BEng in Civil Engineering

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 9 credits of these courses to count towards both Requirements.

Students may use no more than 6 credits earned from courses offered in pure online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

**Major Requirements**

**Engineering Fundamental Course(s)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit(s) attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 1021</td>
<td>3</td>
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<tr>
<td>COMP 1021P</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1021Q</td>
<td>3</td>
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<tr>
<td>COMP 2011</td>
<td>4</td>
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<tr>
<td>CHEM 1010</td>
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<tr>
<td>CHEM 1020</td>
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<tr>
<td>LANG 2030</td>
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<td>MATH 1012</td>
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<td>MATH 1013</td>
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<td>MATH 1014</td>
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<tr>
<td>MATH 1020</td>
<td>4</td>
</tr>
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<td>MATH 1023</td>
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</tr>
<tr>
<td>MATH 1024</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2011</td>
<td>3</td>
</tr>
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<td>MATH 2350</td>
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### Required Course(s)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit(s)</th>
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<tbody>
<tr>
<td>PHYS 1112</td>
<td>General Physics I with Calculus</td>
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<tr>
<td>PHYS 1312</td>
<td>Honors General Physics I</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 1010</td>
<td>Academic and Professional Development I</td>
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</tr>
<tr>
<td>CIVL 1100</td>
<td>Discovering Civil and Environmental Engineering</td>
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<tr>
<td>CIVL 2010</td>
<td>Academic and Professional Development II</td>
<td>0</td>
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<tr>
<td>CIVL 2020</td>
<td>Industrial and BIM Training</td>
<td>0</td>
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<tr>
<td>CIVL 2110</td>
<td>Statics</td>
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</tr>
<tr>
<td>CIVL 2120</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2160</td>
<td>Modeling Systems with Uncertainties</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2170</td>
<td>Infrastructure Systems Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2410</td>
<td>Environmental Assessment and Management</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2510</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2810</td>
<td>Construction Materials</td>
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<tr>
<td>CIVL 3010</td>
<td>Academic and Professional Development III</td>
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<td>CIVL 3020</td>
<td>Internship Training</td>
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<tr>
<td>CIVL 3210</td>
<td>Introduction to Construction Management</td>
<td>3</td>
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<tr>
<td>CIVL 3310</td>
<td>Structural Analysis</td>
<td>3</td>
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<tr>
<td>CIVL 3320</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
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<tr>
<td>CIVL 3510</td>
<td>Hydrosystems Engineering</td>
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<tr>
<td>CIVL 3610</td>
<td>Traffic and Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 3730</td>
<td>Fundamentals of Geotechnics</td>
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<tr>
<td>CIVL 3740</td>
<td>Geotechnical Analysis and Design</td>
<td>3</td>
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<tr>
<td>CIVL 4910</td>
<td>Civil and Environmental Engineering Final Year Project</td>
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<tr>
<td>CIVL 4920</td>
<td>Civil and Environmental Engineering Final Year Thesis</td>
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<tr>
<td>CIVL 4930</td>
<td>Civil Engineering Capstone Design Project</td>
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<td>ENGG 2010</td>
<td>Engineering Seminar Series</td>
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<tr>
<td>LANG 4033</td>
<td>Technical Communication II for Civil and Environmental Engineering</td>
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</table>
Elective(s)

<table>
<thead>
<tr>
<th>CIVL/SENG</th>
<th>Minimum credit(s) required</th>
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</thead>
<tbody>
<tr>
<td>CIVL</td>
<td>CIVL Electives (3 courses from the specified elective list)</td>
</tr>
<tr>
<td>SENG</td>
<td>Any 3000-level or above courses offered by the Engineering School or engineering departments other than CIVL</td>
</tr>
</tbody>
</table>

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

Option(s)

Research Option

Students with CGA of 3.15 or above may apply for enrollment in the Research Option. They should declare their intention to enroll in the Option no later than the first term of their third year of study. In addition, students should take CIVL 4920 as specified in the major requirements.

Required Course(s)

<table>
<thead>
<tr>
<th>CIVL/UROP</th>
<th>Credit(s) attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL 4900</td>
<td>Note: CIVL 4900 OR UROP 1100</td>
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<td>UROP 1100</td>
<td>Directed Studies</td>
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<tr>
<td></td>
<td>Undergraduate Research Opportunities Series 1</td>
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</tbody>
</table>

Elective Course(s)

Advanced Electives (Courses at 4000- or PG level. Students should seek approval of their advisor for the choices of courses.)