Bachelor of Science in Geological Engineering
2016-2017

Year 1

Fall
- MA 1160/1161: Calculus w/ Tech 1 (4/5 credits)
- MA 2160: Calculus w/ Tech 2 (4 credits)
- PH 1100: Physics Lab 1 (1 credit)
- PH 2100: Univ. Physics I - Mech (3 credits)
- CH 1150: Chemistry I (3 credits)
- ENG 1102: Eng. Orientation (1 credit)
- ENG 1101 or ENG 1102: Eng. Analysis & Prob. Solving (3 credits)

Spring
- MA 3160: Multivar. Calculus w/ Tech (4 credits)
- PH 1200: Physics Lab II (1 credit)
- GE 2000: Understanding the Earth (3 credits)
- PH 2200: Univ. Physics II - Elec / Mag (3 credits)
- CH 1510: Chemistry Lab 1 (1 credit)
- ENG 1002: Eng. Modeling & Design (3 credits)
- CH 1151: Chemistry Lab 1 (1 credit)
- ENG 1002: Eng. Modeling & Design (3 credits)

Year 2

Fall
- MA 3160: Multivar. Calculus w/ Tech (4 credits)
- ENG 2120: Statics - Strength of Materials (4 credits)
- GE 3910: Field Geology w/ Eng. App. (5 credits)
- GE 2300: Intro to Petrology (3 credits)
- GE 3040: Fundamentals of Geophysics (3 credits)
- GE 3550: Structural Geology (4 credits)

Spring
- MA 2160: Calculus w/ Tech 2 (4 credits)
- GE 3900: Field Geophysics (5 credits)
- GE 2310: Intro to Mineralogy (3 credits)
- GE 3041: Intro to Petrology (3 credits)
- GE 3040: Fundamentals of Geophysics (3 credits)
- GE 3550: Structural Geology (4 credits)

Summer
- GE 2000: Geo Eng Design Project (3 credits)
- GE 4000: Geo Eng Design Project II (3 credits)

Year 3

Fall
- MA 3710: Engineering Statistics (3 credits)
- GE 3860: Eng. Geo/Geo Information (3 credits)
- GE 3860: Eng. Decision Analysis (3 credits)

Spring
- MA 3710: Engineering Statistics (3 credits)
- GE 3860: Eng. Geo/Geo Information (3 credits)
- GE 3860: Eng. Decision Analysis (3 credits)

Year 4

Fall
- GE 4900: Geo Eng Design Project 1 (3 credits)
- GE 4910: Geo Eng Design Project II (3 credits)

Spring
- GE 4900 and GE 4910: With approval of Geo Eng. Advisor, Design Projects Outside of the Department May Be Substituted

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.
BS in Geological Engineering 2016-2017  
(Minimum of 133 Credits)

**Geological Engineering Electives**
Nine credits of Geological Engineering Electives are required. Prerequisites not normally required must be satisfied by free electives or other courses not specifically listed. With approval of Geological Engineering ABET Coordinator, Geo Eng electives may be substituted with Independent Geological Engineering Research and/or Cooperative Lab.

**Enterprise Concentration (12 Credits)**
With permission of Geological Engineering ABET Coordinator, enterprise may substitute 6 credits of interdisciplinary project for GE 4900 and GE 4910; 3 credits of required communication, teaming or business must be double counted as Distribution (HASS) credits; and 3 credits of enterprise technical electives must be substituted for free electives.

**Enterprise Minor**: Follow concentration, plus take 6 additional credits beyond required degree as per minor requirements.

**Second Degree Policy**: Candidates for a second degree must meet all the coursework requirements for the major in the second degree with a minimum of 25% of the credit hours required for the degree, beyond the primary degree.

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**General Education Sophomore Elective Lists**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Offered</th>
<th>Prerequisite(s)</th>
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</thead>
<tbody>
<tr>
<td>GE 4300 Drilling and Blasting</td>
<td>Fall - alternate yrs</td>
<td>GE 2020, PH 2100</td>
</tr>
<tr>
<td>GE 4150 Natural Hazards</td>
<td>Fall</td>
<td>(GE 2000 or GE 2100), UN 2002</td>
</tr>
<tr>
<td>GE 4360 Materials Handling</td>
<td>On Demand</td>
<td>PH 2100</td>
</tr>
<tr>
<td>GE 4504 Air Quality Engineering and Science</td>
<td>Fall</td>
<td>ENVE 3501 or ENVE 3503</td>
</tr>
<tr>
<td>GE 4610 Formation Eval. &amp; Petrol. Eng.</td>
<td>Fall</td>
<td>GE 2310, GE 3050, GE 3910</td>
</tr>
<tr>
<td>GE 4760 Mining Geology</td>
<td>On Demand, typ. Spring</td>
<td>GE 3850</td>
</tr>
<tr>
<td>GE 4800 Groundwater Eng.</td>
<td>Spring</td>
<td>GE 2000, ENG 2120, (ENG 3200 or ENG 3507)</td>
</tr>
<tr>
<td>GE 4860 Computer Methods in Geomechanics</td>
<td>Fall, Spring, Summer</td>
<td>(MA 2150 or MA 2160), (CH 1100 or CH 1110)</td>
</tr>
<tr>
<td>ENVE 3503 Environmental Engineering</td>
<td>Fall, Spring, Summer</td>
<td>(ENG 3200 or ENG 3507), (MA 3710(C) or ENVE 3502(C) or CE 3710(C))</td>
</tr>
<tr>
<td>CE 3331 Professional Practice</td>
<td>Fall, Spring, Summer</td>
<td></td>
</tr>
<tr>
<td>CE 3332 Fund. Constr. Engineering</td>
<td>Fall, Spring, Summer</td>
<td></td>
</tr>
<tr>
<td>CE 3620 Water Resources Engineering</td>
<td>Spring</td>
<td></td>
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<tr>
<td>CE 4010 Introduction to Consulting Eng.</td>
<td>Fall</td>
<td>CE 3201, CE 3810</td>
</tr>
<tr>
<td>CE 4820 Foundation Engineering</td>
<td>Spring</td>
<td>CE 3810</td>
</tr>
<tr>
<td>CE 4830 Geosynthetics Engineering</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>CE 4850 Rock Engineering for Civil Engineers</td>
<td>Spring - alternate yrs</td>
<td>CE 3810</td>
</tr>
</tbody>
</table>

**Advanced Geophysics Electives**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Offered</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE 4560 Earthquake Seismology</td>
<td>Fall</td>
<td>GE 3050, PH 2100, MA 3160</td>
</tr>
<tr>
<td>GE 4600 Reflection Seismology</td>
<td>Fall</td>
<td>GE 3040</td>
</tr>
<tr>
<td>GE 4610 Formation Eval. &amp; Petrol. Eng.</td>
<td>Fall or Spring (depends on demand)</td>
<td></td>
</tr>
</tbody>
</table>

**General Education Requirements**

**I. Core Courses (6 Credits)**

*UN 1015* ___ SS/Behavioral __________

* Or one semester of a 3000 level or higher modern language.

**II. Sophomore Electives (6 Credits)**

*HU/FA __________________________ SS/Behavioral ______________

**III. Hass Course Requirements (12 Credits)**

No more than 3 credits on the Supplemental List

A. 6 credits 3000- or 4000- level:
   1. __________________________
   2. __________________________

B. 6 credits at any level:
   1. __________________________
   2. __________________________

**VI. Co-curricular activities (3 units)**

The co-curricular activity requirement consists of three semester units of physical education activities. These units are required for graduation, but are not included in the overall degree-credit requirement.

Note: Most physical education activities will last for 7 ½ weeks or ½ semester. A student would need six of these ½-semester units to fulfill the 3-semester unit co-curricular requirement.

PE ______________ PE ___________ PE ___________

PE ______________ PE ___________ PE ___________