BS in Environmental Geology (694030) MAP Sheet
Physical and Mathematical Sciences, Geological Sciences
For students entering the degree program during the 2020-2021 curricular year.

<table>
<thead>
<tr>
<th>University Core Requirements</th>
<th>Suggested Sequence of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University Core Requirements:</strong></td>
<td><strong>FRESHMAN YEAR</strong></td>
</tr>
<tr>
<td>Requirements</td>
<td>#Classes</td>
</tr>
<tr>
<td><strong>Religion Cornerstones</strong></td>
<td></td>
</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td>1</td>
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<tr>
<td>Foundations of The Restoration</td>
<td>1</td>
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<tr>
<td>The Eternal Family</td>
<td>1</td>
</tr>
<tr>
<td><strong>The Individual and Society</strong></td>
<td></td>
</tr>
<tr>
<td>American Heritage</td>
<td>1-2</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
<td></td>
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<tr>
<td>First Year Writing</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>1</td>
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<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Arts, Letters, and Sciences</strong></td>
<td></td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
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<tr>
<td>Arts</td>
<td>1</td>
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<tr>
<td>Letters</td>
<td>1</td>
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<tr>
<td>Biological Science</td>
<td>1</td>
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<tr>
<td>Physical Science</td>
<td>1</td>
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<tr>
<td>Social Science</td>
<td>1</td>
</tr>
<tr>
<td><strong>Core Enrichment: Electives</strong></td>
<td></td>
</tr>
<tr>
<td>Religion Electives</td>
<td>3-4</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variabe</td>
</tr>
<tr>
<td><strong>Graduation Requirements:</strong></td>
<td>Minimum residence hours required</td>
</tr>
<tr>
<td></td>
<td>Minimum hours needed to graduate</td>
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</tbody>
</table>
**BS in Environmental Geology (694030)**

**2020-2021 Program Requirements (69 - 76 Credit Hours)**

<table>
<thead>
<tr>
<th>REQUIREMENT 1</th>
<th>Complete 21 courses</th>
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<tbody>
<tr>
<td>GEOL 111</td>
<td>Physical Geology</td>
</tr>
<tr>
<td>GEOL 210</td>
<td>Field Studies</td>
</tr>
<tr>
<td>GEOL 230</td>
<td>Geological Communications</td>
</tr>
<tr>
<td>GEOL 270</td>
<td>Geological and Stratigraphy</td>
</tr>
<tr>
<td>GEOL 275</td>
<td>Structural Geology</td>
</tr>
<tr>
<td>GEOL 420</td>
<td>Geological Field Methods</td>
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<td>GEOL 421</td>
<td>Geological Mapping</td>
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<td>GEOL 422</td>
<td>Geologic Writing</td>
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<tr>
<td>GEOL 435</td>
<td>Introduction to Groundwater</td>
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<tr>
<td>GEOL 445</td>
<td>Geochemistry</td>
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<tr>
<td>GEOL 535</td>
<td>Contaminant Hydrogeology</td>
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</tbody>
</table>

**REQUIREMENT 2** Complete 2.0 hours from the following course(s)

| GEOL 491R   | Geology Seminar   | 0.5 |

You may take this course up to 4 times.

**REQUIREMENT 3** Complete 5 courses

<table>
<thead>
<tr>
<th>NOTE: PWS LECTURES AND LABS (PWS 282 &amp; 283; PWS 305 &amp; 306; PWS 365 &amp; 366) REQUIRE SEPARATE REGISTRATION AND CAN BE TAKEN SEPARATELY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE EN 341 - Elementary Soil Mechanics</td>
</tr>
<tr>
<td>CE EN 414 - Engineering Applications of GIS</td>
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<tr>
<td>CE EN 431 - Hydrology</td>
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<tr>
<td>CE EN 451 - Environmental Engineering Processes</td>
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<tr>
<td>CE EN 514 - Geospatial Environmental Engineering</td>
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<tr>
<td>CE EN 531 - Principles of Hydrologic Modeling</td>
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<tr>
<td>CE EN 540 - Geo-Environmental Engineering</td>
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<tr>
<td>CE EN 547 - Groundwater Modeling</td>
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<tr>
<td>CE EN 551 - Water Treatment Facilities Design</td>
</tr>
<tr>
<td>CE EN 555 - Environmental Chemistry</td>
</tr>
<tr>
<td>GEOG 313 - Remote Sensing 1</td>
</tr>
<tr>
<td>GEOG 413 - Remote Sensing 2</td>
</tr>
<tr>
<td>GEOL 351 - Mineralogy</td>
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<tr>
<td>GEOL 352 - Petrology</td>
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<tr>
<td>GEOL 405 - Applied Mathematics in the Geological Sciences</td>
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<tr>
<td>GEOL 411 - Geomorphology and Remote Sensing</td>
</tr>
<tr>
<td>PWS 282 - Soil Science</td>
</tr>
<tr>
<td>PWS 283 - Soil Science Laboratory</td>
</tr>
<tr>
<td>PWS 305 - Watershed Ecology</td>
</tr>
<tr>
<td>PWS 306 - Watershed Ecology Laboratory</td>
</tr>
<tr>
<td>PWS 365 - Environmental Microbiology and Biogeochemistry</td>
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<tr>
<td>PWS 366 - Environmental Microbiology and Biogeochemistry Laboratory</td>
</tr>
<tr>
<td>PWS 375 - Environmental Policies and Laws</td>
</tr>
</tbody>
</table>

**REQUIREMENT 4** Complete 1 option

**OPTION 4.1** Complete 3 courses

| CHEM 105 - General College Chemistry 1 with Lab (Integrated) | 4.0 |
| CHEM 106 - General College Chemistry 2                     | 3.0 |
| CHEM 107 - General College Chemistry Laboratory            | 1.0 |

**OPTION 4.2** Complete 2 courses

| CHEM 111 - Principles of Chemistry 1                       | 4.0 |
| CHEM 112 - Principles of Chemistry 2                       | 3.0 |

**REQUIREMENT 5** Complete 6 courses

| MATH 112 - Calculus 1                                      | 4.0 |
| MATH 113 - Calculus 2                                      | 4.0 |
| PHSCS 105 - General Physics 1                             | 3.0 |
| PHSCS 106 - General Physics 2                             | 3.0 |
| STAT 121 - Principles of Statistics                       | 3.0 |
| WRTG 316 - Technical Communication                        | 3.0 |

**MAP DISCLAIMER**
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

**REQUIREMENT 6** Complete a practice version of the American State Board of Geologists fundamentals of geology exam.

**THE DISCIPLINE**
Environmental geology deals with the protection and management of groundwater, surface water, and soil systems. Over 22% of the water supply in the United States comes from groundwater. As population grows and climate change proceeds, water resources will be under increased pressure. No less important than water is the understanding of the Critical Zone, the shallow soils with which surface and ground waters interact and upon which most life depends. Study of the Critical Zone is, to a large degree, an undertaking of environmental geology. Understanding the science of environmental geology will enhance students’ sense of stewardship for the Earth.

**CAREER OPPORTUNITIES**
Environmental geology graduates are prepared for employment in industry, environmental consulting firms, government, education, or academia. The program provides training and skills for employment with a bachelor's degree or for continued education in graduate programs to study environmental geology, business, or law. Jobs in geosciences and hydrology are expected to continue to grow over the coming decade. Most environmental geology graduates are employed in the environmental industry, state, or federal governments.