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Geology, B.S.

Humboldt Geology students learn the scientific reasoning skills they need to solve complex problems related to earthquakes, tsunami and landslide hazards, volcanoes, and climate change. Our North Coast location near the Mendocino Triple Junction and the Klamath and Cascade mountains provides unparalleled opportunities for students to study active geological processes and develop research projects related to tectonics, with earthquakes, volcanic and magmatic activity, glaciers, and rivers in an inclusive learning environment.

Learn by Doing

The Geology B.S. degree emphasizes building field and laboratory skills, quantitative and scientific reasoning, and activities that teach effective communication, problem-solving, and accountability – all of which are necessary for successful geoscientist careers in fields like engineering geology, environmental geology, resource geology, teaching, and research. Geology students take core geology courses in earth materials, sedimentology, geomorphology, petrology, structural geology, and field methods, as well as physics, calculus, and chemistry. They also take an additional 11 units of their choice exploring geoscience related classes, including, but not limited to, glacial geology, volcanology, geomechanics, geochronology, past climate change, planetary geology, geophysics, and/or classes in other departments such as Chemistry, Oceanography, and GIS.

The capstone course of the Geology B.S. degree, Field Camp, is a 24/7 immersive field course held off campus for 4 weeks in the student's final summer semester. This unique course replicates on-the-job training, preparing students for careers or graduate work in geology. Students and faculty map and learn together while camping in a wilderness setting. Completion of Field Camp is highly sought after by employers hiring geologists in consulting and academia.

Examples of field trips include visits to local active fault zones to measure surface displacement due to past earthquakes, the Arcata Marsh to core for geologic records of earthquakes and tsunami, Big Lagoon to measure coastal erosion, Lassen Volcanic National Park to observe recent volcanic eruptive material, Trinidad State Beach to piece together a complicated rock record of subduction, and Jacoby Creek to measure creek discharge and assess watershed health.

Geology students have the opportunity to work directly with a faculty member on a research project that aligns with their interests. Faculty provide mentoring and expert guidance as the student engages in field work, laboratory analyses, and scientific writing that culminates in an undergraduate thesis or scientific poster. Please come visit us on the ground floor of Founders Hall or send us an email at geology@humboldt.edu if you would like to learn more about our geology program.



Did you know?

- **Stars to Rocks, our first-year learning community, gets you connected to professors quickly, as well as a cohort of engaged Geology, Physics, and Chemistry students who support each other throughout college.**
- **The student-run Geology Club hosts activities that include local and regional field trips, an annual rock auction, and end-of-the-year picnic and campout, fostering social connection, a sense of belonging, and making college fun.**
- **Our department emphasizes networking and geoscience-specific professional development by offering a semesterly colloquium series and a required professional development class.**



Academics & Options

Geology B.S.

Geology B.S.

The Bachelor of Science is a comprehensive degree designed to prepare students for professional careers in the geological sciences, like geotechnical and environmental consulting, engineering geology, or natural resource geology. The program also prepares students for graduate school and geoscientist research careers. Students who earn a B.S. degree in geology will have completed the coursework required for eligibility for Professional Geologist (P.G.) licensing by the State of California.

Minor

- Geology Minor

The Geology minor is designed to give you the fundamentals in field-based geology that could be applied to fields such as environmental science and management, geography, forestry, oceanography, and more.



Careers

Career opportunities include positions with government and private scientific and resource management agencies, geotechnical and environmental consulting firms, nonprofit conservation agencies, and universities, colleges, and schools. Our B.S. degree will meet requirements you need to apply for an M.S. or Ph.D. program in geosciences in the United States. Examples of possible job titles you might find after earning your B.S. degree include:

- Professional Geologist
- Consulting Geologist
- Environmental Geologist
- Geomorphologist
- Environmental Scientist
- Journalist/Technical Writer
- Emergency Manager
- Field Geologist
- Marine Geologist
- Hydrogeologist
- Science Teacher



Humboldt's Geology program provided me with extensive opportunities to get involved in research. The field work I learned during my degree has propelled me through my further education and employment. Professors also encouraged individual undergraduate research but were always around to assist. The skill set and mindset to think about problems in multiple ways, and to bounce these ideas off of others has carried me through all of my post-graduation career."

Brandon Crawford ('15, Geology), is a Geoscientist at the Los Alamos National Laboratory, working on a wide variety of projects relating to seismic hazards, geotechnology, and national security