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.

Code  Title  Credits

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:
Complete one of the following:
CHEM F103X  and CHEM F104X  Introduction to General Chemistry and Introduction to Organic Chemistry and Biochemistry
CHEM F105X  and CHEM F106X  General Chemistry I and General Chemistry II
PHYS F123X  and PHYS F124X  College Physics I and College Physics II

B.A. Degree Requirements
Complete the B.A. degree requirements. (http://catalog.uaf.edu/bachelors/summary-of-bachelors-degree-reqs/#bachelorofartsandbacheloroffineartstext)
As part of the B.A. degree requirements, complete:
NRM F303X  Environmental Ethics and Actions

Program Requirements
GEOS F101X  The Dynamic Earth 4
or GEOS F120X  Glaciers, Earthquakes and Volcanoes: Past, Present and Future
GEOS F112X  The History of Earth and Life 4
or GEOS F106X  Life in the Age of Dinosaurs

Concentrations
Complete one of the following concentrations: 31-49
Earth Systems Science
Geological Hazards and Mitigation
Secondary Education

Concentrations

EARTH SYSTEMS SCIENCE

Code  Title  Credits
GEOS F304  Geomorphology 3
GEOS F315  Paleobiology and Paleontology 4
GEOG F483  Research Design, Writing and Presentation Methods 1 3

Complete one course from each of the following areas: 9-12
Earth Systems
GEOG F101X  Expedition Earth: Introduction to Geography
MSL F111X  The Oceans

NRM F101  Natural Resources Conservation and Policy
PHYS F165X  Introduction to Astronomy
Earth Materials
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

Complete one course from any two of the following areas: 6-7
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 2 9

1 Fulfills credits at the F300 level or above 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

Code  Title  Credits
SOC F101X  Introduction to Sociology 3
COJO F300X  Communicating Ethics 3
STAT F200X  Elementary Statistics 3

Program Requirements
ED F486  Media Literacy 4
ENGL F314  Technical Writing 3
GEOG F483  Research Design, Writing and Presentation Methods 1 3
GEOS F304  Geomorphology 3
GEOS F380  Geological Hazards 3
GEOS F406  Volcanology 3
HSEM F301  Principles of Emergency Management and Homeland Security 3

Complete one course from each of the following areas: 9-12
Earth Materials
GEOS F213  Mineralogy

1 GEOG F483
2 GEOG F486
GEOS F262  Rocks and Minerals  
*Geospatial Sciences*

GEOS 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

Complete 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

1 Fulfills the baccalaureate capstone requirement.

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**SECONDARY EDUCATION**

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<tr>
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<tbody>
<tr>
<td>GEOG F101X</td>
<td>Expedition Earth: Introduction to Geography</td>
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<td>PSY F101X</td>
<td>Introduction to Psychology</td>
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**Program Requirements**

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<td>GEOS F315</td>
<td>Paleobiology and Paleontology</td>
<td>4</td>
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<td>GEOS F475</td>
<td>Presentation Techniques in the Geosciences</td>
<td>2</td>
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<td>GEOS F497</td>
<td>Individual Study1</td>
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<td>MSL F111X</td>
<td>The Oceans</td>
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</tr>
<tr>
<td>PHYS F165X</td>
<td>Introduction to Astronomy</td>
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Complete 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

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

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

1 Fulfills the baccalaureate capstone requirement.

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