Department of Geosciences

Program Description

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<th>Program Description</th>
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<td>Geology, B.A.</td>
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<td>Earth and Environmental Systems, B.S. Environmental Systems Track</td>
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Overall Departmental Goals

1. Graduates will think critically and comprehend written and verbal communications about geoscience topics.
2. Graduates will have specific skills for careers in geoscience and related industries, licensure, or to continue in graduate study.
3. Graduates will attain employment in geology or related fields or gain admission to graduate programs.

Program-Specific Goals and Objectives

I. Goals

1. Graduates will know geoscience materials, principles, and their applications to scientific inquiry and to societal concerns.
2. Graduates will understand geologic processes and their expression in the history of the Earth.

II. Objectives

1. Provide undergraduate students with coursework, laboratory experiences, field exercises, and hands-on opportunities in order to achieve all goals set forth above.
2. Improve students’ awareness of opportunities for professional employment, licensure, or continued education.

The Idaho State University Department of Geosciences is an active community of scholars consisting of undergraduate and graduate students, support and research staff, and professors. Objectives of the department are to train students for professional positions or further study in all aspects of the geosciences. Most courses include field trips and hands-on experience. The Idaho State University Geology summer field camp based at the Lost River Field Station north of Mackay, Idaho, is nationally recognized and attended by students from universities nationwide.

The Idaho State University Geosciences Department offers Bachelor of Science and Bachelor of Arts degrees in Geology, Post-Baccalaureate Geotechnology Certificate, Master of Science degree in Geology, Master of Science degree in Geographic Information Science, and Master of Natural Science degree for teachers who desire more training in up-to-date science methods. The B.S. in Geology with Emphasis in Engineering Geology, the M.S. in Geology with Emphasis in Environmental Geoscience, and a Doctor of Philosophy degree in Engineering and Applied Science are also available.

Students who have decided to major in geology, must take GEOL 2204 and GEOL 2205, which are the prerequisites for many other courses in the geology major. For the purposes of a geology major or minor, only 4 credits will be granted for any combination of GEOL 1100, GEOL 1100L, GEOL 1101, and GEOL 1101L.

Bachelor of Arts in Geology

The B.A. degree is offered for students who wish either a broader-based liberal arts degree or a broader multi-disciplinary science degree than is possible with the B.S. The B.A. degree is especially suited for future earth science teachers, environmental scientists, environmental lawyers, and others who wish to learn more about how the earth works. The degree fulfills major requirements for secondary school earth science teachers.

Bachelor of Science in Geology

The B.S. degree is offered for undergraduates who wish to become professional geoscientists either after their bachelor’s degree or after subsequent graduate study. It trains students in the essential observational and analytical skills of field geology as well as more applied areas of microscope petrology, geochemistry, and geotechnology. The B.S. degree is designed to give the student a broad and comprehensive understanding of the discipline of geology and a firm background in math, physics, and chemistry.

Bachelor of Science or Bachelor of Arts in Earth and Environmental Systems

The purpose of this program is to deliver a multidisciplinary education with environmental geosciences as a foundation, while also drawing upon existing courses from a diverse array of departments and programs.

The emphasis in this program spans local to global concerns. Core knowledge is developed through a set of required courses across multiple disciplines, emphasizing the Geosciences, and through required and elective core courses. The student then chooses one of three tracks composed of courses in Geosciences and related disciplines.

Curriculum Outline

The Earth and Environmental Systems curriculum consists of two components:
1. required Geosciences and cross-disciplinary Core Courses, and
2. required and elective courses in one of three cross-disciplinary tracks.

Most students will be able to complete degree requirements (74-77 credits) and General Education requirements (a minimum of 36 credits--see the General Education Requirements (http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation) in the Academic Information section of this Catalog) within the typical 120-credit, 4-year bachelor’s degree. Some of the degree requirements may also satisfy General Education requirements. Depending on results of placement tests in mathematics and other areas, students may be required to take additional coursework, and may thus require more than 120 credits to fulfill both General Education and degree requirements.

1. **Required Core Courses**
The Required Core Courses provide a solid background within and beyond the Department of Geosciences. Environmental Systems include physical, biological, and human systems; thus, we require course work in Geosciences, Biological Sciences, Physical and Social Sciences, and Mathematics.

2. **Cross-disciplinary Track Requirements**: the student will pursue one of three tracks, each consisting of specified and elective courses:
   - **BS in Environmental Systems**: Upper division courses emphasizing environmental aspects of Geosciences and Biological Sciences, with supporting courses in Mathematics and Physical and Social sciences.
   - **BS in Geospatial Systems**: Upper division geotechnologies courses in Geosciences and History, with supporting courses in Mathematics and Physical and Social sciences.
   - **BA in Environmental Systems**: Interdisciplinary coursework in Political Science, History, Economics, Sociology, Anthropology, and Philosophy.

**Faculty** (http://coursecat.isu.edu/undergraduate/scienceengineering/geosciences/faculty)

**GEOL Courses** (http://coursecat.isu.edu/undergraduate/allcourses/geol)