CIVIL ENGINEERING, MINOR

A minor in Civil Engineering is available for non-departmental majors who would like an overview of the principles of civil engineering. Students wishing to pursue a minor in civil engineering must complete 17-18 credits in addition to the prerequisite courses of AS.171.101 General Physics: Physical Science Major I, AS.110.108 Calculus I (Physical Sciences & Engineering), and AS.110.109 Calculus II (For Physical Sciences and Engineering).

The minor consists of the following:

- two fundamental civil engineering courses + a lab
- two semesters of CaSE Careers (an undergraduate seminar course)
- three courses in one technical area of your choice (Structural Engineering, Geotechnical Engineering, Mechanics of Materials, or Systems Engineering)

*Students completing courses in the area of Geotechnical Engineering will complete the minor with 18 credits instead of 17; Soil Mechanics is a 4-credit course.

All courses used to meet the Civil Engineering minor must be C- or higher.

Program Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Civil Engineering Fundamentals</td>
<td></td>
<td>8</td>
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<tr>
<td>EN.560.100</td>
<td>Civilization Engineered</td>
<td>3</td>
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<tr>
<td>EN.560.201</td>
<td>Statics &amp; Mechanics of Materials</td>
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<td>EN.560.211</td>
<td>Statics and Mechanics of Materials Laboratory</td>
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<tr>
<td>EN.560.391</td>
<td>CaSE Careers I</td>
<td>.5</td>
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<tr>
<td>EN.560.392</td>
<td>CaSE Careers II</td>
<td>.5</td>
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Students must choose to focus in one of the following four technical areas:

- Structural Engineering: 9 credits
  - EN.560.301 Structural Systems I
  - EN.560.302 Structural Systems II
  - EN.560.445 Advanced Structural Analysis

- Geotechnical Engineering: 10 credits
  - AS.270.220 The Dynamic Earth: An Introduction to Geology
  - EN.560.305 Soil Mechanics
  - EN.560.330 Foundation Design

- Systems Engineering: 9 credits
  - EN.560.240 Uncertainty, Reliability and Decision-making
  - EN.560.250 Intro to Mathematical Decision Making
  - EN.560.458 Natural Disaster Risk Modeling

- Mechanics of Materials: 9 credits
  - EN.530.430 Applied Finite Element Analysis
  - EN.560.362 Engineering Mechanics and Materials
  - EN.560.462 Failure Mechanics in Materials