## Environmental Science, Bachelor of Science with a Concentration in Earth Sciences

### Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required core courses:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Note that in the case of cross-listed courses, Environmental Science major must enroll in the ENVN section)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 1330</td>
<td>Environmental Biology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1010</td>
<td>Chemistry in the Environment and Society</td>
<td>3</td>
</tr>
<tr>
<td>or CHEM 3030</td>
<td>Environmental Chemistry</td>
<td></td>
</tr>
<tr>
<td>ENVN 2010</td>
<td>Environmental Problems and Solutions</td>
<td>1</td>
</tr>
<tr>
<td>ENVN/GEOG/GEOL/BIOL 4610</td>
<td>Environmental Monitoring and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>Minimum of 3 credit hours of ENVN 4800 must be completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENVN/BIO 4800</td>
<td>Internship in Environmental Management and Planning</td>
<td>3</td>
</tr>
<tr>
<td>ENVN/BIO/GEOG/PA 4820</td>
<td>Introduction to Environmental Law &amp; Regulations</td>
<td>3</td>
</tr>
<tr>
<td><strong>Also required:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An approved course in statistics</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>An approved GIS course</td>
<td>1-4</td>
<td></td>
</tr>
</tbody>
</table>

### Earth Sciences Concentration requirements:

<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>One course covering surface processes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL 4260</td>
<td>Process Geomorphology</td>
<td>4</td>
</tr>
<tr>
<td>or GEOL 4330</td>
<td>Soil Genesis, Morphology and Classification</td>
<td></td>
</tr>
<tr>
<td>or GEOL 4640</td>
<td>Critical Zone Science</td>
<td></td>
</tr>
<tr>
<td>Select an ADDITIONAL 27 hours of geography/geology courses</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>from the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOL 1180</td>
<td>Introduction to Historical Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2300</td>
<td>Geoscience Data Analysis and Modeling</td>
<td></td>
</tr>
<tr>
<td>GEOL 2500</td>
<td>Special Topics in Geography-Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2600</td>
<td>Geohydrology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2750</td>
<td>Mineralogy</td>
<td></td>
</tr>
<tr>
<td>GEOL 2754</td>
<td>Mineralogy Laboratory</td>
<td></td>
</tr>
<tr>
<td>GEOL 2760</td>
<td>Igneous and Metamorphic Petrology</td>
<td></td>
</tr>
<tr>
<td>GEOL 2764</td>
<td>Igneous and Metamorphic Petrology Laboratory</td>
<td></td>
</tr>
<tr>
<td>GEOL 3300</td>
<td>Structural Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 3310</td>
<td>Structural Geology Field Methods</td>
<td></td>
</tr>
<tr>
<td>GEOL 3400</td>
<td>Introduction to Sedimentary Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL/GEOG 4260</td>
<td>Process Geomorphology</td>
<td></td>
</tr>
</tbody>
</table>

### Required cognate courses:

Select one of the following chemistry sequences: 13-14

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1140  &amp; CHEM 1144</td>
<td>Fundamentals of College Chemistry and Fundamentals of College Chemistry Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 3650  &amp; CHEM 3654</td>
<td>Fundamentals of Biochemistry and Fundamentals of Biochemistry Laboratory</td>
<td></td>
</tr>
<tr>
<td>GEOL 4540</td>
<td>Geochemistry</td>
<td></td>
</tr>
<tr>
<td>Sequence Three:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1180  &amp; CHEM 1184</td>
<td>General Chemistry I and General Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 1190  &amp; CHEM 1194</td>
<td>General Chemistry II and General Chemistry II Laboratory</td>
<td></td>
</tr>
<tr>
<td>Select one of the following physics sequences: 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1050  &amp; PHYS 1054</td>
<td>Introduction to Physics and Introduction to Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHYS 1110  &amp; PHYS 1154</td>
<td>General Physics I and General Physics Laboratory I</td>
<td></td>
</tr>
<tr>
<td>PHYS 2110  &amp; PHYS 1154</td>
<td>General Physics I - Calculus Level and General Physics Laboratory I</td>
<td></td>
</tr>
</tbody>
</table>

### Total Credits 73-78

### Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Environmental Science major with a concentration in Earth Science, the writing in the discipline requirement can be fulfilled by completing GEOL 4950 or ENGL 3980.
### Freshman

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1330</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1010</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1150</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1220</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Fine Arts/US Diversity</td>
<td>3</td>
</tr>
</tbody>
</table>

*CHEM 1010: requires MATH 1220 or equivalent.

**ENGL 1150: requires EPPE score of 5 or appropriate placement via AP.

***MATH 1220: requires appropriate Math placement within last 2 years.

### Spring

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>15</td>
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<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMST 1110 (or CMST 2120)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1160</td>
<td>3</td>
</tr>
<tr>
<td>ENVN 2010</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 1170</td>
<td>4</td>
</tr>
</tbody>
</table>

Social Science / Global Diversity (GEOG 1020 suggested) | 3

*ENGL 1160: requires ENGL 1150, EPPE score of 6, or AP Score of 4

**ENVN 2010: requires BIOL 1330 or GEOL 1010 or concurrent enrollment

### Sophomore

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1140 (or CHEM 1144)</td>
<td>5</td>
</tr>
</tbody>
</table>

Approved GEOG/GEOL Elective | 3

Approved GEOG/GEOL Elective | 4

Humanities and Fine Arts | 3

*CHEM 1140: requires MATH 1220 or equivalent within last two years (C- or better). CHEM 1144 concurrent or prior with C- or better.

**CHEM 1180/1184 and 1190/1194 together can substitute for CHEM 1140/1144.

### Freshman

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 2210 (or CHEM 2214)</td>
<td>5</td>
</tr>
</tbody>
</table>

Approved GEOG/GEOL Elective | 4

Approved GEOG/GEOL Elective | 3

Social Science | 3

*CHEM 2210: requires CHEM 1140/1144 or CHEM 1190/1194 with a C- or better. CHEM 2214 must be taken concurrently.

**CHEM 2250 and 2260/2274 together can substitute for CHEM 2210/2214.

### Junior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 3650 &amp; CHEM 3654</td>
<td>4</td>
</tr>
</tbody>
</table>

Approved GIS Course | 4

Approved GEOG/GEOL Elective | 4

Humanities and Fine Arts | 3

*CHEM 3650: requires CHEM 2210/2214 or CHEM 2260/2274 with C- or better. CHEM 3654 must be taken concurrently.

**CHEM 3650/3654 will not be required if student has completed through CHEM 2260/2274 of the general chemistry sequence.

***HFA – must be in a 2nd discipline

### Spring

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<tr>
<td>15</td>
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<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3980</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1050 &amp; PHYS 1054</td>
<td>5</td>
</tr>
</tbody>
</table>

Approved GEOG/GEOL Elective | 4

Social Science | 3

*ENGL 3980: requires ENGL 1160, or EPPE score of 7, or AP score of 5

**PHYS 1050: HS algebra or equivalent

***PHYS 1054: HS algebra or equivalent; PHYS 1050 prior or concurrent

^The two-semester sequence of PHYS 1110/1154 and 1120/1164 can be taken in place of PHYS 1050/1054.

#SS – must be in a 2nd discipline

### Summer

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>3</td>
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<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVN 4800</td>
<td>3</td>
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</tbody>
</table>

*ENVN 4800: requires permission of instructor.

### Senior

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENVN/GEOG/GEOL/BIOI 4610</td>
<td>3</td>
</tr>
</tbody>
</table>

ENVN 4820 | 3

Approved GEOG/GEOL Elective | 3

Approved GEOG/GEOL Elective | 3

Elective course | 3

*ENVN/GEOG/GEOL/BIOI 4610 – requires permission of instructor.

**ENVN 4820 – requires permission of 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 or course options can help you reach these minimums.

### Spring

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>15</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved GEOG/GEOL Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Statistics course | 3

Elective course | 4
Elective course* 3

*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 or course options can help you reach these minimums.

<table>
<thead>
<tr>
<th>Credits</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>120</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

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