B.S., GEOGRAPHY

Concentrations: Environmental Studies, Landscape Analysis and Climate Change Studies, and Geospatial Sciences

Minimum Requirements for Degree: 120 credits
Students must earn a C- grade or better in each course.

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<th>Code</th>
<th>Title</th>
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<td><strong>General University Requirements</strong></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><strong>B.S. Degree Requirements</strong></td>
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<td>As part of the B.S. degree requirements, complete:</td>
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<td></td>
<td>NRM F303X Environmental Ethics and Actions</td>
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<td>MATH F230X Essential Calculus with Applications</td>
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<td>or MATH F251X Calculus I</td>
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Program Requirements

GEOG F101X Expedition Earth: Introduction to Geography 3
GEOG F111X Earth and Environment: Elements of Physical Geography 4
GEOG F312 People, Places and Environment: Principles of Human Geography 3
GEOG F483 Research Design, Writing and Presentation Methods 1 3
GEOG F490 Geography Seminar 1 3
GEOS F488 Undergraduate Research 1 or GEOG F300 Internship in Geography 1-3
NRM F338 Introduction to Geographic Information Systems 3
STAT F200X or GEOS F430 Elementary Statistics 3 Statistics and Data Analysis in Geology

Concentrations

Complete one of the following concentrations: 30-56

Environmental Studies
Landscape Analysis and Climate Change Studies
Geospatial Sciences

1 Completion of these three courses will fulfill the baccalaureate capstone requirement.

Concentrations

ENVIRONMENTAL STUDIES

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<td>Complete the following:</td>
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<td></td>
<td>ATM F101X Weather and Climate of Alaska</td>
<td>4</td>
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<tr>
<td></td>
<td>GEOG F339 Change Detection in Arctic Systems</td>
<td>4</td>
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Environmental Studies

Complete two from the following: 6-7

GEOG F412 Geography of Climate and Environmental Change
or ATM F456 Climate and Climate Change
GEOG F420 Geopolitics of Energy
GEOS F380 Geological Hazards
NRM F403 Environmental Decision-Making
NRM F407 Environmental Law

Environmental Systems

Complete three from the following: 9-10

BIOL F371 Principles of Ecology
GEOG F418 Biogeography
GEOG F460 The Dynamic Alaska Coastline
GEOS F304 Geomorphology
NRM F277 Introduction to Conservation Biology
NRM F380 Soils and the Environment

Environmental Management

Complete one of the following: 3

NRM F365 Principles of Outdoor Recreation Management
NRM F370 Introduction to Watershed Management
NRM F430 Resource Management Planning
NRM F464 Wilderness Management
NRM F480 Soil Management for Quality and Conservation

Techniques

Complete one of the following: 3-4

GEOG F309 Digital Cartography and Geovisualization
GEOS F422 Geoscience Applications of Remote Sensing
GEOS F458 Applications of GPS and GIS in Geophysics
NRM F366 Survey Research in Natural Resources Management
NRM/GEOG F435 GIS Analysis

LANDSCAPE ANALYSIS AND CLIMATE CHANGE STUDIES

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<td></td>
<td>ATM F101X Weather and Climate of Alaska</td>
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<tr>
<td></td>
<td>PHYS F123X College Physics I</td>
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<tr>
<td></td>
<td>or PHYS F211X General Physics I</td>
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NRM F366 Survey Research in Natural Resources Management
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Concentrations

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<tr>
<td>CHEM F105X General Chemistry I</td>
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<td>As part of the B.S. degree requirements, complete:</td>
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<tr>
<td>BIOL F115X Fundamentals of Biology I</td>
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**B.S., Geography**

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<td>GEOS F304</td>
<td>Geomorphology</td>
<td>3</td>
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**Landscape Processes**

Complete three from the following: 9-10

- GEOG F339 Change Detection in Arctic Systems
- GEOG F418 Biogeography
- GEOG F427 Polar Geography
- GEOG F460 The Dynamic Alaska Coastline

**Climate Change**

Complete two from the following: 6

- GEOG F302 Geography of Alaska
- GEOG F478 Ice Age Alaska
- GEOS F477 Ice in the Climate System

**Methods and Applications**

Complete two from the following: 6-8

- GEOG F309 Digital Cartography and Geovisualization
- GEOS F422 Geoscience Applications of Remote Sensing
- GEOS F458 Applications of GPS and GIS in Geophysics
- NRM F435 GIS Analysis

**GEOSPATIAL SCIENCES**

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<tr>
<td>CS F103</td>
<td>Introduction to Computer Programming</td>
<td>3</td>
</tr>
<tr>
<td>GEOG F339</td>
<td>Change Detection in Arctic Systems</td>
<td>4</td>
</tr>
<tr>
<td>GEOS F422</td>
<td>Geoscience Applications of Remote Sensing</td>
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<td>NRM F435</td>
<td>GIS Analysis</td>
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**GIS/Remote Sensing**

Complete three from the following: 8-10

- GE F371 Remote Sensing for Engineering
- GE F376 GIS Applications in Geological and Environmental Engineering
- GEOG F309 Digital Cartography and Geovisualization
- GEOS F436 Beyond the Mouse: Computer Programming and Automation for Geoscientists
- GEOS F458 Applications of GPS and GIS in Geophysics
- NRM F369 GIS and Remote Sensing for Natural Resources
- NRM F638 GIS Programming
- NRM F641 Natural Resource Applications of Remote Sensing

**Landscape Study**

Complete two from the following: 6

- GEOG F427 Polar Geography
- GEOG F460 The Dynamic Alaska Coastline

1. Graduate-level credit used to complete this undergraduate degree program may NOT be applied towards future graduate degree programs.

**Note:** Students and faculty advisors should carefully review prerequisites for courses outlined in each required and/or optional area. Some courses require successful completion of up to three prerequisite courses. Therefore, while students and faculty should note minimum degree credit hours are 120, the actual number of required course credits may exceed that number.