GEOSCIENCE B.S.

Program Requirements
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Minimum Requirements for Geoscience, B.S.: 123 credits

CONCENTRATIONS: GEOLOGY (P. 1), PALEONTOLOGY (P. 2), GEOSPATIAL SCIENCES (P. 2) AND GEOPHYSICS (P. 1)

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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<tbody>
<tr>
<td>GEOS F101X</td>
<td>The Dynamic Earth</td>
<td>4</td>
</tr>
<tr>
<td>GEOS F112X</td>
<td>The History of Earth and Life</td>
<td>4</td>
</tr>
<tr>
<td>GEOS F309</td>
<td>Tectonics</td>
<td>3</td>
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Concentration
Complete one of the following:

Geology

Geophysics

Geospatial Sciences

Paleontology

Total Credits: 123-137

Concentrations

GEOLOGY

Code | Title                                      | Credits |
--- | ------------------------------------------- |---------|
CHEM F106X | General Chemistry II                       | 4       |
GEOS F213  | Mineralogy                                 | 4       |
GEOS F214  | Petrology and Petrography                  | 4       |
GEOS F225  | Field and Computer Methods in Geology      | 2       |
GEOS F304  | Geomorphology                              | 3       |

GEOPHYSICS

Code | Title                                      | Credits |
--- | ------------------------------------------- |---------|
GEOS F314 | Structural Geology                        | 4       |
GEOS F315 | Paleobiology and Paleontology             | 4       |
GEOS F322 | Stratigraphy and Sedimentation             | 4       |
GEOS F430 | Statistics and Data Analysis in Geology    | 3       |
GEOS F454 | Field Geology ¹                           | 6       |
PHYS F123X | College Physics I                         | 4       |
PHYS F124X | College Physics II                        | 4       |
STAT F200X | Elementary Statistics                     | 3       |
or STAT F300 | Statistics                               |         |

Complete 12 additional credits of upper-division GEOS courses or other upper-division courses approved by the undergraduate advisor including one course from the following:

GEOS F483 | Research Design, Writing and Presentation Methods | |
GEOS F488 | Undergraduate Research                     | 2       |

Total Credits: 61

¹ GEOS F454 is offered at UAF during the summer of odd-numbered years. Students may substitute a 6-credit field geology class at another institution. The geology and geophysics undergraduate advisor will assist students in placement in an approved field geology class.

² Fulfills the baccalaureate capstone requirement.
GEOSPATIAL SCIENCES

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<td>4</td>
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<tr>
<td>GEOS F213</td>
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<tr>
<td>GEOS F214</td>
<td>Petrology and Petrography</td>
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<tr>
<td>GEOS F225</td>
<td>Field and Computer Methods in Geology</td>
<td>2</td>
</tr>
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<td>GEOS F304</td>
<td>Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>GEOS F309</td>
<td>Tectonics</td>
<td>3</td>
</tr>
<tr>
<td>GEOS F422</td>
<td>Geoscience Applications of Remote Sensing</td>
<td>3</td>
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<tr>
<td>GEOS F430</td>
<td>Statistics and Data Analysis in Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOS F454</td>
<td>Field Geology, 1,2</td>
<td>6</td>
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<tr>
<td>NRM F338</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
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<tr>
<td>PHYS F123X</td>
<td>College Physics I</td>
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**Electives**

Complete at least three of the following: 7-10

- GEOS F458 Big Geospatial Data
- GEOS F459 Visible and Infrared Remote Sensing
- GEOS F488 Undergraduate Research
- NRM F435 GIS Analysis
- NRM F641 Natural Resource Applications of Remote Sensing

Complete 13 additional credits of upper-division courses approved by the undergraduate advisor including two courses from the following: 13

- GEOS F314 Structural Geology
- GEOS F315 Paleobiology and Paleontology
- GEOS F317 Paleontological Research and Laboratory Methods
- GEOS F322 Stratigraphy and Sedimentation
- GEOS F482 Geoscience Seminar
- GEOS F483 Research Design, Writing and Presentation Methods
- GEOS F460 The Dynamic Alaska Coastline
- MATH F314 Linear Algebra

**PALEONTOLOGY**

**Paleontology Concentration Requirements**

Complete the following:

- CHEM F106X General Chemistry II 4
- GEOS F213 Mineralogy 4
- GEOS F214 Petrology and Petrography 4
- GEOS F225 Field and Computer Methods in Geology 2
- GEOS F314 Structural Geology 4
- GEOS F315 Paleobiology and Paleontology 4
- GEOS F317 Paleontological Research and Laboratory Methods 2
- GEOS F322 Stratigraphy and Sedimentation 4
- GEOS F454 Field Geology, 1,2 6
- GEOS F430 Statistics and Data Analysis in Geology 3
- PHYS F123X College Physics I 4
- or STAT F300 Elementary Statistics 3

Complete at least two from the following electives: 5-7

- GEOS F453 Palynology and Paleopalynology
- GEOS F485 Mass Extinctions, Neocatastrophism and the History of Life
- GEOS F486 Vertebrate Paleontology
- GEOS F488 Undergraduate Research

Complete the requirements for a minor in biological sciences 20

**Total Credits** 69-71

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2 Fulfills the baccalaureate capstone requirement.