Bachelor of Science degree with a major in Geology
Bachelor of Arts degree with a major in Geology
Bachelor of Arts degree with a major in Geology — Geosciences option
Minor in Geology
See Environmental Systems for details on the Master of Science degree,
Department Chair
Brandon E. Schwab, Ph.D.
Department of Geology
Founders Hall 7
707-826-3931
www.humboldt.edu/geology

The Program
The geology and geosciences programs provide students with a solid foundation in Earth system science, how the Earth and its processes affect humans, and how human activities affect the Earth.

Students completing this program will:
- understand the fundamental concepts of Earth's many systems
- be able to find, analyze, and assess scientifically credible information about the Earth in both printed and electronic forms
- communicate about Earth science in a meaningful way both verbally and in writing
- be able to make informed and responsible decisions regarding the Earth and its resources
- have the background to gain employment and/or admission to graduate studies in the Earth sciences.

The BS and BA degrees in geology are recommended for students who plan to seek work as professional geologists and/or enter graduate school in the geosciences. The BA degree — Geosciences option is aimed toward students who are interested in careers or pursuing graduate work in environmental science, hazard/resource management, and planning, environmental policy, and teaching.

Humboldt’s setting provides a natural laboratory to study earthquakes, tsunamis, landsliding, river processes and rapid coastal erosion. The area also contains good exposures of nearshore marine deposits and fossils recording the late Cenozoic history of the region. Students frequently take field trips to surrounding areas both along the coast and inland. Our program has many opportunities for independent research and field work. At Humboldt, you will also be able to use research tools including petrographic microscopes, X-ray diffractometer and X-ray fluorescence instruments, a high-pressure/temperature experimental petrology lab, geophysical exploration equipment and a real-time kinematic GPS unit. Employers seek out Humboldt geology graduates because of their competence in the field and rigorous scientific background.

Career opportunities include positions with local/state/federal government scientific and resource management agencies, geotechnical and environmental consulting firms, nonprofit conservation agencies, and universities/colleges/K-12 schools. Job titles of Humboldt geology graduates include: geologist, petrologist, volcanologist, consultant, technical writer or editor; seismologist, emergency manager; hazards mitigation specialist, field geologist, marine geologist, hydrologist, geomorphologist, museum curator; and science teacher.

Preparation
In high school take mathematics, chemistry, physics, biology and any environmental studies that may be available. Students need to be able to write and speak effectively in English and are expected to be proficient in computer applications.

REQUIREMENTS FOR THE MAJORS
For a description of degree requirements to be fulfilled in addition to those listed below for the major, please see “The Bachelor’s Degree” section of the catalog, pp. 60-73, and “The Master’s Degree” section of the catalog, pp. 74-75.

Geology Core Courses

Lower Division Core
GEOL 109 (4) General Geology
GEOL 235 (1) Geology Field Methods I

Upper Division Core
GEOL 306 (3) General Geomorphology
GEOL 312 (4) Earth Materials
GEOL 332 (4) Sedimentary Geology
GEOL 334 (4) Structural Geology
GEOL 335 (1) Geology Field Methods II
GEOL 485 (1) Seminar

BA and BS in Geology

Geology Core, plus:

Lower Division
CHEM 109 (5) General Chemistry I
CHEM 110 (5) General Chemistry II
MATH 109 (4) Calculus I
MATH 110 (4) Calculus II

One of the following two series:
- PHYX 106 (4) College Physics: Mechanics & Heat
- PHYX 108 (4) College Physics: Electricity, Heat

OR
- PHYX 108 (4) General Physics I: Mechanics
- PHYX 110 (4) General Physics II: Electricity, Heat

One of the following:
MATH 210 (4) Calculus III
STAT 108 (4) Elementary Statistics
STAT 109 (4) Introductory Biostatistics

Upper Division
GEOL 314 (4) Optical Mineralogy-Petrography
GEOL 344 (4) Paleontology
GEOL 435 (1) Geology Field Methods III
GEOL 475 (4) Geology Field Camp
GEOL 490 (1), GEOL 491 (1), GEOL 492 (2) Senior Thesis [BS degree only]

NOTE: The Senior Thesis requirement is what distinguishes the BS degree from the BA degree.

Six units of approved upper division geology areas of specialization, including at least one of the following:
GEOL 445 (2) Geochemistry
GEOL 457 (2) Engineering Geology
GEOL 460 (3) Solid Earth Geophysics
GEOL 482 (1-3) Instrumental Methods in Geology
GEOL 531 (1-3) Advanced Physical Geology
GEOL 550 (3) Fluvial Processes
GEOL 551 (3) Hillslope Processes
GEOL 553 (4) Quaternary Stratigraphy
GEOL 554 (2) Advanced Geology Field Methods
GEOL 555 (3) Neotectonics
GEOL 556 (2.5) Hydrogeology
GEOL 558 (3) Geomorphology of Soils
GEOL 561 (3) Applied Geophysics
BA Geology — Geosciences Option

Geology Core, plus:

**Lower Division**

GEOL 110 [1-2] Field Geology - Western US  
MATH 105 [3] Calculus for the Biological Sciences & NR  

*One of the following:*

- ZOOL 110 [4] Introductory Zoology

*One of the following:*


One of the following:


**Upper Division**

GEOL 303 [3] Earth Resources & Global Environmental Change  
GEOL 308 [3] Natural Disasters  
GEOL 308L [1] Natural Disasters Lab  
[option in place of 1 unit of GEOL 700]  
GEOL 455 [1] Geology Colloquium  
GEOL 700 [2] In-Service Professional Development [2 units or 1 unit & GEOL 308L]

*One of the following:*

- GEDG 352 [3] Regional Climatology  
- PHYX 103 [3] Intro to Meteorology

*One of the following:*

- GEOL 344 [4] Paleontology

**REQUIREMENTS FOR THE MINOR**


*One of the following:*

GEOL 110 [1-2] Field Geology - Western US  
GEOL 235 [1] Geology Field Methods I

*At least one of the following four courses:*

GEOL 303 [3] Earth Resources & Global Environmental Change  
GEOL 308 [3] Natural Disasters

*One of the following:*

GEOL 312 [4] Earth Materials  
GEOL 332 [4] Sedimentary Geology

Plus 3 units of approved upper division GEOL coursework.

### Requirements Summary

- **Lower Division:** GEOL 110, CHEM 107, MATH 105, PHYX 106
- **Core Courses:** BIOL 105, BOT 105, ZOOL 110, STAT 108, STAT 109
- **Upper Division:** GEOL 300, GEOL 303, GEOL 308, GEOL 455, GEOL 465, GEOL 700
- **Minor:** GEOL 109, GEOL 306
- **Additional Courses:** GEOL 305, GEOL 344