# B.S. Civil Engineering

Including the University's General Education Requirements (a minimum of 36 credits--see the General Education Requirements [http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/] in the Academic Information section of this catalog), students must complete the required courses listed below. Some of the required courses also satisfy or partially satisfy the General Education Objectives, as noted. The courses are listed in the sequence they are to be taken.

## Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1102</td>
<td>Writing and Rhetoric II (Partially satisfies General Education Objective 1)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1170</td>
<td>Calculus I (Satisfies General Education Objective 3)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>General Chemistry I and General Chemistry I Lab (Partially satisfies General Education Objective 5)</td>
<td>5</td>
</tr>
</tbody>
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Choose one of the following:

- GEOL 1100 & 1100L: The Dynamic Earth and The Dynamic Earth Lab
- GEOL 2204: Fluid Earth
- GEOL 2205: Solid Earth
- BIOL 1100 & 1100L: Concepts of Biology and Concepts of Biology Lab
- MATH 1175: Calculus II
- PHYS 2211: Engineering Physics I (Partially satisfies General Education Objective 5)
- CE 1105: Engineering Graphics
- CE/ME 2210: Engineering Statics
- CS/INFO 1181: Computer Science and Programming I
- MATH 3352: Introduction to Probability
- MATH 2240: Linear Algebra
- CE 2200: Civil Engineering Tools
- COMM 1101: Fundamentals of Oral Communication (Satisfies General Education Objective 2)
- CE/ME 2220: Engineering Dynamics
- CE/ME 3350: Mechanics of Materials
- MATH 3360: Differential Equations
- CE 3332: Basic Geotechnics
- CE 3337: Geotechnical Engineering Laboratory
- CE 3301: Surveying
- CE 3362: Structural Analysis
- CE 3361: Engineering Economics and Management
- CE 3366: Civil Engineering Materials
- CE 3367: Civil Engineering Materials Laboratory
- CE 4434: Geotechnical Design
- CE/ME 3341: Fluid Mechanics
- CE 3351: Engineering Hydrology
- ENVE 4408: Water and Waste Water Quality
- CE 4462: Design of Steel Structures

<table>
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</thead>
<tbody>
<tr>
<td>ENVE 4410</td>
<td>Introduction to Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 4435</td>
<td>Hydraulic Design</td>
<td>3</td>
</tr>
<tr>
<td>CE 4496A</td>
<td>Project Design I</td>
<td>3</td>
</tr>
<tr>
<td>CE 4436</td>
<td>Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 4496B</td>
<td>Project Design II</td>
<td>3</td>
</tr>
<tr>
<td>CE Technical Electives</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Add'l General Education Objectives

1. Students must earn a minimum of C- in CHEM 1111/1111L before enrolling in ENVE 4408.
2. List of approved courses is available in the Civil Engineering Checklist. Two of the three CE Technical Elective courses must be selected from at least two different areas of Geotechnical, Structures, Water Resources, Environmental, or other areas. The third technical elective can be taken from any of the above areas or from another category or course that has been approved by the Department.
3. Geotechnical: CE 4438, CE 4454, CE 4455, CE 4475, CE 4476, CE 4480
   Structures: CE 4431, CE 4462, CE 4464, CE 4465, CE 4466, CE 4468
   Water Resources: CE 4424, CE 4425
   Environmental: CE 4406, ENVE 4404, ENVE 4409, ENVE 4430
   Other: CE 4460, ME 4440
4. A minimum of C- is required for CE 3332, CE/ME 3341 and CE/ME 3350

## Emphasis in Engineering Geology

Complete the following courses in addition to the Bachelor of Science in Civil Engineering:

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<tr>
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<tbody>
<tr>
<td>CE/GEOL 4454</td>
<td>Basic Engineering Geology</td>
<td>3</td>
</tr>
<tr>
<td>CE/GEOL 4455</td>
<td>Geologic Data Methods</td>
<td>3</td>
</tr>
<tr>
<td>CE/GEOL 4475</td>
<td>Essentials of Geomechanics</td>
<td>3</td>
</tr>
<tr>
<td>CE/GEOL 4476</td>
<td>Engineering Geology Project</td>
<td>1</td>
</tr>
<tr>
<td>CE 4480/GEOL 4483</td>
<td>Earthquake Engineering</td>
<td>3</td>
</tr>
</tbody>
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ISU Degree Requirements [http://coursecat.isu.edu/undergraduate/degreerequirements/]

ISU General Education [http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/]

Major Academic Plan (MAP) [https://www.isu.edu/advising/maps/]

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For more information, please visit the ISU General Education [https://www.isu.edu/advising/maps/] and Departmental Information [http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/] pages.