple GE components.** Courses approved for more than one component of the GE requirement (topical breadth, writing experience and social-cultural diversity) will be accepted toward satisfaction of all components for which the course has been approved.
- **Approved GE courses.** You cannot claim GE credit for any course you completed before it was an approved GE course.

College of Engineering. Students seeking a degree in a College of Engineering major must complete 24 units of general education coursework (33 units are required for Computer Science and Engineering majors) and two upper division courses from the campus approved list of approved courses in Arts and Humanities or Social Science. The list of approved courses appears at the back of this catalog.

GE Exemption

IGETC, TCC and UC Reciprocity. You are exempt from the UC Davis GE requirement if you come from a California community college and are certified as having successfully completed the "Intersegmental General Education Transfer Curriculum" (IGETC) or "Transfer Core Curriculum" (TCC), or if you come from another UC campus and are certified as having successfully completed the lower division breadth or General Education requirements of that UC campus (UC reciprocity).

If you are in the College of Engineering and have satisfied IGETC or TCC, you are still required to complete two upper-division General Education courses at UC Davis to satisfy College of Engineering requirements.

Approved General Education Courses

See General Education Courses/Options, on page 523, for a list of the courses that provide General Education credit for 2008-09. Please note that you cannot claim GE credit for a course you completed before it was an approved GE course. This list is subject to change. For the most current information, you should check the *Class Schedule and Registration Guide (CSRG)* each quarter.

General Education Theme Options

General Education theme options are sets of GE courses sharing a common intellectual theme. Faculty from the College of Agricultural and Environmental Sciences have worked collaboratively to develop sets of complementary courses in several areas of interest. These GE theme options are not a separate element of the GE requirement, but a way of selecting your GE courses so that you may benefit from a coherent focus of study while completing the GE requirement.

Completion of a theme satisfies the GE requirement for students with majors assigned to the GE topical breadth area of Arts and Humanities. Students with majors assigned to the topical breadth area of either Science and Engineering or Social Science will need to complete additional GE courses in Arts and Humanities to satisfy the campus GE requirement.

Beginning a theme option does not prevent you from later choosing to take other approved GE courses to fulfill the GE requirement. If you choose to mix courses from a theme option and the broader GE course lists, you will need to make sure that the combination of courses you select will complete the campus GE requirement.

GE Scholars

GE Scholars is a certificate program related to the GE theme options. In addition to completing three approved courses in a GE theme option, students choose a capstone experience (either a seminar course or curriculum related internship) that integrates concepts introduced in the theme courses. Students are awarded a certificate upon completion of their capstone experience. The GE Scholars program allows you to participate in the application of knowledge gained in GE courses, focus your academic experience beyond your major and develop a secondary body of knowledge while working towards completing your GE requirement.

For more information, contact the GE Scholars Project Manager at (530) 752-9710, gamartinez@ucdavis.edu or see <http://gescholars.ucdavis.edu>.

COLLEGE REQUIREMENTS FOR THE BACHELOR'S DEGREE

College of Agricultural and Environmental Sciences

Unit Requirements

Of the required 180 units counted toward a degree, 54 units must be upper division work.

Unit Credit Limitations

In addition, the following unit limitations apply to all majors:

- Not more than 6 units can be Physical Education 1 and 6
- Not more than 20 units can be courses numbered 90X, 92, 97T, 97TC, 99, 190C, 190X, 192, 197T, 197TC, or 199
- Not more than 12 units can be courses numbered 92 and/or 192 (credit will not be given for 192s or 199s taken before the completion of 84 units)
- Not more than 5 units per quarter of Special Study courses (99, 194H, 199)
- Not more than 9 units of professional courses (numbers 300–499) may be used toward the 54 upper division units

Limitation on Credit for Units Graded P. The Academic Senate limits the total number of courses graded P, including units earned in courses graded “P/NP only,” to one third of the units completed on the UC Davis campus. The *P/NP* option is to be used only for elective courses and should not be used for major requirements.

Credit for Open Campus (Concurrent) Courses. Students may apply credit for courses taken in the Open Campus (Concurrent) Program through UC Davis Extension towards the 180-unit undergraduate degree requirement. The grade points earned when enrolled in Open Campus courses will count toward the calculation of a student's UC GPA upon his/her admission or readmission to regular student status at UC Davis. Students registered at UC Davis may not enroll in Open Campus courses.

Credit for UC Davis Extension Courses. Registered UC Davis students who plan to use academic credit earned in a UC Davis Extension course other than Open Campus (Concurrent) towards their UC Davis degree must obtain prior written approval from their College before registering in the UC Davis Extension. Upon approval students may apply a limited number of credits towards the 180-unit undergraduate degree requirements. Courses completed in UC Davis Extension will not count toward the calculation of a student's UC GPA.

Registration Beyond the 225-Unit Limit. Students may not exceed 225 units; registration for enrollment when the limit has been reached may only be approved by the Dean. A petition to complete excess units may be picked up in the Dean's office or in your major department.

Residence Requirement

Thirty-five of the final 45 quarter units completed by each candidate must be earned while in residence on the UC Davis campus.

Scholarship Requirement

Students in the College are required to attain a minimum grade point average of 2.000 for all courses specified as depth subject matter in their major. Only grades earned in courses taken at UC Davis are included in the grade point calculation. Each candidate must complete a program of study either as prescribed in (a) a major approved by the Undergraduate Majors and Courses Standing committee and printed in this catalog, or (b) an individual major approved by the Individual Major Standing committee.

English Composition Requirement

The English Composition requirement can be met in one of two ways:

1. Either two courses emphasizing written expression or one course emphasizing written expression and one course emphasizing oral expression, with a grade of C- (or P) or better. The following UC Davis courses satisfy this requirement:

(a) one course must be selected from English 3, University Writing Program 1, 18, 19, 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E, 104F, or Nematology 150 (courses with primary emphasis in writing skills);

(b) one course selected from the courses not selected above, or from Communication 1, Comparative Literature 1, 2, 3, 4, or Native American Studies 5 (courses emphasizing either writing or speaking skills);

OR

2. By passing the English Composition Examination administered by the College of Letters and Science upon completion of 70 units of degree credit (the examination does not yield credit).

English Composition Examination. The no-fee examination is typically offered on Saturday mornings in mid-October, late January and late April; see the *Class Schedule and Registration Guide* for specific dates.

Sign-up for the English Composition Examination at <http://writingprogram.ucddavis.edu/compexam/> from the Monday before the exam date until Friday at noon or until the sign-up sheets are filled. The English Composition Examination form, available at the UC Davis Bookstore, is required. It is recommended that students with disabilities contact the Student Disability Center at (530) 752-3184 and the Entry Level Writing/Subject A Office (530) 752-0450 at least two weeks prior to the exam date to arrange accommodations. There are no examinations given during the summer.

General Education

You should consult your Dean's Office or department adviser in advance to determine exactly how your General Education courses will apply toward your major.

You can choose one of four General Education theme options to help plan your GE courses. The themes, Global Population and Environmental Issues; Biodiversity and Cultural Diversity; Food and Fiber; and Changing Agriculture are described in more detail in [General Education Theme Options](#), on page 534.

Study Plan Approval

A Study Plan provides for attainment of specific long-term goals and should allow for the acquisition of prerequisite knowledge for courses to be taken in subsequent quarters; the fulfillment of College and major requirements; a proper balance between the demands of the courses and your ability to master the subject matter; and meeting the minimum progress requirements; see [Course Load](#), on page 69.

In conjunction with a faculty adviser and/or staff adviser, you must plan and prepare a program that specifies your goals and shows how the graduation requirements will be met. It is a regulation that a written "study plan" be filed with your faculty adviser or staff adviser by the end of the second quarter of the junior year (having completed not more than 120 units either in residence and/or by transfer).

You may be denied registration for future quarters if you do not comply with this regulation. However, filing this study plan does not preclude a change of major or program modifications.

Major Degree Certification

A Major Certification is completed during the quarter you plan to graduate. At that time, you and your faculty adviser and/or staff adviser check to see that all *major requirements have been completed*. The Dean's Office completes the degree certification by verifying that all *college and university requirements have been satisfied and will notify you with a copy of the Major Certification form*.

Degree Requirement Changes

On occasion, the faculty make changes in the requirements that students must satisfy to obtain the baccalaureate degree. So that you will not be penalized by changes that may work to your disadvantage and so that you will benefit by changes that assist you in completing your degree requirements, it is college policy that you may choose to fulfill the university, college and major requirements in effect at the time you were registered at UC Davis. If you have transferred to UC Davis from a community college, state college, or another university, you may follow the requirements as stated in any UC Davis *General Catalog* in effect *either during the*

three years immediately preceding your transfer to UC Davis or at the time you first registered at that institution, whichever is most recent. Once you have chosen the year of the *General Catalog* under which you wish to be governed, you must satisfy all of the university, college and major requirements specified in that catalog.

College of Biological Sciences

All students in the College of Biological Sciences must satisfy the following college requirements in addition to satisfying the [University Requirements](#), on page 90 and [General Education Requirement](#), on page 91.

Unit Requirements

Total Units. Complete no less than 180 units incorporating the unit credit limitations listed below. No student may exceed 225 units in their academic career without approval of the Dean. Units earned in Advanced Placement and International Baccalaureate exams are not counted toward this 225-unit limit. Upon reaching 200 units, a student must submit a quarter-by-quarter graduation plan to the Dean's Office or a hold will be placed on his/her registration.

Upper Division Units. Complete 64 upper division units.

Unit Credit Limitations

- **Passed/Not Passed Units.** All courses used to satisfy major requirements must be taken on a letter-graded basis, unless courses are only offered on a Passed/Not Passed basis.
- **Physical Education.** Maximum of 6 units of Physical Education 1, 6 and similar physical activity courses including transfer work.
- **Transfer work.** Maximum of 105 units of credit earned at two-year institutions (community college).
- **Graduate Courses.** Courses numbered 200-299 may not be applied toward the 64-unit upper division requirement.
- **Professional and teaching courses.** Maximum of 9 units in courses numbered 300-399 and 400-499. These units may not be applied toward the 64-unit upper division requirement.
- **Upper division standing.** Must complete 84 units before enrolling in 192, 194H and 199 to receive degree and upper division credit.
- **Special Study.** Not more than 5 units per quarter of Special Study courses (99, 194H, 199).
- **Nonstandard Courses.** Maximum of 20 units of nonstandard courses including transfer work.*

Nonstandard courses are defined here as tutoring, internship, research, research conference, honors research and similar course activities. Some examples of these courses are, but are not limited to, courses numbered 90C, 92, 92C, 97T, 97TC, 99, 189, 190C, 191, 192, 192C, 193, 194H, 197T, 197TC, 199, etc. Courses numbered 98 or 198 are not included in this 20-unit limitation.

There are additional unit credit limitations on tutoring and internship units.

- **Tutoring.** Maximum of 3 tutoring units including but not limited to 97T, 197T, 97TC and 197TC.
- **Internship.** A maximum of 6 internship units including but not limited to 92, 192, 92C, 192C.

*Specific exceptions to these limits may be granted by the Committee on Undergraduate Petitions based on the uniqueness of the experiences and their concordance with the petitioner's educational objectives.

Residence Requirement

Meet university residence requirement. No additional college residence requirements.

Scholarship Requirement

Students must attain at least a 2.000 GPA for all courses required in their major. Students must also attain a 2.000 GPA in all Depth Subject Matter courses required in their major. Students who fail to maintain a 2.000 GPA in courses required for their major over two consecutive quarters may be required to withdraw from the major.

- **Repeating Courses.** Students may once repeat courses in which they received a grade of *D+* or less. To repeat a course more than once, students must petition the Dean for approval prior to enrolling in the course.
- **Passed/Not Passed Grading Option.** All courses used to satisfy major requirements must be taken on a letter-graded basis, unless courses are only offered on a Passed/Not Passed basis.

English Composition Requirement

The English Composition requirement may be satisfied in one of two ways:

1. Completing 8 units, to include 4 upper division units, in English composition courses with at least a *C-* or Passed grade from the following list: Comparative Literature 1, 2, 3, 4, English 3, Evolution and Ecology 12, Native American Studies 5, Nematology 150, University Writing Program 1, 18, 19, 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E, 104F

OR

2. Passing the English Composition Examination, administered by the Entry-Level Writing program, upon completion of 70 units of degree credit. This examination does not yield credit. Students interested in entering the health science field should check with the Health Sciences Advising Office or the Dean's Office before choosing this option.

Additional Bachelor of Arts Requirements

Bachelor of Arts degrees are available in Biological Sciences; Evolution, Ecology and Biodiversity; Exercise Biology; Microbiology; and Plant Biology. These degrees offer students an opportunity to broaden their education while pursuing a rigorous life science major.

Candidates for the Bachelor of Arts degrees must complete two additional requirements.

1. **Foreign Language.** The requirement can be met in one of three ways:
 - Complete with passing grades 15 quarter units of college level course work, or the equivalent thereof, in a single language.
 - Attain a minimal score prescribed by the Committee on Undergraduate Curriculum and Educational Policy, in the College Entrance Examination Board Achievement Test in Foreign Language, which may be taken at any time during the student's

high school career, or any other achievement test approved by the Committee on Undergraduate Curriculum and Educational Policy.

- Placement beyond the 15-unit level on a placement/proficiency examination offered by one of the foreign language departments of the University.

2. Breadth Requirements. Complete one of the following options:

- At least three upper division courses in a single program in the humanities or social sciences, which are not offered in satisfaction of major, college English composition or General Education requirements. Each course must be at least three units and may not include internship, research, tutoring, other non-standard courses or directed group study courses.
- At least three lower or upper division courses in the fine arts, which are not offered in satisfaction of major, college English composition or General Education requirements. Each course must be at least three units and may not include internship, research, tutoring, other non-standard courses or directed group study courses.
- A certified minor or an additional major in the humanities, social sciences, or fine arts from any UC Davis college or program. Minors and all majors must be completed before accumulating 225 total units.

Declaration of Major/Undeclared—Life Sciences

Students must declare a major by 90 units. A hold will be placed on a student's registration if he/she is still undeclared after completing 90 units.

All changes of major and college must be completed before the beginning of the student's quarter of graduation.

Students with Biological Sciences majors and students who are Undeclared—Life Sciences use the College of Biological Sciences Dean's Office for advising on their program. All other students who are enrolled in a major administered by the College of Biological Sciences should see the master or staff adviser in the department office that houses their major, as listed in the catalog. All students, regardless of their college affiliation, working on a major administered by the College of Biological Sciences should obtain university, general education, college and other non-major academic advising from the College of Biological Sciences Dean's Office.

Degree Check

Students are encouraged to meet with their academic adviser at least once a year to ensure timely graduation. Students are required to consult an academic adviser at two points in their academic careers:

- Before accumulating 90 units.
- Before accumulating 135 units.
- In addition, if you are taking courses which, if passed, will cause your unit total to exceed 200 units and you intend to register for the next quarter, you must file a plan with your adviser that leads to graduation within 225 units. If the plan anticipates registering after you have accumulated 225 units, the plan must be submitted to the Dean for approval.

A hold may be placed on your registration if you do not meet any of these advising requirements.

Degree Requirement Changes or Catalog Rights

On occasion, the faculty makes changes in the requirements that students must satisfy to obtain the baccalaureate degree. So that you will not be penalized by changes that may work to your disadvantage and so that you will benefit by changes that assist you in completing your degree requirements, it is college policy that you may choose to fulfill the university and college requirements (see [General Education Requirement, on page 91](#) for an exception) as stated in any UC Davis *General Catalog* in effect at the time you were registered at UC Davis. If you have transferred to UC Davis from a community college, state college, or another university, and were matriculated to a regular quarter prior to Fall 2006, you may follow the requirements as stated in any UC Davis *General Catalog* in effect either during the three years immediately preceding your transfer to Davis or at the time you first registered at that institution, whichever is most recent. Once you have chosen the year of the *General Catalog* under which you wish to be governed, you must satisfy all of the university and college requirements specified in that catalog.

With respect to the completion of your major requirements, most of the majors in the College of Biological Sciences require completion of the major degree requirements in effect at the time you officially declared your major. However, because departments differ in how they handle these matters, check with the department or major program office if you have any questions about which requirements apply to you.

College of Engineering

Unit Requirements

Each candidate for the degree of Bachelor of Science in Engineering must satisfactorily complete an approved curriculum in engineering. **No unit of coursework you complete may be used to satisfy two different degree requirements (except where the catalog specifically indicates otherwise).** Detailed requirements for the approved curricula are given in the [Undergraduate Courses](#) chapter of this catalog; to see the courses required in your major, consult this section. The minimum number of required units varies with the curriculum, from 180 to 198. You are responsible for planning your program and satisfactorily completing all degree requirements.

You may, for good cause, request a modification of particular degree requirements by submitting a student petition. These petitions, which are available in the Undergraduate Advising Office, can be a valuable aid in resolving individual program conflicts or other special problems. Such petitions are subject to approval by the Committee on Student Petitions, a body of eight faculty members and non-voting staff advisers and student representatives. A negative decision by the committee may be appealed to the College Executive Committee.

Transfer students. To be eligible for transfer into the College of Engineering you must have at least ninety transferable quarter units (sixty semester units) from another institution. To be a competitive applicant, you must have a minimum overall GPA of 3.100.

Highest priority for transfer admission is given to California community college transfer applicants who have completed two transferable English composition courses and all of the required lower division engineering coursework offered at the community college they attended.

We give lower priority for admission to community college applicants who are missing one or two of the required lower division courses. Community college applicants will be denied admission if they are missing three or more of the required lower-division courses.

Priority is next given to junior-level transfers from other UC campuses and other four-year institutions in and out of state. These students must also have completed all of the required lower-division coursework.

Successful applicants are admitted to a specific major. You may be limited in your ability to change majors within the college after you are admitted.

Transfer advising and information. For more specific advice on lower-division requirements for community college students, meet with the transfer counselor at your institution or see the Assist Web site at <http://www.assist.org>. Transfer credit agreements are available on the College of Engineering Web site, <http://engineering.ucdavis.edu>. You may also contact the College of Engineering Undergraduate Advising Office (530) 752-1979.

California Community college students should consider a Transfer Admission Guarantee (TAG), which is a formal written agreement specifying the courses you need to complete and the grade point average you need to earn to be admitted. A signed agreement guarantees that you will be admitted to UC Davis in the major you want and for the term you have chosen—provided that you complete the agreement and apply for admission during the open filing period. If you would like more information on the TAG program, see your community college counselor or see <http://why.ucdavis.edu>.

We also participate in the Transfer Opportunity Program, which encourages community college students to transfer to UC Davis and provides them with services to ease the transition. You can use the Transfer Opportunity Program to get information about admission and transfer requirements, academic programs, financial aid, housing, tutoring, campus life and other services.

Upon admission, transfer students are classified as having upper division status, but are obligated to complete all lower division course requirements for the major before your lower division requirements are considered complete. You may, however, start your upper division coursework while completing your lower division requirements provided you meet all prerequisites for the upper division courses.

The College of Engineering does NOT recommend completion of the Intersegmental General Education Transfer Curriculum (IGETC).

Credit for Open Campus (Concurrent) Courses. Students may apply a maximum of 16 units of credit for courses taken in the Open Campus (Concurrent) Program through UC Davis Extension towards the 180-unit undergraduate degree requirement. The grade points earned when enrolled in Open Campus courses will count toward the calculation of a student's UC GPA upon his/her admission or readmission to regular student status at UC Davis. Students registered at UC Davis may not enroll in Open Campus courses. Open Campus is not available to students that have been enrolled at UC Davis within the last 12 months and have not graduated, unless an exception letter is provided to Extension by the dean of the student's college.

Credit for UC Davis Extension Courses. Registered UC Davis students who plan to use academic credit earned in a UC Davis Extension courses other than Open Campus (Concurrent) towards their UC Davis degree must obtain prior written approval from their college before registering in the UC Davis Extension. Upon approval students may apply a limited number of credits towards the 180-unit undergraduate degree requirement.

Residence Requirement

In addition to fulfilling the university residence requirement, you must complete at least 35 of the final 45 units characteristic of your curriculum in engineering while registered in the College.

Scholarship Requirement

In addition to meeting the university scholarship requirement, you are required to maintain a 2.000 grade point average for all course work within Engineering.

English Composition Requirement; Upper Division

The upper division composition requirement can be satisfied by passing the Upper-Division English Composition exam or through an approved upper-division writing course with a grade of C- or better when a student has satisfied the lower-division writing requirement and has 70 or more units. Consult your program's degree requirements for the list of courses approved for your major.

The Upper-Division Composition Examination is administered through the College of Letters and Science. It is typically offered on Saturday mornings in mid-October, late January and late April. See the *Class Schedule and Registration Guide* for specific dates. Registration for the exam is done on-line, at <http://writingprogram.ucdavis.edu>, beginning the Monday before each exam date until Friday at noon or until the exam slots are filled. You must obtain the English Composition Examination form, available at the UC Davis Bookstore, to take the exam. (Units of credit are not given for passing this examination.)

This requirement is in addition to the expository writing course requirement ; appropriate Advanced Placement or International Baccalaureate credit or completion of one of the following courses with a grade of C- or better: English 3; Comparative Literature 1, 2, 3 or 4; Native American Studies 5; or University Writing Program 1.

Engineering Design Requirement

Engineering design is the process of devising a system, component, or process to meet certain needs. Design involves a decision-making process (often iterative), in which the basic sciences, mathematics and engineering sciences are applied to convert resources optimally to meet a stated objective. Among the fundamental elements of the design process are the establishment of objectives and criteria, synthesis, analysis, construction, testing and evaluation. You must take an appropriate amount of design course work through a combination of required and restricted elective courses. Specific comments about design are included in individual curricula descriptions. You should also review the design content of your individual program with your adviser in the course of completing the upper division advising worksheet.

Electives

In general, there are three kinds of elective courses in the engineering curricula; *General Education*, *Technical* and *Unrestricted*. Some transfer students have an additional set of electives; *Physical and Biological Sciences* electives.

General Education Electives. Because, as an engineer, you will be a significant participant in the human setting, you will need to have a breadth of education that will allow you to deal with contemporary social issues and to understand the impact of engineering solutions in the global and societal context. To these ends, you will need to take a minimum of 24 units of credit in meeting the General Education requirement (or 33 units for majors in Computer Science and Engineering). In addition, to add a degree of depth and coherence to the general education requirement, the College of Engineering requires that students complete two upper division topical breadth courses.

Since all engineering programs are in the Science and Engineering GE topical breadth area, you will fulfill the campus GE requirements by taking courses in the Arts and Humanities and Social Sciences areas.

In satisfying the GE requirement note that (a) you must take GE courses for a letter grade, and (b) you must satisfy the Entry Level Writing requirement before you can receive writing experience credit for any course.

In consultation with your academic adviser, you should attempt to design a coherent approach to contemporary issues by using your GE electives.

In addition, to ensure that your GE program has a degree of depth and coherence, you must take at least two Arts and Humanities or Social Science topical breadth courses that are upper division courses (courses numbered 100 or above).

2008-2009 Technical Electives List

Technical electives permit you to tailor a program to your own academic and career objectives. For some, the technical electives offer the opportunity to prepare for a specific occupation. For others, they offer an opportunity to broaden a background in the sciences and engineering. You may receive technical elective credit up to a maximum of 6 units for any combination of engineering courses numbered 190C, 192, 198, and 199. (You should note that academic credit for 199 courses is limited to a maximum of five units for each substantially different project). Academic credit for engineering internship courses (192) is limited to a maximum of 5 units per quarter. (Individual departments may allow fewer units.) With the exception of the following courses, upper-division courses in chemistry, engineering, mathematics, physics, and statistics may be taken as technical electives.

The courses which may *not* be used are:

- Chemistry 195, 197
- Engineering Computer Science 188
- Engineering 191 Engineering 198: Gearing Up for Grad School/ Undergraduate Research
- Engineering 160 (restricted to one unit of technical elective)
- Mathematics 197TC,
- Physics 137, 160 (both are restricted to one unit of technical elective), 195, 197T
- Statistics 100, 102, 103, 104, 106, 108

In addition to the upper-division chemistry, engineering, mathematics, physics, and statistics courses not excepted above, the following courses, **when not used to satisfy other degree requirements, may** be taken as technical electives.

- Agricultural and Resource Economics (ARE) 100A, 100B, 106, 112, 118, 130, 132, 135, 136, 138, 139, 140, 155, 156, 157, 171A, 171B
- Animal Biology (ABI) 102, 103
- Animal Genetics (ANG) 101, 105, 107, 111, 120
- Animal Science (ANS) 103, 104, 105, 106, 115, 118, 119, 120, 120L, 123, 124, 125, 126, 127, 128, 129, 131, 136, 137, 140, 142, 143, 144, 145, 146, 147, 149, 149L
- Applied Biological Systems Technology (ABT) 101, 110L, 121, 142, 161, 163, 165, 175, 180, 182, 181N
- Atmospheric Science (ATM) 110, 111, 115, 116, 120, 121A, 121B, 124, 128, 133, 149, 150, 158, 160
- Avian Sciences (AVS) 100, 103, 115, 121, 123, 149, 150, 160, 170
- Biological Sciences (BIS) 1A, 1B, 1C, 2A, 2B, 2C, 101, 101D, 102, 103, 104, 120, 120P, 122, 122P, 132
- Biotechnology (BIT) 160, 161A, 161B
- Chemistry (CHE) 2B, 2BH, 2C, 2CH, 8A, 8B
- Economics (ECN) 100, 101, 102, 103, 122, 140
- Engineering (ENG) 17, 35, 45
- Entomology (ENT) 100, 100L, 101, 102, 103, 104, 109, 110, 116, 117, 119, 123, 135, 153, 156, 156L
- Environmental Horticulture (ENH) 100, 102, 105, 120, 125, 129, 130, 133, 144, 145, 150, 160
- Environmental and Resource Sciences (ERS) 100, 100L, 121, 131, 136, 140, 141, 144, 185, 186, 186L,
- Environmental Science and Policy (ESP) 100, 110, 116, 116G, 121, 123, 124, 125A, 125B, 125C, 126, 150A, 150B, 150C, 151, 151L, 155, 155L, 160, 163, 167, 168A, 168B, 170, 171, 173, 175, 178, 179, 179L
- Environmental Toxicology (ETX) 101, 102A, 102B, 103A, 103B, 111, 120, 127, 128, 131, 135, 138, 146
- Evolution and Ecology (EVE) 100, 101, 102, 103, 104, 105, 108, 112, 112L, 115, 117, 119, 134, 134F, 134L, 138, 140, 141, 147, 149, 175
- Exercise Biology (EXB) 101, 102, 103, 110, 111, 112, 113, 115, 116, 117, 125, 126
- Fiber and Polymer Science (FPS) 100, 150, 161, 161L
- Food Science and Technology (FST) 100A, 100B, 101A, 101B, 102A, 102B, 103, 104, 104L, 107, 108, 109, 110A, 110B, 117, 119, 120, 120L, 123, 123L, 127, 128, 131, 159, 160
- Geology (GEL) 17, 32, 35, 36, 50, 50L, 60, 100, 100L, 101, 101L, 103, 105, 106, 107, 107L, 108, 109, 109L, 110, 116, 116G, 130, 131, 134, 138, 139, 142, 143, 144, 145, 146, 147, 148, 150A, 150B, 150C, 152, 156, 160, 161, 162, 163
- Hydrologic Science (HYD) 110, 115, 124, 134, 141, 142, 143, 144, 146, 151, 182
- Management (MGT) 11A, 11B, 100, 120, 140, 150, 160, 170, 180
- Microbiology (MIC) 102, 102L, 105, 120, 120L, 140, 150, 155L, 160, 162, 170
- Molecular and Cellular Biology (MCB) 120L, 121, 123, 126, 140L, 142, 143, 144, 145, 150, 150L, 160L, 161, 162, 163, 164
- Nematology (NEM) 100, 110
- Neurobiology, Physiology, and Behavior (NPB) 100 through 169
- Nutrition (NUT) 111AV, 111B, 112, 114, 115, 116A, 116B, 116AL, 116BL, 117, 118, 119A, 119B, 122, 123, 123L, 124, 127, 130
- Physics (PHY) 9D, 9HD, 9HE if not used to satisfy other degree requirements
- Plant Biology (PLB) 102, 105, 108, 111, 111D, 112, 112D, 113, 113D, 116, 117, 118, 119, 123, 126, 140, 141, 142, 143, 144, 145, 146, 147, 148, 150, 152, 153, 154, 157, 158, 160, 161A, 161B, 170, 171, 172, 172L, 173, 174, 176, 178
- Plant Pathology (PLP) 120, 123, 130, 140, 148, 150, 151A, 151B, 155, 185
- Plant Sciences (PLS) any upper division course except 120 and 190 through 199
- Soil Science (SSC) 100, 102, 105, 107, 109, 111, 112, 118, 120
- Wildlife, Fish and Conservation Biology (WFC) 100, 101, 101L, 102, 102L, 110, 110L, 111, 111L, 120, 120L, 121, 122, 130, 136, 141, 151, 152, 153, 154, 155, 156, 157, 158

You are urged to discuss the selection of technical elective courses with your academic adviser.

Unrestricted electives. If your curriculum allows for unrestricted electives, you may count any course for which university credit is allowed as an unrestricted elective in the engineering curricula.

Degree Check

Use a Degree Requirement Check sheet for your major to monitor your progress toward completing degree requirements. These check sheets are available in the Undergraduate Advising Office in 1050 Kemper Hall. The University holds students responsible for knowing and completing all degree requirements. Degree checks are performed as a courtesy to help students make accurate progress toward fulfilling all major, college, and university requirements. Students should request a preliminary degree check three quarters prior to graduation and a follow-up degree check prior to the beginning of a student's final quarter. Requests can be submitted to the Undergraduate Advising Office in 1050 Kemper Hall.

Current Curriculum Requirement

Since engineering is a rapidly developing profession, curricular changes are made by the faculty from year to year. To ensure that you benefit from these changes, the College of Engineering has established a policy that you must fulfill the degree requirements stated in the College of Engineering *Bulletin* for the year in which you complete degree work or in the *Bulletin* for the year immediately preceding. The *Bulletin* is available at the College of Engineering Web site, <http://engineering.ucdavis.edu/>.

College of Letters and Science

Unit Requirements

A minimum of 180 units is required for the bachelor's degree. Of these units, 64 must be earned in upper division courses.

Registration Beyond the 225-unit Limit. You are expected to fulfill all degree requirements within the 180- to 225-unit range.

Once 225 units have been completed (excluding units awarded for College Board Advanced Placement Examinations), you may register only with the permission of the dean. Such permission is rarely granted and then typically only to allow completion of minimum degree requirements. You will be expected to adhere to a program of courses agreed upon and to meet other conditions that may have been set. Approval must be obtained before you will be permitted to register for courses for the quarter following completion of 225 or more units.

If you are in good standing, you will be able to complete 12 quarters or the equivalent (e.g., four years) of college work even if you have earned more than 225 units before you finish your fourth year. You must petition for continuation, however, and file the quarter-by-quarter course program you have planned.

Unit Credit Limitations

For certain courses, limits have been established on the number of units that can be counted towards the 180-unit minimum required for the degree. To avoid discovering just before graduation that you are short units, keep track of the number of units you have taken in each of the following categories.

Limitation on Credit for Graduate and Professional Courses.

Undergraduates may enroll in graduate and professional courses in the 200, 300, and 400 series subject to the restrictions described in the [Academic Information, on page 67](#), in this catalog. Graduate and professional courses that have been completed will be listed on the student's transcript in the usual manner. *However, the units earned may be counted toward degree requirements only under the conditions listed below.*

Within the limitations A, B and C given below, undergraduate students in the College may count an unlimited number of units in graduate 200 series courses and up to a combined total of 9 units in 300 and 400 series professional courses toward degree requirements. These units, however, are not counted as upper division units unless this is granted by petition to the dean.

A. The recommendations of the instructor in the course and the department chairperson—in addition to approval from the dean—must be obtained by petition in order to receive credit toward the degree for the following kinds of courses:

- All graduate courses 200–298, whether offered by a department or program outside of or within the College of Letters and Science
- All professional courses 300–398 for teachers offered outside of the College of Letters and Science
- All postgraduate professional courses 400–498 offered outside of the College of Letters and Science
- All variable unit courses 300–398 and 400–498 offered within the College of Letters and Science

B. The minimum eligibility conditions for an undergraduate student in the College to petition for degree credit for a 200, 300, or 400 series course are a UC grade point average of 3.300 and completion of 18 upper division units basic to the subject matter of the course. These eligibility conditions may be waived, however, upon the recommendation of the course instructor and concurrence of the department chairperson if the student's preparation warrants exception.

C. Undergraduates in the College cannot receive degree credit for special study courses 299, 399, or 499.

Limitation on Credit for Units Graded P. Excluding courses that are graded on a *Passed/Not Passed (P/NP)* basis only, the number of units graded P that may be accepted towards a degree in the College of Letters and Science is limited to not more than one fourth of the units completed in residence on the UC Davis campus.

The Academic Senate limits the total number of courses graded P, including units earned in courses graded "P/NP only," to one third of the units completed on the UC Davis campus. This limitation applies to all UC Davis undergraduates, including Letters and Science students.

Limitation on Credit for University Extension Courses. Students may apply credit earned through UC Davis Extension courses towards the 180-unit requirement only with written approval from the dean prior to registration. The degree credit allowed by the dean for UC Davis Extension courses with designators other than "XD" or "XDC" is usually less than the unit value listed in the course description. Additional limitations on UC Davis Extension courses include: a maximum of 9 units may be offered for elective credit only and may not be applied toward fulfillment of the Area, Foreign Language, Upper Division, or Residence requirements of the College. Beginning in Fall 2003, grade points earned when enrolled in Open Campus (concurrent) courses through UC Davis Extension will count toward the calculation of a student's UC GPA upon his/her admission or readmission to regular student status at UC Davis.

Other Unit Credit Limitations. The following are additional courses that have limits on the number of units that can be counted toward your degree.

- **Internship courses (numbers 92, 192):** 12 units maximum including internship units taken at other institutions; see Nonstandard courses
- **Music 130, 131, 140, 141, 142, 143, 144, 145, 146, 147, 154 (combined):** 19 units maximum
- **Nonstandard courses (92, 97T, 97TC, 99, 192, 194H, 197T, 197TC, 199 and similar courses):** 30 units maximum or one-sixth of the units taken at UC Davis, whichever is the smaller; note the separate unit limits on internship, special study and tutoring courses; and major limitations
- **Physical Education 1 and 6 (combined):** 6 units maximum
- **Special Study courses (99, 194H, 199):** 5 units maximum in any one quarter; see Nonstandard courses
- **Tutoring courses (97T, 97TC, 197T, 197TC):** 10 units maximum; see Nonstandard courses, above

Residence Requirement

While registered in the College of Letters and Science, a minimum of 27 upper division units, including 18 upper division units in the major, must be completed on the UC Davis campus; work completed while registered in the UC Education Abroad Program or the UC Davis Extension Open Campus Program does not satisfy campus or College Residence requirements.

Scholarship Requirement

The minimum grade point average to satisfy the scholarship requirement is 2.000 for all courses counted toward the major and for all upper division courses used to satisfy major requirements. Only grades earned in courses taken at UC Davis will be included in the grade point computations. To obtain these minimum averages in the major, you may repeat courses that are graded D or F. If

you have to repeat a course more than once, you need the dean's prior approval.

English Composition Requirement

The English Composition requirement can be met in one of two ways:

1. By passing the English Composition Examination upon completion of 70 units of degree credit (the examination does not yield credit);

OR

2. By completing with a grade of C– (or P) or better

a. One course from English 3, Comparative Literature 1, 2, 3, 4, Native American Studies 5, or University Writing Program 1, 18, 19;

and

b. University Writing Program 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E, or 104F; which must be taken after 84 units have been completed.

Transfer Courses in English Composition. Transfer courses considered by the Dean to be equivalent or comparable to English 3, Comparative Literature 1, 2, 3, 4, Native American Studies 5, or University Writing Program 1, 18, 19, 101, 104A, 104B, 104C, 104D, 104E, 104F, will be accepted toward satisfaction of the English Composition requirement. Note that University Writing Program 101 and 104A, 104B, 104C, 104D, 104E and 104F or the equivalent must be taken after you have completed 84 units of transferable degree credit.

If your transfer work does not include an acceptable English composition course taken after you had completed or accumulated 84 units, you may fulfill the requirement by examination (see below) or take University Writing Program 101, 102A, 102B, 102C, 102D, 102E, 102F, 102G, 104A, 104B, 104C, 104D, 104E, or 104F at UC Davis.

English Composition Examination. The no-fee examination is typically offered on a Saturday morning in October, January and April; see the *Class Schedule and Registration Guide* for specific dates.

Students are strongly advised to complete this requirement in their junior year. Sign-up for the English Composition Examination at <http://writingprogram.ucdavis.edu/compexam/> from the Monday before the exam date until Friday at noon or until the sign-up sheets are filled. The English Composition Examination form, available at the UC Davis Bookstore, is required. It is recommended that students with disabilities contact the Student Disability Center at (530) 752-3184 and the Entry Level Writing/Subject A Office (530) 752-0450 at least two weeks prior to the exam date to arrange accommodations. No examinations are given during the summer.

Area (Breadth) Requirement

The College Breadth Requirement promotes the intellectual growth of students by asking them to acquire a broader background of knowledge than is provided by the usual major. The Breadth requirement also guides students in exploring the interdependence of knowledge and, in the case of the A.B. degree, provides students the opportunity to become acquainted with performance in the fine arts.

A.B. Degree. Satisfaction of the campus General Education requirement plus completion of one of the following options:

a. A “Mini Minor” consisting of a minimum of three approved upper division courses in a single Letters and Science department or program other than the major (and which are not offered in satisfaction of major requirements);

OR

b. A minimum of three approved lower or upper division courses in Art, Music, or Dramatic Art from outside the student's major;

OR

c. A certified minor from any UC Davis college or program.

The Letters and Science faculty believes that the completion of a certified minor is often the best way for a student to obtain structure and coherence in pursuit of intellectual breadth.

For the purposes of options *a* and *b* above, all courses are considered as approved except: courses bearing less than 3 units of credit, internship courses, non-standard courses, directed group study courses and courses used to satisfy the College English Composition Requirement.

B.S. Degree. A total of 90 units in natural sciences/ mathematics; and satisfaction of the General Education requirement.

Courses numbered 92, 97T, 97TC, 98, 192, 197T, 197TC, 198 and from 200 through 499 cannot be counted toward satisfaction of the natural sciences/mathematics Area requirement. A maximum of 10 units in special study courses (99, 194H, 199) may be counted toward that portion of the Area requirement. Courses used to satisfy the English Composition and Foreign Language requirements may not be counted toward the Area requirement. Subject to the restrictions just listed, courses acceptable for fulfilling the 90-unit natural sciences/mathematics Area requirement are:

Natural Sciences and Mathematics

- Anatomy, Physiology and Cell Biology 100
- Anthropology 1, 5, 15, 15V, 151, 152, 153, 154A, 154B, 155, 156, 157, 158
- Astronomy
- Avian Sciences 13
- Biological Sciences
- Cell Biology and Human Anatomy 101, 101L
- Chemistry
- Engineering 6, 10, 35, 102
- Engineering: Computer Science 10, 30, 40, 50, 60, 120,
- 122A, 122B, 140A, 140B, 142, 150, 152A, 152B, 153, 154A, 154B, 158, 160, 163, 165A, 165B, 170, 175, 177, 178
- Engineering: Electrical and Computer 70, 170
- Entomology 10, 100, 153
- Environmental and Resource Sciences 131
- Environmental Science and Policy 30, 100, 121, 126
- Environmental Toxicology 101
- Evolution, Ecology, and Biodiversity
- Exercise Biology 101, 103, 110, 111, 112, 113, 115, 116, 117, 126
- Fiber and Polymer Science 110
- Food Science and Technology 100A, 100B, 101A, 101B
- Geology
- Integrated Studies 8A
- Mathematics
- Microbiology

- Molecular and Cellular Biology
- Neurobiology, Physiology, and Behavior
- Nutrition 10, 111AV, 111B
- Pathology, Microbiology, and Immunology 126
- Physical Education 133, 135
- Physics
- Plant Biology
- Psychology 41, 100, 101, 103A, 103B, 104, 113, 121, 122, 123, 124, 126, 127, 128, 129, 130, 131, 135, 146, 180B
- Statistics
- Wildlife, Fish, and Conservation Biology 10

Foreign Language Requirement; A.B. and B.A.S. Degrees

The College of Letters and Science encourages its students to acquire functional proficiency in at least one language other than English before graduating. Generally speaking, the language programs at UC Davis promote proficiency in each of the “four skills”: listening, speaking, reading, and writing. Language learning is a key component of a liberal education. It enables students to communicate effectively in an increasingly internationalized world, enhances their ability to understand ways of thinking different from their own, gives them direct access to cultural production from another time and place, awakens in them an awareness of the conditioned nature of their assumptions about the world, and trains them to cope more effectively with intellectual and practical problems they may face in their future careers. At a minimum, the College requires A.B. candidates to complete three sequenced quarters (15 units) of courses in one foreign language or its equivalent. B.S. candidates, only as required in the major program.

The Foreign Language requirement may be satisfied in any language offered at UC Davis (including ancient languages), or for which transfer credit is allowed from another academic institution (including American Sign Language).

You may also satisfy this requirement by examination in a language not offered on the UC Davis campus. In this case, the Dean's Office will assist you in making arrangements to take an examination on another University of California campus, with a faculty member who teaches the language in question.

Satisfaction of the Requirement. If you plan to apply for a study abroad program with a language prerequisite, you should plan on completing the Foreign Language requirement by the end of your second or third year, depending on the program. The requirement may also be completed through course work in certain study abroad programs that do not have a language prerequisite. The Foreign Language requirement may be satisfied by examination or completion of language courses as follows:

1. Foreign Language Placement Test. This test does not yield unit credit—it only determines whether the Foreign Language requirement has been met, or at which point in the language sequence you should enroll. Students must follow the language program's placement policy if they decide to study the language at UC Davis.

You may validate your knowledge of a language acquired by any means before matriculating at UC Davis by taking this test (or another form of evaluation, if available in the relevant language department). A test may not be taken, however, in a language for which you have already received degree credit. If you are a

transfer student, consult your Graduation Requirement Degree Check, which is issued by the Dean's Office within a quarter after enrollment. If you want to continue to study the language at UC Davis, you must consult the relevant language coordinator.

2. College Board Subject Test. Earning a qualifying score of at least 550 on a College Board Foreign Language Subject Test satisfies the requirement. This test may be taken at any time during your high school career. Once your score is on file at Undergraduate Admissions, notify the Letters and Science Dean's Office so that satisfaction of the College requirement can be noted on your record.

3. College Board Advanced Placement Examination. A score of 5, 4, or 3 on any foreign language College Board Advanced Placement Examination, with the exception of Latin, taken in high school will satisfy the Foreign Language requirement.

4. International Baccalaureate Higher Level Examination. A score of 7, 6, or 5 on the French A1, A2 or B Examination, or the Latin A1 Examination taken in high school will satisfy the Foreign Language requirement.

5. Intersegmental General Education Transfer Curriculum (IGETC). IGETC is a series of courses prospective transfer students attending California community colleges may complete to satisfy the lower division breadth/general education requirements at the University of California. Students may satisfy the Foreign Language requirement by attaining certification of IGETC completion

6. Course Completion in College; or the equivalent. A.B. and B.A.S. degrees—equivalent of 15-unit level of proficiency in one language at UC Davis (e.g., Spanish 3 or Japanese 3). B.S. degree—none, but as is required in the major program.

If you have successfully completed the second or third year of a language in the tenth or higher grade in high school you may receive unit credit for course 1 of that language when taken at UC Davis, but the grading mode will be *P/NP* only. Although a Passed or Not Passed grade will be charged to your *P/NP* option, no petition is required; see [Passed/Not Passed \(P/NP\) Grading](#) in the [Academic Information](#) chapter.

7. Proficiency Examination. If you have not completed the required level language course, but assume you have attained equivalent knowledge, you may satisfy the language requirement by passing a proficiency examination. For more information, consult the appropriate foreign language department.

Major Degree Certification

Requirements for major programs are described in the [Undergraduate Courses](#) chapter of this catalog. These requirements are fulfilled by completing a major program offered by a teaching department or program committee in the College of Letters and Science (see the list of majors) or an individual major program approved by the College's Committee on Individual Majors.

No more than six units in internship courses (numbered 92, 192, or similar internship courses) may be accepted in satisfaction of the requirements of major programs. Courses numbered 97T, 97TC, 197T and 197TC do not satisfy unit or course requirements in the major.

Degree Check

Before the beginning of your senior year, take some time to consider your goals and to plan the academic program for your final year as an undergraduate. To plan properly and to ensure that you get the most out of your remaining education and complete all graduation requirements as well, you should know what requirements remain unsatisfied. To help you in these efforts, the Undergraduate Education and Advising Office provides on its Web site informational materials and instructions on how to evaluate your progress on college and university requirements; see <http://www.ls.ucdavis.edu/students>. Many departments provide similar information regarding your major requirements.

Once you have completed 135 units of degree credit, you should contact your faculty adviser for a check of your major requirements. At approximately this point, you also should request an official degree check summarizing your progress in fulfilling college and university requirements from the Undergraduate Education and Advising Office; see <http://www.ls.ucdavis.edu/students> for additional information.

Degree Requirement Changes

On occasion, the faculty makes changes in the requirements that students must satisfy to obtain the baccalaureate degree. So that you will not be penalized by changes that may work to your disadvantage and so that you will benefit by changes that assist you in completing your degree requirements, it is College policy that you may choose to fulfill the university and College requirements (see General Education requirement for an exception) as stated in any UC Davis *General Catalog* in effect at any time you were registered in a postsecondary institution of higher education; e.g., community college, college or university.

Once you have chosen the year of the *General Catalog* under which you wish to be governed, you must satisfy all of the university and college requirements specified in that catalog. With respect to the completion of your major requirements, most of the majors in the College of Letters and Science require completion of the major degree requirements in effect at the time you officially declared your major. However, because departments differ in how they handle these matters, check with the department or major program office if you have any questions about which requirements apply to you.