Degree Benefits
As a professional scientist, a geologist is knowledgeable about the processes and resources of the Earth's systems, especially the lithosphere and hydrosphere. Geologists are significant contributors in many fields across the economic spectrum, including environmental protection and remediation, resource exploration and exploitation, and land development. Geology, as a field, has rarely been as important as it is in today's economy. Geologists are at the forefront of development of oil and natural gas, coal, and mineral resources. They are integral to environmental response and regulation related to these activities. Geotechnical experts play a significant role in determining viability of land, soil and water resources for specific uses and protection of those resources from human impacts.

Job Options
A traditional geology program provides graduates with a wide variety of career paths, especially those where quantitative skills are valued. Recent graduates work for environmental consulting firms; geotechnical firms; county, state and federal regulatory agencies; and petroleum and energy companies. Entry-level positions often involve significant opportunities to work outside at various field sites such as drill rigs and environmentally degraded industrial sites, as well as in streams or in association with geologic site assessment. It is not uncommon for geologists to travel as part of their field experiences. With experience and education, a geologist can advance into supervisory positions.

Program Objectives
Students who earn a degree in geology will be able to:
- Demonstrate knowledge of Earth's integrated systems.
- Conduct laboratory exercises relevant to environmental problems, including water and soil quality.
- Demonstrate an awareness of current issues relevant to the discipline.
- Identify and associate with professional organizations in the discipline.
- Demonstrate an ability to communicate data and ideas to advance the knowledge of the scientific community.
- Demonstrate proficiency in the use of common tools of geology.

Also, graduates should be proficient in the following skills:
- Use and analysis of geologic and topographic maps, including computational geospatial (GIS) data.
- Quantitative analysis of data.
- Scientific writing of research methods and results.
- Use of proper laboratory protocol.
- Proper field techniques related to mapping and sample collection.

The geology program is intended to give the geology major a well-rounded background for entry-level employment in energy or environmental fields or for admission into a graduate program in geology or environmental science. Students interested in graduate school must take the Graduate Record Examination and may be required to make up coursework deficiencies. Many graduate schools require geology students to complete a geological field camp where students are intensively trained in mapping and rock identification skills. In addition, many states, including Pennsylvania, offer professional licensing of geologists. To become licensed, the geologist must pass an examination and offer proof of ethical conduct through the first several years of employment. Cal U geology graduates have historically performed well in pursuit of licensure.

University Resources
The program provides students with opportunities to acquire lab and field experience, learn geological principles and historical perspectives, become familiar with geological research, and obtain interpretive skills necessary to work independently in geological literature and geological laboratories and at sites of geological interest. The program offers unique experiences each summer for travel to different regions of the United States for an introduction to regional field studies. Students travel to geologically and environmentally significant areas to conduct exercises that help develop field skills and integrate course work in a tangible setting.

It is advised that either before or after the senior year, the geology student attends a geology field camp, an experience considered to be a capstone for the undergraduate and a vital educational experience. It usually involves an intensive six-week experience in a remote field location. Cal U students have traveled to places such as the Wind River Mountains of Wyoming, the desert canyon regions of Utah and the Bigelow Mountains of west central Maine. Students investigate the various geology field camp options available from the adviser. Geology majors may also select a minor from such diverse fields as chemistry, geography, computer science and mathematics.

BACHELOR OF ARTS IN GEOGRAPHY

GEOLOGY—120 CREDITS
The eight-semester schedule of courses on the other side of this sheet provides a recommended framework for completing this program of study in four years. To ensure that they are making satisfactory academic progress, students should consult with their faculty adviser, ensure that they complete necessary prerequisites and required courses in sequence, and complete a minimum of 15 credits each semester.
GEOLOGY

Freshman Year
First Semester ................................................................. 14 credits
EAS 150 Introduction to Geology ............................................ 4 crs.
ENG 101 English Composition I .......................................... 3 crs.
UNI 100 First-Year Seminar ................................................ 1 cr.
MAT 181 College Algebra ...................................................... 3 crs.
General Education Courses .................................................. 3 crs.

Second Semester ............................................................. 16 credits
EAS 200 Historical Geology ................................................... 4 crs.
MAT 191 College Trigonometry .............................................. 3 crs.
EAS Electives .................................................................. 3 crs.
General Education Courses ................................................ 6 crs.

Sophomore Year
Third Semester ............................................................... 16 credits
CHE 101 Chemistry I ............................................................ 4 crs.
EAS 303 Hydrology ............................................................. 3 crs.
MAT 281 Calculus I .............................................................. 3 crs.
EAS 343 Geomorphology ..................................................... 3 crs.
General Education Courses ................................................ 3 crs.

Fourth Semester ............................................................ 16 credits
EAS 230 Earth Resources ...................................................... 3 crs.
MAT 281 Calculus I .............................................................. 3 crs.
CHE 102 Chemistry II ........................................................ 4 crs.
EAS Electives ................................................................ 3 crs.
General Education Courses .............................................. 3 crs.

Junior Year
Fifth Semester .................................................................... 16 credits
EAS 331 Mineralogy ............................................................. 3 crs.
GIS 311 Introduction to GIS ................................................. 3 crs.
PHY 121 General Physics I .................................................. 4 crs.
MAT 282 Calculus II ............................................................. 3 crs.
EAS 333 Geochemistry ....................................................... 3 crs.

Sixth Semester .................................................................... 16 credits
EAS 332 Petrology ............................................................... 3 crs.
PHY 122 General Physics II ................................................ 4 crs.
EAS 427 Tectonics ............................................................... 3 crs.
EAS Electives ................................................................ 3 crs.
ENG 217 Science and Technical Writing ............................ 3 crs.

Seventh Semester ............................................................ 15 credits
EAS 423 Sedimentology/Stratigraphy ................................. 3 crs.
EAS 437 Field Methods ....................................................... 3 crs.
EAS Electives ................................................................ 6 crs.
General Education Course ................................................ 3 crs.

Eighth Semester .............................................................. 15 credits
EAS 425 Structural Geology ................................................ 3 crs.
EAS 441 Advanced Environmental Geology ...................... 3 crs.
EAS Field Course .............................................................. 3 crs.
EAS Electives ................................................................ 3 crs.
General Education Course ................................................ 3 crs.

Program Contact Information
Contact the Department of Earth Sciences by phone at 724-938-4180.

Department Website
www.calu.edu/academics/colleges/eberry/earth-science

QUESTIONS
A proud member of the Pennsylvania State System of Higher Education.

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.

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 52 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

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.

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