B.A., EARTH SCIENCE

Concentrations: Earth Systems Science, Geological Hazards and Mitigation, Secondary Education

Minimum Requirements for Degree: 120-130 credits

Students must earn a C- grade or better in each course.

General University Requirements
Complete the general university requirements. (http://catalog.uaf.edu/bachelors)

General Education Requirements
Complete the general education requirements. (http://catalog.uaf.edu/bachelors/general-education-requirements)

As part of the general education requirements, complete:
Select one from the following:
CHEM F103X Basic General Chemistry
and CHEM F104X and Survey of Organic Chemistry and Biochemistry
CHEM F105X General Chemistry I
and CHEM F106X General Chemistry II
PHYS F103X College Physics I
and PHYS F104X and College Physics II

B.A. Degree Requirements
Complete the B.A. degree requirements. (http://catalog.uaf.edu/bachelors/summary-of-bachelors-degreereqs/#bachelorofartsandbacheloroffineartstext)

As part of the B.A. degree requirements, complete:
NRM F303X Environmental Ethics and Actions

Program Requirements
GEOS F101X The Dynamic Earth
or GEOS F120X Glaciers, Earthquakes and Volcanoes: Past, Present and Future
GEOS F112X The History of Earth and Life
or GEOS F106X Life in the Age of Dinosaurs

Concentrations
Select one from the following concentrations:
Earth Systems Science
Geological Hazards and Mitigation
Secondary Education

Total Credits
39-57

Concentrations
EARTH SYSTEMS SCIENCE

GEOS F304 Geomorphology
GEOS F315 Paleobiology and Paleontology
GEOG F483 Research Design, Writing and Presentation Methods

Select one course from each of the following areas:
Earth Systems
GEOG F101X Expedition Earth: Introduction to Geography
MSL F111X The Oceans

GEOG F304 Geomorphology
GEOS F315 Paleobiology and Paleontology
GEOG F483 Research Design, Writing and Presentation Methods

Select one course from each of the following areas:
Earth Systems
GEOG F101X Expedition Earth: Introduction to Geography
MSL F111X The Oceans

GEOS F101X Natural Resources Conservation and Policy
PHYS F175X Introduction to Astronomy
Earth Materials
GEOS F213 Mineralogy
GEOS F262 Rocks and Minerals
Geospatial Sciences
GEOG F338 Introduction to Geographic Information Systems
GEOS F225 Field and Computer Methods in Geology and Photogeology

Select one course from any two of the following areas:
Weather and Climate
ATM F101X Weather and Climate of Alaska
GEOG F307 Weather and Climate
Natural Resources
GEOG F302 Geography of Alaska
GEOS F332 Ore Deposits and Structure
Geoscience
GEOS F309 Tectonics
GEOS F322 Stratigraphy and Sedimentation
Geobiology
GEOS F485 Mass Extinctions, Neocatastrophism and the History of Life
GEOS F486 Vertebrate Paleontology

9 additional credits at the F300 level or above

Total Credits
34-38

1. Fulfills the baccalaureate capstone requirement.
2. These credits should have an emphasis in geology, geography, biology, natural resources management or other Earth science-related field as approved by the undergraduate advisor.

GEOLOGICAL HAZARDS AND MITIGATION

As part of the general education requirements, complete:
SOC F101X Introduction to Sociology

As part of the B.A. requirements, complete:
COJO F300X Communicating Ethics
STAT F200X Elementary Probability and Statistics

Program Requirements
ED F486 Media Literacy
ENGL F314 Technical Writing
GEOG F483 Research Design, Writing and Presentation Methods
GEOS F304 Geomorphology
GEOS F380 Geological Hazards
GEOS F406 Volcanology
HSEM F301 Principles of Emergency Management and Homeland Security
PHYS F175X Introduction to Astronomy

Select one course from each of the following areas:
Earth Systems
GEOS F213 Mineralogy
GEOS F262  Rocks and Minerals

*Geospatial Sciences*

GEOG F338  Introduction to Geographic Information Systems

GEOS F225 and GEOS F408  Field and Computer Methods in Geology and Photogeology

*Weather and Climate*

ATM F101X  Weather and Climate of Alaska

GEOG F307  Weather and Climate

Select two courses from one of the following specialized areas: 6

**Mitigation**

HSEM F412  Emergency Planning and Preparedness

HSEM F423  Disaster Response Operations and Management

HSEM F434  All-Hazards Risk Analysis

**Communications**

COJO F335  Organizational Communication

COJO F353  Conflict, Mediation and Communication

COJO F441  Persuasion

Total Credits 40-43

1  Fulfills the baccalaureate capstone requirement.

**SECONDARY EDUCATION**

As part of the general education requirements, complete:

GEOG F101X  Expedition Earth: Introduction to Geography

PSY F101X  Introduction to Psychology

**Program Requirements**

GEOS F262  Rocks and Minerals 3

GEOS F315  Paleobiology and Paleontology 4

GEOS F475  Presentation Techniques in the Geosciences 2

GEOS F497  Individual Study 1

MSL F111X  The Oceans 4

PHYS F175X  Introduction to Astronomy 4

Select one course from each of the following areas: 14-17

**Landform Analysis**

GEOG F111X  Earth and Environment: Elements of Physical Geography

GEOS F304  Geomorphology

*Geospatial Sciences*

GEOS F225  Field and Computer Methods in Geology

GEOG F338  Introduction to Geographic Information Systems

*Weather and Climate*

ATM F101X  Weather and Climate of Alaska

GEOG F307  Weather and Climate

*Natural Resources*

GEOG F302  Geography of Alaska

GEOS F332  Ore Deposits and Structure

**Evolutionary Processes**

GEOS F309  Tectonics

GEOS F485  Mass Extinctions, Neocatastrophism and the History of Life

GEOS F486  Vertebrate Paleontology

Minor in secondary education (http://catalog.uaf.edu/bachelors/bachelors-degree-programs/education/secondary-minor) 16

Additional requirements in secondary education licensure program (http://catalog.uaf.edu/bachelors/bachelors-degree-programs/education/secondary-postbacc-licensure) 19

Total Credits 66-69

1  Fulfills the baccalaureate capstone requirement.

**Note:** We strongly recommend that prospective secondary science teachers seek advising from the UAF School of Education early in your undergraduate degree program, so that you can be appropriately advised of the state of Alaska requirements for teacher licensure.