

## Asian American Studies

See Page 187

### COURSE

#### Asian American Studies (AsAm)

195. Diversity in the United States: Race and Gender Issues (3)  
(See CLS 195.) (Former Eth S 195) (Prefix, title change.)

## Biology

*Due to extensive changes in the Biology Department's undergraduate degree requirements, minor, credential program, and undergraduate and graduate course listings, this information is being printed in its entirety. However, refer to the 1991-92 General Catalog for information about the department's graduate program, pages 193-195, and the Moss Landing Laboratories, pages 200-202.*

**School of Natural Sciences**  
Department of Biology  
RONALD L. EVANS, Chair  
Science Building, Room 106  
(209) 278-2001

### B.S. in Biology

Options:  
Ecology  
Molecular and Cellular Biology  
Organismic and General Biology  
Physiology  
M.A. in Biology  
M.S. in Marine Sciences  
Minor in Biology  
Single Subject Teaching  
Credential in Life Science  
Preprofessional advising in:  
Clinical Laboratory Technology  
Dentistry  
Forestry  
Medicine  
Pharmacy  
Veterinary Medicine

Biology is the scientific study of life: its properties, its complexity, and its incredible variety. Biological studies may focus on objects as small as molecules or as large as whales. They range from the inner workings of cells to the structure of whole ecosystems, and they lead biologists from the tops of mountains and the deepest ocean trenches into sophisticated modern laboratories.

The Department of Biology offers a diversified undergraduate program that matches the breadth and excitement of modern biology and prepares students for the hundreds of career opportunities that

use biology as a foundation. The Bachelor of Science degree requires the successful completion of the core program and one of the following four options:

1. **Organismic and General Biology** allows students to develop a broad program that cuts across taxonomic lines or to specialize in a particular taxonomic group. This option is also appropriate for students planning to enter the field of clinical laboratory technology.
2. **Molecular and Cellular Biology** utilizes advanced technology to uncover the fundamental unifying processes of living things.
3. **Physiology** seeks to understand the mechanisms that operate within the individual organism.
4. **Ecology** focuses on the interrelationships between living organisms and their environments.

The biology major we offer has three programmatic goals:

1. To provide students with a solid foundation in all aspects of modern biology and also the intellectual skills that will serve as the basis for a lifetime of future achievement.
2. To provide students with the specialized educational opportunities that will allow them to compete successfully for careers in the biological sciences or for advanced studies in major doctoral programs.
3. To provide preprofessional students with the knowledge needed for advanced study in the many fields that build upon a biological foundation.

Our undergraduate biology major is excellent preparation for graduate programs in medicine, dentistry, pharmacy, forestry, veterinary medicine, optometry, doctoral programs, and many others.

The department offers a Master of Arts degree in Biology for qualified students who wish to explore biology in greater depth. It also participates in a post-baccalaureate certificate program in biotechnology.

Advising is an integral part of the departmental program and all biology majors are assigned advisers. This student/faculty collaboration on program planning is undoubtedly one of the main reasons for the postgraduate successes of our students.

### Faculty and Facilities

Faculty expertise spans the range of biology from molecular to ecological, with a broad representation of taxonomic

specialties. Laboratories in upper-division major courses are taught by faculty, and individualized student/faculty research participation through independent study is encouraged.

The department is housed in a well-equipped, modern science building. Excellent greenhouse and animal care facilities provide support to the instructional program. The new Geo-Information Processing Systems facility provides opportunities for students in the fields of remote sensing, digital image processing, and geographical information systems technology. Fresno's proximity to both the Sierra Nevada crest and the Pacific coast, provides an "outdoor laboratory" with numerous field trip opportunities that are rarely equalled at other institutions. Students with interests in marine biology can study at the Moss Landing Marine Laboratories (MLML).

### Bachelor of Science Degree Requirements

#### **Biology Major**

The Bachelor of Science degree in Biology is a 124-unit program. In addition to General Education and other university requirements, biology majors must complete coursework consisting of three complementary parts: a common *core curriculum* of 21 units, required of all biology majors, that builds the foundation upon which all further learning in biology will be based; *additional requirements* from related fields, as specified by the option, to create the modern synthesis that characterizes biology; and one of four *options* to complete the degree. All four options are flexibly designed; as a result, virtually any career goal in the life sciences and related fields can be accommodated by judicious choice of specific courses within the option.

Academic advising is an important component of the Biology major. All students should consult their advisers at least once each semester for assistance in program planning.

Students planning for graduate and professional schools should be aware that entrance requirements for those programs will often exceed the minimal requirements for a Biology B.S. degree, particularly in the ancillary fields of chemistry, physics, and mathematics. An adviser should be consulted for specific information on graduate and professional school requirements.