Earning a bachelor of science in civil engineering is the start of a long and successful career. Given the increase in population, the continuing development of second- and third-world countries and the eventual degradation of city infrastructure, civil engineers will always be in demand. A degree in civil engineering opens the door to many areas of study including transportation and highways, hydrology and wastewater systems, structures and bridges, environmental and sustainability issues, and geotechnical and earth design.

**ADVISOR**

Roxann Mackenzie Hayes, PE  
Email: roxann.hayes@ucdenver.edu  
Phone: 303-315-7594  
Office Location: 1200 Larimer Street, Suite 2605, Denver, CO 80204  
Drop-in hours: Mondays 10am-12pm during the academic year

**GRADUATION REQUIREMENTS & POLICIES**

All CU Denver Engineering students are required to complete the following minimum general graduation requirements:

1. Complete a minimum of 130 semester hours.
2. Achieve a minimum 2.0 CU cumulative grade point average (GPA).
3. Complete all college and major requirements.
4. Residency: complete a minimum of 30 CU Denver hours in good standing at CU Denver.
5. Terminal Residency: complete at least the final two semesters as an enrolled CEAS student

**PROGRAM REQUIREMENTS & POLICIES**

Students are responsible for meeting with the faculty advisor in their department to confirm major requirements. Students completing the Civil Engineering B.S. Degree are required to complete the following minimum program requirements:

1. Complete 24 semester hours of CU Denver Core Curriculum coursework.
2. Complete 33 semester hours of Math, Chemistry, and Physics.
3. Take the Fundamentals of Engineering exam prior to graduation.
4. Achieve a minimum 2.0 CU cumulative grade point average (GPA) in all CVEN courses.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required CU Denver Core Curriculum Coursework</td>
<td>24</td>
<td>(Create a link to common CU Denver Core Curriculum)</td>
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<tr>
<td>Intellectual Competencies: ENGL 1020+ENGL 2030</td>
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<td>Humanities and the Arts</td>
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<td>Behavioral Sciences</td>
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<td>Social Sciences</td>
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<tr>
<td>Cultural Diversity</td>
<td>3</td>
<td></td>
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<tr>
<td>International Perspectives</td>
<td>3</td>
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<tr>
<td>Required Math, Chemistry, and Physics Coursework</td>
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<tr>
<td>MATH 1401 Calculus I</td>
<td>4</td>
<td></td>
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<tr>
<td>MATH 2411 Calculus II</td>
<td>4</td>
<td>Prerequisite C- or better in MATH 1401</td>
</tr>
<tr>
<td>MATH 2421 Calculus III</td>
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<td>Prerequisite C- or better in MATH 2411</td>
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<tr>
<td>MATH 3195 Linear Algebra and Differential Equations</td>
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<td>Prerequisite C- or better in MATH 2411</td>
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<tr>
<td>CVEN 3611 Statistics for Engineers</td>
<td>3</td>
<td>Prerequisite C- or better in MATH 2411, may sub MATH 3800</td>
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<tr>
<td>ENGR 1130 Engineering Chemistry</td>
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<tr>
<td>PHYS 2311 Calculus-based Physics I</td>
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<td>Prerequisite C- or better in MATH 1401</td>
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<td>PHYS 2321 Calculus-based Physics I Lab</td>
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<tr>
<td>PHYS 2331 Calculus-based Physics II</td>
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<td>Prerequisite C- or better in PHYS 2311 &amp; MATH 1401</td>
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<td>Required Civil Engineering Coursework</td>
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<tr>
<td>CVEN 1025 Civil Engineering Graphics</td>
<td>3</td>
<td>High school geometry and algebra</td>
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<tr>
<td>CVEN 1067 Intro to Civil Engineering</td>
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<tr>
<td>CVEN 2121 Analytical Mechanics I</td>
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<td>Prerequisite C- or better in PHYS 2311 &amp; MATH 2411</td>
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<tr>
<td>CVEN 2200 Civil Engineering Computing Methods</td>
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<td>Prerequisite C- or better in CVEN 1025 &amp; MATH 2411</td>
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<tr>
<td>CVEN 2212 Engineering Surveying</td>
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</table>
### SAMPLE ACADEMIC PLAN OF STUDY

The following academic plan is a sample pathway to completing degree requirements for this major. Students should tailor this plan based on previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, and individual preferences related to course load, schedules, or add-on programs such as minors or double-majors. Students deviating from this plan must fulfill course prerequisites and must meet with the faculty advisor in their department to confirm degree requirements.

<table>
<thead>
<tr>
<th>Year One</th>
<th>Semester 1</th>
<th>CRS</th>
<th>Year Two</th>
<th>Semester 3</th>
<th>CRS</th>
<th>Year Three</th>
<th>Semester 5</th>
<th>CRS</th>
<th>Year Four</th>
<th>Semester 7</th>
<th>CRS</th>
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<tbody>
<tr>
<td>CVEN 1067 Intro to Civil Engineering</td>
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<td>CVEN 2212 Engineering Surveying</td>
<td>2</td>
<td>CVEN 2200 Civil Engineering Computing Methods</td>
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<td>CVEN 3141 Intro to Structural Materials</td>
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<td>CVEN 4000 Senior Seminar</td>
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<tr>
<td>ENGR 1130 Engineering Chemistry</td>
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<td>ENGL 1020 Core Composition I</td>
<td>3</td>
<td>MATH 2421 Calculus II</td>
<td>4</td>
<td>MATH 2421 Calculus III</td>
<td>4</td>
<td>CVEN 4077 Engineering Economy</td>
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<tr>
<td>MATH 1401 Calculus I</td>
<td>4</td>
<td>MATH 3195 Linear Algebra and Differential Equations</td>
<td>3</td>
<td>PHYS 2331 Calculus-based Physics I</td>
<td>4</td>
<td>CVEN 3323 Hydrosystems</td>
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<td>CVEN 4200 Senior Seminar</td>
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<tr>
<th>Year Four</th>
<th>Semester 8</th>
<th>CRS</th>
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<tr>
<td>CVEN 4077 Engineering Economy</td>
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<td>CVEN 4230 Construction Engineering</td>
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<tr>
<td>2 Design electives</td>
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<td>Technical Elective</td>
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<tr>
<td>CU Denver Core Curriculum</td>
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</tbody>
</table>

| Technical Electives – Select 3 courses | 9 |
| Design Electives – Select 4 courses | 12 |

Choose from CVEN 4427 Storm Water, CVEN 4565 Timber Structure, CVEN 4575 Structural Steel, CVEN 4585 Reinforced Concrete, CVEN 4602 Highway Engineering, CVEN 4738 Intermediate Foundations.

Choose from areas of engineering, math, chemistry, biology, physics or geology. Must be of a higher level than courses in these areas required by the civil engineering program.