



GEOLOGY | COLLEGE OF ARTS AND SCIENCES

B.S. / B.A. IN GEOLOGY

Geology is the scientific study of the Earth, including its materials and resources, the physical and chemical processes that occur on its surface and in its interior, the development of landforms, and the methods for studying the planet.

The Bachelor of Science in Geology degree provides a rigorous general background in the field of geology and allied disciplines. The degree is designed for students who wish to prepare for graduate school or employment as a professional geologist. The degree also provides rigorous scientific training for students seeking a career in science education. This degree offers a more extensive requirement in biology, chemistry, mathematics, and physics compared with the Bachelor of Arts in Geology degree and is designed to optimize student opportunities. The degree requires participation in an accredited field camp in geology.

The Bachelor of Arts in Geology provides a general background in the field of geology and requires a diversified liberal arts education in place of some of the allied disciplines. The B.A. is an appropriate choice for students who wish to teach earth sciences at the secondary level and for those who wish to gain a general knowledge of the geosciences and their relationship to other sciences.

DEGREE REQUIREMENTS

All students are responsible for fulfilling the general requirements of the bachelor's degree as established by the College of Arts and Sciences, which include a minimum of 36 hours at the 300-400 level.

For the B.S. in Geology, students are required to complete 40 credit hours in geology and 36 credit hours in allied disciplines and a minimum of 36 credit hours in courses at the 300-400 level. Students seeking a B.S. in geology must (1) complete one of the department designated 100-level lecture-based Geology courses AND the introductory geology laboratory; (2) complete two 400-level lecture-based geology courses OR one 400-level lecture-based geology course AND one semester of research or internship; and (3) complete 33 credits in chemistry, physics, mathematics, and biology in courses designated by the department. Students seeking the B.S. are required to enroll in a chairperson-approved geology field camp.

For the B.A. in Geology, students are required to complete at least 27 credit hours in geology coursework designated by the department, 15 credit hours in the allied disciplines and a minimum of 36 credit hours in courses at the 300-400 level.

COURSEWORK

Students should consult with the Department of Geosciences for additional information concerning prerequisites, course content and academic counseling.

Highlighted courses in the Department of Geosciences:

- Introduction to Earth Sciences (and Laboratory)
- History of the Earth
- Introductory Mineralogy
- Introduction to Petrology
- Field and Laboratory Techniques
- Structural Geology
- Principles of Sedimentation and Stratigraphy
- Field Geology in the Rocky Mountains (or other chairperson-approved geology field camp)

PROGRAM HIGHLIGHTS

The department promotes learning experiences through the traditional lecture series, laboratories, seminars, independent study in the field, and through field trips to local sites and to geologically intriguing areas of North America. Each course for students contains a field trip. The department conducts regional field trips that are one to two weeks in duration after the spring semester. Field trips areas have included: Death Valley National Park, the Grand Staircase (Grand Canyon, Zion and Bryce Canyon National Parks), the Appalachian Mountains, and Wyoming-Montana.

Faculty members actively participate in geologic and environmental research projects. Opportunities exist for students to conduct hands-on research and to present those projects at local, regional and national meetings. Faculty members in the Department of Geosciences have expertise in igneous petrology, volcanology, and historic earthquake analysis, sedimentology, geomorphology, hydrology, climate, and geochronology. Ongoing research areas include investigations of historic earthquake activity in the U.S., carbonates of Montenegro, dunes of the Great Lakes, water-level fluctuations in the Great Lakes, and watershed dynamics.

WHAT CAN I DO WITH A B.S. / B.A. IN GEOLOGY?

The work and career paths of geoscientists can vary widely because the field of geosciences is broad and diverse. The National Science Foundation considers geology, geophysics, hydrology, oceanography, marine science, atmospheric science, planetary science, meteorology, environmental science, and soil science as the major geosciences disciplines. Graduates often continue their careers in graduate school or find employment in the private sector, government, environmental science and related fields, and teaching/education.

HANDS-ON LEARNING

Experiential learning is a fundamental component of a geosciences education (see Program Highlights). Opportunities are also available to gain hands-on learning, research experience, and career preparedness through internships, civic engagement projects, and competitive national research experiences for undergraduate programs.

CLUBS AND ACTIVITIES

The department sponsors the Geology Club which participates in field trips and activities related to geology and the environment.

RELATED DEGREE OPTIONS

- Minor in Geology
- Minor in Earth Science
- Double Degree in Geology (B.A.) and Secondary Education (Earth/Space Science)
- Valparaiso-Indiana Geography and Geology Association program (a co-degree program between Valparaiso University and IU Northwest)

FOR MORE INFORMATION

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