



Geology is a field-based science that integrates the principles of chemistry, physics, biology, and mathematics in the study of Earth processes and Earth history. Geology emphasizes the central concepts of time, space, and scale in the study of planet Earth from the perspective of a unified Earth System—the atmosphere, biosphere, hydrosphere, and lithosphere. The ISU Geology program has gained recognition by employers and graduate schools for its traditional approach to the instruction of geology, and its balance of application and theory that are firmly rooted in field studies.

The Geology BS curriculum provides specialized training for those students who wish to pursue entry-level employment following completion of the program while simultaneously ensuring the breadth of academic background for those students who will pursue graduate studies. We accomplish our dual goal of sending students to graduate school or preparing them for employment by offering a single, rigorous curriculum option.



Geology

Points of Pride

Popular Capstone Field Course. Field camp at ISU is a true capstone experience. It is a traditional six-week, six-credit field course that emphasizes geologic mapping. Many example problems, rock suites, and lecture topics in our core on-campus courses use examples from the areas that we visit in WY and SD. We strive to develop a professional geologist who is technically competent, ambitious, hard-working, ethical, and enthusiastic. Our traditional approach has stood the test of time. While other universities and colleges reformed curricula and abandoned field camp, our camp has remained strong. Our graduates routinely report a high level of satisfaction with field camp on our alumni surveys.

Affordable Field Experiences. We offer more affordable field experiences than any other program. In addition to Field Camp, we offer numerous other field experiences for students. Over spring break each year, we take field trips to the desert southwest where we visit fabulous exposures of volcanic rocks, desert landscapes, and geologic structures. Alumni donations subsidize more than half of the costs for these trips, and out of pocket expenses are less than \$250.

Student Research. Most of our students engage in meaningful, independent research projects with faculty members. Geology faculty have accompanied 15-20 students per year to meetings of the Geological Society of America. Nearly all of these students attended the meeting to present the results of their research. While at the meetings, the students visit with representatives from other Universities to discuss graduate school opportunities and attend the technical sessions. On each of these excursions, our group spent at least one day visiting the local geology on a field trip. The Geology Foundation accounts have helped offset the student travel costs. Their only out of pocket expense was for food and meeting registration.

Post-Graduate Success. More than 90% of our graduates from 2008-2016 went to graduate school or began careers as geologists. Our graduates are successful in many different types of geological careers. Many become environmental professionals and work in industry or government agencies. These individuals focus on protecting the environment. Other students work in the minerals or energy industry and identify the resources necessary for our modern society. We are especially proud that nearly half of our students pursue advanced degrees. Our recent graduates have been admitted to some of the top programs in the in the nation.

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DEPARTMENT OF
**GEOGRAPHY, GEOLOGY,
AND THE ENVIRONMENT**
Illinois State University

WHAT CAN GEOLOGIST DO?

- Engineering Geologist
- Geophysicist
- Hydrogeologist
- Paleontologist
- Seismic Interpreter
- Engineering Geologist
- Geochemist
- Geological Mapper
- Environmental Consultant
- Glacial Geologist
- Oceanographer
- Geomorphologist

Geologists are scientists who study the structure and dynamics of the Earth and its natural resources.

Geologists draw from different scientific disciplines such as physics, chemistry and biology to study the materials which make the Earth and the forces which shape it. They also review the effects of human intervention on the Earth's resources.

One of the geologist's tasks is to discover reserves of natural resources (metals, oil, gas etc) that can be exploited for commercial purposes. They do so by conducting studies in the field, interpreting the data collected and producing maps of the resources.

Geologists can also be involved in the conservation of the environment and the study of climate change: they analyses natural disasters such as earthquakes, volcanic activity, tsunamis and storms. They also ensure the safety and suitability of sites chosen for mining and construction (tunnels, roads, bridges, dams, etc). Here are some of the jobs geologist do:

- **Engineering geologist**
They identify factors affecting engineering works during design, construction and monitoring phases. For example they study the properties of rocks, soil, groundwater and other natural materials and assess their integrity prior to major construction schemes. This helps to ensure that new constructions are built in the most cost-effective manner and according to environmental regulations.
- **Hydrogeologist**
They investigate the occurrence and circulation of water flowing through the ground in different geological formations. Their role involves testing the quality of water, finding new water supplies and protecting them from pollution.
- **Geophysicist**
They provide a link between physics and geology. They study the physical properties of the Earth, collect data on earthquakes and seismic waves and help to understand the mechanisms involved in the movement and formation of continents.
- **Wellsite geologist**
They advise on the drilling of oil and gas wells by analyzing the rocks' formations that are being drilled.
- **Geological mapper**
They mainly work on site to collect, analyses and record rock, soil and sediment samples. They use the data collected to determine the structural properties of an area and produce geological maps.
- **Geochemist**
They analyses the chemical composition of the Earth to determine the differences between natural resources all over the world (age, nature, structure).
- **Teacher or Lecturer**
Some geologists choose a teaching career in Earth sciences in schools, colleges or universities.