GEOLOGY, BACHELOR OF ARTS

To obtain a B.A. with a major in Geology, a student must fulfill university, college, and departmental requirements. Minimum hour requirements follow:

- 46 hours of University General Education courses - (Most commonly, Geology majors do not complete 46 hours of coursework solely for the purpose of meeting University General Education requirements. Instead, they often test out of at least six hours of fundamental academic skills, take courses that meet both the three hours of U.S. Diversity requirements and three hours of social sciences requirements, meet five hours of humanities and 3 hours of global diversity requirements with a language course, and meet the seven-hour natural sciences distribution requirement through completing major courses. In such cases, the number of credit hours taken solely to meet General Education requirements is reduced to 22 or fewer.)
- 12 hours of college breadth requirement
- 16 hours of foreign language
- 70 hours of major courses

TOTAL HOURS: 120

Requirements

Geology is offered as a Bachelor of Arts or a Bachelor of Science degree. Students may choose one of two tracks to follow: a general Geology Track and a Geology Career Track. Requirements for each are below.

The required core courses for either the B.A. or B.S. degree in geology are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 1170</td>
<td>INTRODUCTION TO PHYSICAL GEOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 1180</td>
<td>INTRODUCTION TO HISTORICAL GEOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 2300</td>
<td>GEOSCIENCE DATA ANALYSIS AND MODELING</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 2750</td>
<td>MINERALOGY</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 2754</td>
<td>MINERALOGY LABORATORY</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 3300</td>
<td>STRUCTURAL GEOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 3310</td>
<td>STRUCTURAL GEOLOGY FIELD METHODS</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 4300</td>
<td>INTRODUCTION TO SEDIMENTARY GEOLGY</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 4620</td>
<td>ADVANCED FIELD COURSE</td>
<td>6</td>
</tr>
</tbody>
</table>

Students must choose one of the tracks below.

For a B.A., the college requires completion of a foreign language through the intermediate level.

General Geology Track

In addition to the core geology requirements, students wishing to follow the general geology track must also take one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 4260</td>
<td>PROCESS GEOMORPHOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>GEOL/GEOG 4640</td>
<td>CRITICAL ZONE SCIENCE</td>
<td>4</td>
</tr>
<tr>
<td>GEOL/GEOG 4330</td>
<td>SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION</td>
<td>4</td>
</tr>
</tbody>
</table>

In addition, students in the General geology track must take one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 4800</td>
<td>INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/Earth Science</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 4950</td>
<td>SENIOR THESIS</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition, the major must select at least 12 hours of geology or geography courses that should be chosen after consultation with an adviser.

Required cognate courses are:

- An approved statistics course
- CHEM 1140  FUNDAMENTALS OF COLLEGE CHEMISTRY  4
- CHEM 1144  FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY  1
- PHYS 1110  GENERAL PHYSICS I WITH ALGEBRA  4
- PHYS 1154  GENERAL PHYSICS LABORATORY I  1

Select one of the following options:

Option 1:
- PHYS 1120  GENERAL PHYSICS  4
- PHYS 1164  GENERAL PHYSICS LABORATORY II  1

Option 2:
- GEOL 4400  GEOPHYSICS  3

Geology Career Track

In addition to the core geology requirements, students wishing to follow the Geology career track must also take one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 4260</td>
<td>PROCESS GEOMORPHOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>GEOL/GEOG 4640</td>
<td>CRITICAL ZONE SCIENCE</td>
<td>4</td>
</tr>
<tr>
<td>GEOL/GEOG 4330</td>
<td>SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION</td>
<td>4</td>
</tr>
</tbody>
</table>

Additionally, students in the Geology career track must take one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 4800</td>
<td>INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/Earth Science</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 4950</td>
<td>SENIOR THESIS</td>
<td>3</td>
</tr>
</tbody>
</table>

Students must also take additional Geology/Geography/related-field courses, which add up to at least 12 credits, and should be chosen after consultation with an advisor.

Required cognate courses:

**Chemistry**
- CHEM 1180  GENERAL CHEMISTRY I  3
- CHEM 1184  GENERAL CHEMISTRY I LABORATORY  1

Select one of the following options:

Option 1:
- CHEM 1190  GENERAL CHEMISTRY II  3
- CHEM 1194  GENERAL CHEMISTRY II LABORATORY  1

Option 2:
- GEOL 4540  GEOCHEMISTRY  3

**Math**

Select one of the following options:

Option 1:
- MATH 1950  CALCULUS I  5
- MATH 1960  CALCULUS II  5

Option 2:
- MATH 1930  CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES  3

**Physics**

- PHYS 2110  GENERAL PHYSICS I - CALCULUS LEVEL  4
- PHYS 1154  GENERAL PHYSICS LABORATORY I  1
Select one of the following options:

Option 1:
- PHYS 2120 GENERAL PHYSICS-CALCULUS LEVEL 4
- PHYS 1164 GENERAL PHYSICS LABORATORY II 1

Option 2:
- GEOL 4400 GEOPHYSICS 3

### Career Geology Track

#### Freshman

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>GEO 1170</td>
<td>INTRODUCTION TO PHYSICAL GEOLOGY</td>
</tr>
<tr>
<td>3</td>
<td>MATH 1930</td>
<td>CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (*)</td>
</tr>
<tr>
<td>3</td>
<td>ENGL 1160</td>
<td>ENGLISH COMPOSITION II (*)</td>
</tr>
</tbody>
</table>

**Foreign Language 1110-level**

- MATH 1930: Requires MATH 1320 within the last two years, or Math ACT sub-score of 25 within the last two years, or appropriate Math Placement Exam score within the last two years. (As an alternative, students may opt to take MATH 1950 and MATH 1960 with proper placement.)
- ENGL 1160: Requires ENGL 1150 with grade of C- or better or appropriate placement via EPPE or AP.
- Foreign Language 1110 is a humanity and global diversity

#### Spring

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>CHEM 1190</td>
<td>GENERAL CHEMISTRY II (with lab*)</td>
</tr>
<tr>
<td>3-4</td>
<td>PHYS 2120</td>
<td>GENERAL PHYSICS-CALCULUS LEVEL</td>
</tr>
<tr>
<td>3-5</td>
<td>PHYS 1154</td>
<td>GENERAL PHYSICS LABORATORY I (*)</td>
</tr>
</tbody>
</table>

**120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

#### Sophomore

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>GEO 2750</td>
<td>MINERALOGY</td>
</tr>
<tr>
<td></td>
<td>&amp; GEO 2754</td>
<td>and MINERALOGY LABORATORY (*)</td>
</tr>
<tr>
<td></td>
<td>GEO 2300</td>
<td>GEOSCIENCE DATA ANALYSIS AND MODELING</td>
</tr>
</tbody>
</table>

**Humanities and Fine Arts**

**Foreign Language 2120-level**

- GEO 2750: Requires GEO 1170. Must take GEO 2754 concurrently.
- GEO 2300: Requires GEO 1010 or GEO 1170 or GEO 1030 or permission of instructor.

#### Junior

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-16</td>
<td>GEOL 3400</td>
<td>INTRODUCTION TO SEDIMENTARY GEOLGY (*)</td>
</tr>
<tr>
<td>4</td>
<td>PHYS 2120</td>
<td>GENERAL PHYSICS-CALCULUS LEVEL</td>
</tr>
<tr>
<td></td>
<td>&amp; PHYS 1164</td>
<td>and GENERAL PHYSICS LABORATORY I (*)</td>
</tr>
</tbody>
</table>

**Social Science**

**Humanities and Fine Arts**

**Foreign Language 2120-level**

- PHYS 2110: Requires MATH 1930 for Geology majors (MATH 1950 for non-GEOL majors), or Math ACT sub-score of 25, or appropriate Math Placement Exam score.
- CHEM 1190: Requires CHEM 1180 and MATH 1320 or higher, plus concurrent enrollment in CHEM 1194.

**GEOL 4540**: Requires GEO 1170, CHEM 1140 or 1180, and either GEO 2750 or CHEM 2500 or permission of instructor. Not offered every semester.

**120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

#### Spring

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-15</td>
<td>GEO 3300</td>
<td>STRUCTURAL GEOLOGY</td>
</tr>
<tr>
<td></td>
<td>&amp; GEO 3310</td>
<td>and STRUCTURAL GEOLOGY FIELD METHODS (*)</td>
</tr>
<tr>
<td></td>
<td>GEO/GEOG 4260 or GEOG 4640 or GEO 4330 or GEOG 4330</td>
<td>PROCESS GEOMORPHOLOGY (*)</td>
</tr>
</tbody>
</table>

**Social Science**

**Humanities and Fine Arts**

- GEO 3300: Requires GEO 2750+2754 or permission of instructor
- PHYS 2120: Requires PHYS 2110 and MATH 1930 for GEOL majors or MATH 1960 for non-GEOL majors.
- GEO 4400: Requires GEO 1170; PHYS 1110/2110, or permission of the instructor.

**120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.

**Humanities and Fine Arts**

- GEO 4260: Requires GEOG 1030 or GEOG 1050 or GEO 1010 or GEO 1170
• GEOL/GEOG 4640: Requires GEOL 1170 or GEOL 1010 or GEOG 1030; and one chemistry or physics course recommended

• GEOL/GEOG 4330: Requires GEOG 1030 or GEOG 1050 or GEOL 1010 or GEOL 1170

• Humanities/Fine Arts #3 must be in a 2nd discipline.

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** Summer Credits: 14 **

GEOL 4620  ADVANCED FIELD COURSE (*) 6  
• GEOL 4620 is usually taken in the Summer between Junior and Senior Years.

GEOL 4620: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300

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** Fall Credits: 6 **

Approved GEOL elective 1  
Humanities and Fine Arts for A&S or Minor/2nd Major course* 3  
Social Science* 3  
Social Science for A&S or Minor/2nd Major course* 3  
HIST 1010 or Minor/2nd Major Course** 3  
  ^ A&S College Requirement Option. HFA for A&S must be from 3rd discipline.

Note: Social Science for University Gen Ed must be from a 2nd discipline  
  ✔ A&S College Requirement Option. Social Science for A&S must be from a 3rd discipline  

** Spring Credits: 13 **

GEOL 4800  INTERNSHIP IN ENVIRONMENTAL/REGIONAL PLANNING/ EARTH SCIENCE (*) or SENIOR THESIS 3  

ENGL 3980  TECHNICAL WRITING ACROSS THE DISCIPLINES ( 3  
  + OR Upper Level Elective**  

Approved GEOL Elective 3  
Upper Level Elective** 3  
HIST 1000 or Minor/2nd Major Course* 3  

• GEOL 4800: Requires Senior status, major or area of concentration in geography or environmental science AND permission. If GEOL 4800 is taken, an advanced writing course such as ENGL 3980 must also be taken.

** GEOL 4950: Requires Senior status. If GEOL 4950 is taken, taking an advanced writing course such as ENGL 3980 will not be needed for the writing requirement but could still be helpful toward overall upper level requirements.

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** Fall Credits: 4 **

GEOL 1170  INTRODUCTION TO PHYSICAL GEOLOGY 4  
MATH 1220  COLLEGE ALGEBRA (*) 3  
ENGL 1160  ENGLISH COMPOSITION II (*) 3  
Foreign Language 1110-level* 5  

• MATH 1220: Requires appropriate placement via ACT/SAT or Math Placement.

• ENGL 1160: Requires ENGL 1150, or EPPE or AP placement.

• Foreign Language 1110 is a humanity/fine arts course and global diversity  

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** Spring Credits: 3 **

GEOL 1180  INTRODUCTION TO HISTORICAL GEOLOGY (*) 4  
CHEM 1140 & CHEM 1144  FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*) 5  
Foreign Language 1120-level 5  

• GEOL 1180: Requires GEOL 1170

• CHEM 1140: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score. CHEM 1144 must be taken concurrently.

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** Sophomore Credits: 14 **

Fall

GEOL 2750 & GEOL 2754  MINERALOGY and MINERALOGY LABORATORY (*) 4  
Social Science/US Diversity 3  
CMST 1110 or CMST 2120  PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE 3  
Foreign Language 2110-level 3  

GEOL 2300  GEOSCIENCE DATA ANALYSIS AND MODELING (*) 3  

• GEOL 2750: Requires GEOL 1170. GEOL 2754 must be taken concurrently.

• GEOL 2300: Requires GEOL 1010 or GEOL 1170 or GEOG 1030 or permission of instructor.

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** Spring Credits: 16 **

Approved GEOL Elective 4  
Foreign Language 2110-level 3  

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** ENGL 3980: Requires ENGL 1160 with grade of C- or better or appropriate placement via AP or EPPE. ENGL 3980 specifically will not be needed if taking GEOL 4950.

^ CAS College Requirement Option.

Total Credits: 120-123
**PHYS 1110: Requires MATH 1220, or Math ACT sub-score of 23, or appropriate Math Placement Exam score.**

### Credits 12

**Junior**

**Fall**

- **GEOL 3400**: INTRODUCTION TO SEDIMENTARY GEOLOGY (*) 3

- Approved GEOL Elective** 3

- **PHYS 1110**: Requires PHYS 1110 3

- **PHYS 1164 or GEOL 4400**: GENERAL PHYSICS (with lab) or GEOPHYSICS 3-5

**Humanities and Fine Arts**

- 3

**Social Science**

- GEOL 3400: Requires GEOL 2750 and 2754

- PHYS 1120: Requires PHYS 1110

- GEOL 4400: Requires GEOL 1170 and PHYS 1110/2110, or permission of the instructor.

**Credits 15-17**

**Summer**

- **GEOL 4620**: ADVANCED FIELD COURSE (*) 6

**Senior**

**Fall**

- Humanities and Fine Arts* 3

- Additional Humanity/Fine Arts for A&S or Minor/2nd Major course* 3

- Statistics course 3

- HIST 1000 or Minor/2nd Major Course~ 3

**Credits 6**

**Spring**

- **GEOL 3300 & GEOL 3310**: STRUCTURAL GEOLOGY and STRUCTURAL GEOLOGY FIELD METHODS (') 4

- **GEOL/GEOG 4260 or GEOL 4640 or GEOG 4640 or GEOG 4330 or GEOL 4330**: PROCESS GEOMORPHOLOGY (') or CRITICAL ZONE SCIENCE or SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION 4

- **GEOL elective** 2-3

- **Social Science**^ 3

- **HIST 1010 or Minor/2nd Major course** 3

- **GEOL 4260**: Requires GEOL 1030 or GEOG 1050 or GEO 1010 or GEOL 1170

- **GEOL/GEOG 4640**: Requires GEOL 1170 or GEOG 1010 or GEOG 1030; and one chemistry or physics course recommended

- **GEOL/GEOG 4330**: Requires GEOG 1030 or GEOG 1050 or GEO 1010 or GEOL 1170

- **Social Science must be in a 2nd discipline.**

- **A&S College Requirement Option.**

**Credits 15**

**Spring**

- **GEOL 4950**: SENIOR THESIS 3

- **ENGL 3980**: TECHNICAL WRITING ACROSS THE DISCIPLINES (• OR Upper Level Elective** 3

- Approved GEOL elective 3

- **GEOL 4260**: Requires GEOL 1170; GEOL 1180; GEOL 2750; GEOL 2760; GEOL 3300

- **GEOL 4800**: Requires Senior status, major or area of concentration in geography or environmental science AND permission.

- **GEOL 4950**: Requires Senior status.

**Note:** If students take GEOL 4950, the Writing in the Discipline requirement will be fulfilled. If students select GEOL 4800, they must take a separate WID course, such as ENGL 3980. ENGL 3980 or other approved WID courses require ENGL 1160.
**ENGL 3980:** Requires ENGL 1160 with grade of C- or better or appropriate placement via EPPE or AP.

**120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives can help you reach these minimums.**

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<tr>
<th>Credits</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>122-125</td>
</tr>
</tbody>
</table>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at [https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php](https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php)

**Transfer credit or placement exam scores may change suggested plan of study.**