Degree Benefits
The environmental studies program prepares students for a career in environmental science, ecology related areas and graduate work. The emphasis of the program is to provide graduates with a broad core of courses in biology, supplemented with courses in the earth sciences, geology, geography, chemistry, physics and mathematics. Each student has the opportunity to select from a wide range of science electives in order to fulfill needs for future work or to prepare for graduate school. Almost all courses include a laboratory portion where students study the practical application of scientific concepts, learn about the biology of particular organisms and gain experience using common scientific instruments. The degree concentration in environmental science offers students the flexibility to focus on a specific content area in the environmental sciences, leading to a variety of environmentally related career opportunities upon graduation.

Careers and Job Opportunities
There is a growing need for individuals with environmental and ecological backgrounds to identify, abate or eliminate sources of pollutants or hazards that affect the environment and the health of the population. Environmental scientists are needed to gather and assess information about our environment, educate the public, and produce more sustainable solutions to today’s environmental challenges. It is anticipated that the number of jobs will grow by 15% by the year 2022, faster than the national average for all careers. The greatest need will be with private industries and environmental consulting firms, but with continued opportunities in the nonprofit and government sectors as well.

Program Objectives
The objectives of the environmental science concentration are to:
- Assist students with course selection that will enhance their chosen career path.
- Provide skills required for entry-level positions with industry, nonprofit and government organizations.
- Provide the necessary foundation for continued professional growth in graduate school if desired.

Curriculum
Environmental science is an interdisciplinary field that seeks to apply knowledge from many disciplines to the study and management of the environment. The curriculum integrates biology with an understanding of the earth sciences, chemistry and physics, and a working knowledge of mathematics and statistics to enable students to design, analyze and interpret environmental data. Students will study topics including ecology, ecosystems and human impacts upon them, biodiversity, pollution, energy, waste, and sustainability. Through various methods such as gathering information, considering values and exploring consequences, students will gain the tools necessary for evaluating information about environmental issues and making informed decisions. The curriculum is designed to allow students essential field opportunities through internships and undergraduate research projects in the environmental sciences. This core content is enhanced by the breadth of the University’s general education requirements.

Note
The policies and procedures described here may be reviewed and revised at any time. This fact sheet should be used as an information guide. For details on current programs, policies and procedures, contact the chair of the department or the environmental studies program director.
# ENVIRONMENTAL STUDIES: ENVIRONMENTAL SCIENCE CONCENTRATION

## Freshman Year

**First Semester** .................................................................15 credits  
BIO 120 General Zoology ..................................................4 crs.  
CHE 101 General Chemistry I .........................................4 crs.  
ENG 101 English Composition I ....................................3 crs.  
UNI 100 First-Year Seminar ...........................................1 cr.  
General Education ........................................................3 crs.

**Second Semester** .........................................................14/15 credits  
BIO 125 General Botany ..................................................4 crs.  
CHE 102 General Chemistry II ....................................4 crs.  
ENG 102 English Composition II ..................................3 crs.  
EAS 100 Introduction to Earth Science OR  
EAS 150 Introduction to Geology ..................................3/4 crs.

## Sophomore Year

**Third Semester** .............................................................14 credits  
BIO 215 Introduction to Cellular and Molecular Biology ..........4 crs.  
MAT 273 Basic Calculus OR  
MAT 281 Calculus I ......................................................3 crs.  
PHY 121 General Physics I .............................................4 crs.  
General Education EMA ................................................3 crs.

**Fourth Semester** ...........................................................17 credits  
BIO 248 General Ecology ..................................................4 crs.  
MAT 215 Statistics ..........................................................3 crs.  
CHE 331 Organic Chemistry I ......................................4 crs.  
COM 101 Oral Communication ..................................3 crs.  
General Education ........................................................3 crs.

## Junior Year

**Fifth Semester** ..............................................................13 credits  
ENS 435 Law Planning and Policy ..................................3 crs.  
ENS 495 Design and Analysis ......................................3 crs.  
GIS 311 Geographic Information Systems ..................3 crs.  
Free Elective .................................................................4 crs.

**Sixth Semester** ............................................................15 credits  
BIO 488 Water Pollution Biology ..................................4 crs.  
CHE 381 Environmental Chemistry ................................4 crs.  
EAS 303 Hydrology ......................................................3 crs.  
Free Elective .................................................................4 crs.

## Senior Year

**Seventh Semester** ..........................................................15 credits  
ENS 475 Wetlands Ecology ...........................................4 crs.  
Free Elective .................................................................4 crs.  
General Education .......................................................3 crs.  
Biological-Related Elective ......................................4 crs.

**Eighth Semester** ..........................................................16/17 credits  
ENS 440 Environmental Pollution Control ....................4 crs.  
Biological-Related Elective ......................................3 crs.  
Free Elective .................................................................6/7 crs.  
General Education .......................................................3 crs.

*Note: This is a suggested curriculum pathway, please be sure to consult with your advisor.*

## Program Contact Information
Contact the Department of Biological and Environmental Sciences by phone at 724-938-4200.

## Department Website
www.calu.edu/academics/colleges/ebery/biology

---

**QUESTIONS ABOUT ADMISSIONS?**  
Office of Admissions  
California University of Pennsylvania  
250 University Ave.  
California, PA 15419-1394  

**Phone:** 724-938-4404  
**Toll-free:** 888-412-0479  
**Fax:** 724-938-4564  
**E-mail:** inquiry@calu.edu

**ABOUT US**  
California University of Pennsylvania is a proud member of the Pennsylvania State System of Higher Education. Located in the borough of California, just 35 miles from Pittsburgh, Cal U serves about 8,200 undergraduate and graduate students.  
- Cal U’s main campus houses academic buildings, dining and recreation facilities, and six suite-style residence halls.  
- Cal U’s upper campus includes the Vulcan Village apartments, athletic facilities at Roadman Park, and space for student meetings and outdoor recreation at SAI Farm.  
- Cal U Global Online is the University’s virtual campus, offering degree and certificate programs 100% online.

**FINANCIAL AID**  
For information on student loans and undergraduate scholarships, visit [www.calu.edu](http://www.calu.edu) or call 1-888-412-0479.

California University of Pennsylvania is an academic community dedicated to the ideals of justice, fairness, and equal opportunity for all. In compliance with federal and state laws, the University is committed to providing equal educational and employment opportunities for all persons without regard to race, color, sex, religion, national origin, age, disability, ancestry, sexual orientation or status as a disabled or Vietnam era veteran. The University will not tolerate racial, ethnic, or sexual discrimination. Sexual harassment is considered by law to be a form of sexual discrimination and is, therefore, unacceptable. Direct equal opportunity and affirmative action inquiries or complaints to the Special Assistant to the President for Equal Employment and Educational Opportunity (EEO), Office of Social Equity, South Hall 112, 724-938-4014. Direct inquiries regarding services or facilities accessibility to the ADA/504, Compliance Officer, Office of Student Development and Services, G.S.2 Carter Hall, 724-938 4056. Direct Title IX inquiries to the Senior Women’s Administrator/Title IX Coordinator, Department of Athletics, Hamer Hall 248, 724-938-4351.

www.calu.edu • A proud member of the Pennsylvania State System of Higher Education.

Policies and Procedures: Note that the policies and procedures described above may be reviewed and revised at any time. This fact sheet should be used as an informational guide. For details on current policies and procedures, contact the Provost/Vice President of Academic Affairs at 724-938-4407.

Rev 5/14