Degree Benefits
The pre-professional curriculum is designed specifically for students who want to begin their education in a health-related field. Students who pursue this major include those who ultimately seek careers as medical (e.g., physician, dentist, pharmacist, optometrist or podiatrist) or veterinary doctors, or as physical/occupational therapists.

In addition, those planning to become physician assistants will be well prepared with this degree program. Should a student decide not to pursue a professional school upon graduation, he or she will still be well prepared to continue his/her education in graduate school and/or can find employment with private companies/public organizations that have a biologically related interest.

Our program provides students with a broad curriculum in biology, supplemented with courses in chemistry, physics and mathematics. Students have the opportunity to select from a range of biology electives to fulfill their needs in preparation for the professional track they wish to pursue. Almost all courses include a laboratory component where students gain experience using various scientific instruments, study the practical application of scientific theories and apply course content.

Job Options
Our program provides the foundation to pursue careers in a health-related field, as an industrial or government researcher or public health specialist. According to the Bureau of Labor Statistics, employment in the health sciences is expected to increase 40 percent over the next decade, much faster than the average for all occupations. Employment growth in this sector will also benefit from expected expansion in research related to illnesses such as AIDS, cancer and avian flu, along with growing treatment problems, such as antibiotic resistance.

Program Objectives
The general objectives of the program are to:
• Provide an academic foundation for continued educational growth.
• Advise students of career opportunities in health-related professions.
• Provide students with the opportunity to discuss professional and academic aspirations with pre-professional health-related advisory committee faculty members who are responsible for making recommendations to health professional schools.
• Offer research opportunities to foster individual growth.

Curriculum
Our curriculum consists of a core of biology courses permitting a student to study a specific area of concentration within the health sciences along with a diverse selection of general education courses. In addition to courses required of the curriculum, students can, with assistance from their adviser, select related electives, which some health professional schools require, including an additional semester of calculus, proficiency with a language, biochemistry or coursework in the behavioral sciences (psychology, anthropology or sociology). Students should become familiar with the requirements of specific health professional schools early on so they know how best to tailor their coursework; however, the curriculum offered will meet many if not all the requirements of most health professional schools. Graduates from this program earn a Bachelor’s Degree in Biology and a minor in Chemistry.

University Resources
The program offered at Cal U prepares students to develop very competitive professional school applications. Internships for credit are available to students in their junior or senior year, at which time they may shadow practicing professionals or work with hospital or research technicians.

Students interested in admission to professional schools are interviewed by the University Health-Related Advisory Committee during the end of their junior year for letters of recommendation. On average, 80 percent to 90 percent of those students recommended by this advisory committee are accepted into professional schools.

Small classes provide students with personal faculty attention, which allows for early intervention to improve student performance.

Note
The policies and procedures described here 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 chair of the department.
# BIOLOGY: PRE-PROFESSIONAL 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 ......................................... 4 crs.
- UNI 100 First-Year Seminar ............................................. 1 crs.
- General Education ......................................................... 3 crs.

**Second Semester** .................................................... 17 credits
- BIO 125 General Botany ................................................... 4 crs.
- CHE 102 General Chemistry II .......................................... 4 crs.
- MAT 273 Basic Calculus OR MAT 281 Calculus .................. 3 crs.
- ENG 102 English Composition II ....................................... 3 crs.
- General Education ......................................................... 3 crs.

## Sophomore Year
**Third Semester** ...................................................... 14 credits
- BIO 215 Intro to Cellular and Molecular Biology .................. 4 crs.
- PHY 121 General Physics I ................................................ 4 crs.
- Free Elective ............................................................... 3 crs.
- General Education Ethics and Multicultural Awareness ...... 3 crs.

**Fourth Semester** ..................................................... 15 credits
- BIO 318 Genetics .......................................................... 4 crs.
- CHE 331 Organic Chemistry .......................................... 4 crs.
- PHY 122 General Physics II ............................................ 4 crs.
- General Education ......................................................... 3 crs.

## Junior Year
**Fifth Semester** ........................................................ 15 credits
- BIO 360 Human Anatomy OR BIO 305 Comparative Vertebrate Anatomy ............................................. 4 crs.
- BIO 326 General Microbiology ......................................... 4 crs.
- CHE 341 Organic Chemistry II Lecture ......................... 3 crs.
- CHE 342 Organic Chemistry II Lab ................................. 1 cr.
- General Education ......................................................... 3 crs.

**Sixth Semester** ...................................................... 15 credits
- BIO 328 Human Physiology OR BIO 486 Comparative Animal Physiology ................................. 4 crs.
- BIO 480 Cell Biology ...................................................... 4 crs.
- MAT 215 Statistics .......................................................... 3 crs.
- Related Elective ............................................................. 4 crs.

**Seventh Semester** .................................................... 15 credits
- CHE 415 Biochemistry ................................................... 4 crs.
- Related Elective ............................................................. 8 crs.
- General Education ......................................................... 3 crs.

**Eighth Semester** ..................................................... 14 credits
- Free Elective ............................................................... 4 crs.
- General Education ......................................................... 6 crs.
- Related Elective ............................................................. 4 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/eberly/biology

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**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 or call 1-888-412-0479.

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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 (EEEO), 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 S2 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.

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