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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>General University Requirements</td>
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<td>Complete the general university requirements. (<a href="http://catalog.uaf.edu/bachelors/">http://catalog.uaf.edu/bachelors/</a>)</td>
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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-degrees-reqs/#bachelorofartsandbacheloroffineartstext)

As part of the B.A. degree requirements, complete:

- NRM F303X
  - Environmental Ethics and Actions

Program Requirements

GEOS F101X
- The Dynamic Earth
- Glaciers, Earthquakes and Volcanoes: Past, Present and Future

GEOS F112X
- The History of Earth and Life
- Life in the Age of Dinosaurs

Concentrations

Complete one of the following concentrations:

- Earth Systems Science
- Geological Hazards and Mitigation
- Secondary Education

Concentrations

EARTH SYSTEMS SCIENCE

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<tr>
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<tbody>
<tr>
<td>GEOS F304</td>
<td>Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>GEOS F315</td>
<td>Paleobiology and Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>GEOG F483</td>
<td>Research Design, Writing and Presentation Methods 1</td>
<td>3</td>
</tr>
</tbody>
</table>

Complete one course from each of the following areas: 9-12

- 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

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

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

1 Fulfills credits at the F300 level or above 2
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

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<tr>
<td>SOC F101X</td>
<td>Introduction to Sociology</td>
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<tr>
<td>COJO F300X</td>
<td>Communicating Ethics</td>
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<tr>
<td>STAT F200X</td>
<td>Elementary Statistics</td>
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Program Requirements

- ED F486
  - Media Literacy

- ENGL F314
  - Technical Writing

- GEOS F483
  - Research Design, Writing and Presentation Methods 1

- GEOS F304
  - Geomorphology

- GEOS F380
  - Geological Hazards

- GEOS F406
  - Volcanology

- HSEM F301
  - Principles of Emergency Management and Homeland Security

- PHYS F165X
  - Introduction to Astronomy

Complete one course from each of the following areas: 9-12

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

**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.

## SECONDARY EDUCATION

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

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<tr>
<td>GEOS F262</td>
<td>Rocks and Minerals</td>
<td>3</td>
</tr>
<tr>
<td>GEOS F315</td>
<td>Paleobiology and Paleontology</td>
<td>4</td>
</tr>
<tr>
<td>GEOS F475</td>
<td>Presentation Techniques in the Geosciences</td>
<td>2</td>
</tr>
<tr>
<td>GEOS F497</td>
<td>Individual Study1</td>
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</tr>
<tr>
<td>MSL F111X</td>
<td>The Oceans</td>
<td>4</td>
</tr>
<tr>
<td>PHYS F165X</td>
<td>Introduction to Astronomy</td>
<td>4</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

**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/)

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.