

# Geosciences

## College of Natural Science and Mathematics

Department of Geosciences (<https://www.uaf.edu/geosciences/>)  
907-474-7565

## Department of Geosciences

### B.S., Geoscience

Graduates in geoscience have broad backgrounds in the earth sciences and firm foundations in mathematics, physics and chemistry. Four concentrations are available to allow students to pursue their own emphasis:

- geology
- paleontology
- geospatial science
- geophysics

The concentrations allow students to focus early in their studies but are flexible enough to allow students to pursue their own interests in their junior and senior years. All the concentrations prepare students for industry jobs in oil, mining and environmental consulting; jobs with agencies such as the U.S. Geological Survey, NASA, the Alaska Division of Geological and Geophysical Surveys; or graduate studies.

The geology concentration offers students a sound background in a spectrum of geological disciplines with an emphasis on current field mapping techniques essential to exploration and research. The paleontology concentration is designed to provide students with the skills necessary to locate, excavate, interpret and curate specimens for museums, agencies or universities. The geospatial sciences concentration focuses on the principles, techniques and applications of remote sensing, GIS and GPS to prepare students for careers that require geospatial data analysis and visualization. The geophysics concentration challenges students to use physics in understanding geoscience concepts, emphasizing applications in seismology, volcanology and glaciology in the context of the Alaska landscape. This concentration prepares students for graduate work in geophysics and environmental engineering fields or other disciplines that use geophysical tools such as ground-penetrating radar or exploration seismology.

Minimum Requirements for Geoscience Bachelor's Degree: 123 credits

Learn more about the bachelor's degree in geoscience (<https://uaf.edu/academics/programs/bachelors/geoscience.php>), including an overview of the program, career opportunities and more.

### M.S., Ph.D., Earth System Science

Earth System Science at UAF is a multidisciplinary degree program that provides the option for a disciplinary concentration in one of eight topics:

- Sustainability
- Ecosystems
- Hydrology
- Atmospheric and Climate Sciences
- Cryosphere
- Solid Earth Geophysics
- Geoscience
- Geospatial Science

The ESS program involves faculty participation from six departments and programs:

- Natural Resources and Environment
- Center for Cross-Cultural Studies
- Biology and Wildlife
- Civil, Geological, and Environmental Engineering
- Atmospheric Sciences
- Geosciences

and five research institutes:

- Institute of Agriculture/Natural Resources and Extension
- Institute of Arctic Biology
- Institute of Northern Engineering
- International Arctic Research Center
- Geophysical Institute.

Minimum Requirements for Earth System Science Degrees: M.S.: 30 credits;  
Ph.D.: 26-41 credits.

## Programs

### Degrees

- B.S., Geoscience (<https://catalog.uaf.edu/bachelors/geoscience-bs/>)
- M.S., Earth System Science (<https://catalog.uaf.edu/masters/earth-system-science/>)
- M.S., Geophysics (<https://catalog.uaf.edu/masters/geophysics/>) (Admission to this program has been suspended)
- M.S., Geoscience (<https://catalog.uaf.edu/masters/geoscience/>) (Admission to this program has been suspended)
- Ph.D., Earth System Science (<https://catalog.uaf.edu/phd/earth-system-science/>)
- Ph.D., Geophysics (<https://catalog.uaf.edu/phd/geophysics/>) (Admission to this program has been suspended)
- Ph.D., Geoscience (<https://catalog.uaf.edu/phd/geoscience/>) (Admission to this program has been suspended)

### Minors

- Minor, Geology (<https://catalog.uaf.edu/minors/geology/>)
- Minor, Geophysics (<https://catalog.uaf.edu/minors/geophysics/>)
- Minor, Geospatial Sciences (<https://catalog.uaf.edu/minors/geospatial-sciences/>)
- Minor, Paleontology (<https://catalog.uaf.edu/minors/paleontology/>)