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.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<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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<td>As part of the general education requirements, complete:</td>
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<td>Complete one of the following:</td>
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<tr>
<td>CHEM F103X</td>
<td>Introduction to General Chemistry</td>
<td></td>
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<tr>
<td>CHEM F104X</td>
<td>and Introduction to Organic Chemistry and Biochemistry</td>
<td></td>
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<tr>
<td>CHEM F105X</td>
<td>General Chemistry I</td>
<td></td>
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<tr>
<td>CHEM F106X</td>
<td>and General Chemistry II</td>
<td></td>
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<tr>
<td>PHYS F123X</td>
<td>College Physics I</td>
<td></td>
</tr>
<tr>
<td>PHYS F124X</td>
<td>and College Physics II</td>
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**B.A. Degree Requirements**

Complete the B.A. degree requirements. ([http://catalog.uaf.edu/bachelors/summary-of-bachelors-degree-reqs/#bachelorofartsandbacheloroffineartstext](http://catalog.uaf.edu/bachelors/summary-of-bachelors-degree-reqs/#bachelorofartsandbacheloroffineartstext))

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

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<tbody>
<tr>
<td>NRM F303X</td>
<td>Environmental Ethics and Actions</td>
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**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**

<table>
<thead>
<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</td>
<td>3</td>
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Complete one course from each of the following areas: 9-12

- Earth Systems

GEOG F101X | Expedition Earth: Introduction to Geography | |

MSL F111X | The Oceans | |

**Geospatial Sciences**

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<tr>
<td>GEOG F338</td>
<td>Introduction to Geographic Information Systems</td>
<td></td>
</tr>
<tr>
<td>GEOS F225</td>
<td>Field and Computer Methods in Geology and Photogeology</td>
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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 | |

**Geology**

GEOS F485 | Mass Extinctions, Neocatastrophism and the History of Life | |

GEOS F486 | Vertebrate Paleontology | 9 |

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**

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<tr>
<td>SOC F101X</td>
<td>Introduction to Sociology</td>
<td>3</td>
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As part of the B.A. requirements, complete:

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

COJO F300X | Communicating Ethics | |

STAT F200X | Elementary Statistics | |

**Program Requirements**

ED F486 | Media Literacy | 3 |

ENGL F314 | Technical Writing | 3 |

GEOG F483 | Research Design, Writing and Presentation Methods | 3 |

GEOS F304 | Geomorphology | 3 |

GEOS F380 | Geological Hazards | 3 |

GEOS F406 | Volcanology | 3 |

HSEM F301 | Principles of Emergency Management and Homeland Security | 3 |

PHYS F165X | Introduction to Astronomy | 4 |

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.

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**SECONDARY EDUCATION**

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<tbody>
<tr>
<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**

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 F165X  Introduction to Astronomy  4

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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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.