

Sleuthing our Earth System

Department of Geology and Geological Engineering



If you are researching degrees based on your interests in the sciences such as earth science, chemistry, biology and physics, consider a degree in **Geology**.

Geology courses integrate aspects of the basic sciences (including chemistry, biology, and physics) into understanding our Earth System, which is composed of the rocks (lithosphere), water (hydrosphere), air (atmosphere), and organisms (biosphere). Our program is included in the College of Earth Systems with programs such as geological engineering, civil engineering, mining engineering, and atmospheric science.

A natural interest in rocks, minerals, or fossils, together with an inquisitive mind, a love of the outdoors and an interest in science in general are ideal for a career in geology. The geologist, a combination technological detective and scientist, works outdoors as well as in the laboratory studying the formation of the Earth and its myriad of geological structures. Geologists use fossils to interpret the past; learn how wind, water, volcanoes, earthquakes, and glaciers continue to change the earth; and locate natural resources (minerals, metals, energy, water) on which our society depends.

The Geology program at SDSM&T in Rapid City fully utilizes the magnificent geological setting of the Black Hills in South Dakota and Wyoming and the Badlands as the natural laboratory for hands-on practical studies of geologic processes and materials.

If you have an interest in computers, and their application to analyzing data and solving problems, geology could be the area for you. Our state-of-the-art Geographic Information Systems computer laboratory is used for analyzing spatial data (i.e. map data) and remote sensing imagery.

The **B.S. degree in Geology** has three areas of emphasis:

- ◊ *Applied Geology* is a more traditional geology emphasis that applies geologic principles to exploration for mineral and petroleum resources, and understanding of factors leading to geologic hazards.
- ◊ *Paleontology* is the study of fossils and how they are used to interpret the past earth history.
- ◊ *Earth System Science* emphasizes stewardship of our Earth, with a multidisciplinary approach involving geologic principles supplemented by aspects of biology, chemistry and atmospheric sciences.

For more information in the geology degree, department, and careers, go to our web page below.

For those interested in more-quantitative applications of geology, we offer a B.S. degree in Geological Engineering, with emphases in ground water, environmental planning and assessment of natural hazards, petroleum production, and geomechanics soils and rocks (see separate brochure).

CAREER OPPORTUNITIES

Graduate study
Museums
Mineral exploration
Mine geology
Petroleum exploration

University teaching/research
Environmental companies
Local, State and Federal agencies
(US Geol Survey, SD Geol Survey, SD Dept
Environment and Natural Resources)

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