# Civil Engineering Course Plan by Semester

## Foundations

### First Year

**Fall Semester**
- CMGT 120: Introduction to Construction Management 3
- ENGL 101: Introduction to College Writing 3
- ENGR 120 or ENGR 130: Introduction to Engineering or Introduction to Engineering Applications 3-4
- MATH 170: Calculus I: Concepts and Applications 4
- UF 100: Intellectual Foundations 3

**Spring Semester**
- CE 280: Civil Engineering Case Studies 2
- CE 282: Engineering Practice 3
- ENGL 102: Introduction to College Writing and Research 3
- MATH 175: Calculus II: Concepts and Applications 4
- PHYS 211: Physics I with Calculus 4

**Total Credits:** 16-17

### Second Year

**Fall Semester**
- CE 210 #: Engineering Surveying 2
- CE 211 #: Engineering Surveying Lab 1
- CHEM 111: General Chemistry I 3
- CHEM 111L: General Chemistry I Laboratory 1
- ENGR 210: Engineering Statics 3
- MATH 275: Multivariable and Vector Calculus 4
- UF 200: Civic and Ethical Foundations 3

**Spring Semester**
- CE 286: Introduction to AutoCAD for Civil Engineers 2
- CHEM 112: General Chemistry II 3
- CHEM 112L: General Chemistry II Laboratory 1
- CE 350 or ME 350: Engineering Mechanics of Materials 3
- ENGR 202: Introduction to Technical Communication 3
- MATH 333: Differential Equations with Matrix Theory 4

**Total Credits:** 17

### Third Year

**Fall Semester**
- CE 284 or CS 117: Civil Engineering Computational Methods or C++ for Engineers 2-3
- CE 320 #: Principles of Environmental Engineering 3
- CE 321 #: Principles of Environmental Engineering Lab 1
- CE 340 #: Engineering Properties of Construction Materials 3
- CE 341: Construction Materials Lab 1
- CE 352 #: Structures I 3
- ENGR 220: Engineering Dynamics 3

**Spring Semester**
- CE 330 or ME 330: Fluid Mechanics 3
- CE 331 or ME 331: Fluid Mechanics Lab 1
- CE 360 **: Engineering Properties of Soils 3
- CE 361 **: Engineering Properties of Soils Lab 1
- CE 370 **: Transportation Engineering Fundamentals 3
- ME 302 or ENGR 240: Thermodynamics I or Electrical and Electronic Circuits 3
- DLV: Visual and Performing Arts 3

**Total Credits:** 16-17

### Fourth Year

**Fall Semester**
- CE 481 #: Senior Design Project I 1
- CE DE: CE Design Elective 3
- CE TE: CE Technical Elective 3
- SciE: Science Elective 3-4
- DLS: Social Sciences 3

**Spring Semester**
- CE 483 **: Senior Design Project II 3
- CE TE: CE Technical Elective 3
- TechE: Technical Elective 3
- DLI: Literature and Humanities 3-4

**Total Credits:** 13-14

**Notes:**
- # - Offered FALL only
- ** - Offered SPRING only

**CE Web Site:** http://coen.boisestate.edu/ce

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**Admission to Upper Division:**

The following courses must be completed in order to apply for Admission to Upper Division:

- CE 280, CE 282, CHEM 112, CE/ME 350, MATH 275 and MATH 333

Please check our web site for the minimum GPA required in these courses and other requirements to be met for a successful application.

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**Elective Offerings:**

Please refer to our website for a list of upcoming elective course offerings.

**Total Credits:** 124-128
## CIVIL ENGINEERING ELECTIVES

### CE DESIGN ELECTIVES (CE DE)
A Civil Engineering Design Elective is defined as a non-required course, taught by the Civil Engineering Department, with a primary emphasis on design.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CE 424</td>
<td>Water Treatment Plant System &amp; Design</td>
<td>CE 436</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>CE 425</td>
<td>Wastewater Treatment Plant System &amp; Design</td>
<td>CE 440</td>
<td>Pavement Design and Evaluation</td>
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<tr>
<td>CE 450</td>
<td>Reinforced Concrete Design</td>
<td>CE 460</td>
<td>Geotechnical Engineering Design</td>
</tr>
<tr>
<td>CE 452</td>
<td>Structural Steel Design</td>
<td>CE 462</td>
<td>Foundation Design</td>
</tr>
<tr>
<td>CE 454</td>
<td>Timber Design</td>
<td>CE 470</td>
<td>Highway and Traffic Systems Design</td>
</tr>
<tr>
<td>CE 456</td>
<td>Masonry Design</td>
<td>CE 475</td>
<td>Traffic Engineering</td>
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### CE TECHNICAL ELECTIVES (CE TE)
A Civil Engineering Technical Elective is defined as a non-required course, taught by the Civil Engineering Department. Civil Engineering Technical Electives include all Civil Engineering Design Electives.

<table>
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<tbody>
<tr>
<td>CE 310</td>
<td>Advanced Surveying</td>
</tr>
<tr>
<td>CE 402</td>
<td>Computational Techniques</td>
</tr>
<tr>
<td>CE 410</td>
<td>Engineering Hydrology</td>
</tr>
<tr>
<td>CE 412</td>
<td>Hydrogeology</td>
</tr>
<tr>
<td>CE 420</td>
<td>Environmental Process Chemistry</td>
</tr>
<tr>
<td>CE 422</td>
<td>Hazardous Waste Engineering</td>
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<tr>
<td>CE 423</td>
<td>Air Pollution Control</td>
</tr>
<tr>
<td>CE 426</td>
<td>Aqueous Geochemistry</td>
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<tr>
<td>CE 351</td>
<td>Codes and Official Documents</td>
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<tr>
<td>CE 354</td>
<td>Structures II</td>
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<tr>
<td>CE 437</td>
<td>GIS in Water Resources</td>
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<tr>
<td>CE 438</td>
<td>Water Resources Engineering</td>
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<tr>
<td>CE 472</td>
<td>Transportation Planning</td>
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</tbody>
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### TECHNICAL ELECTIVES (TechE)
A Technical Elective is defined as a non-required course that is related to the Civil Engineering profession. This course may be taught by departments other than Civil Engineering. Civil Engineering Design Electives, Technical Electives, and 300/400-level Science Electives may also be used as Technical Electives. Courses outside of Civil Engineering may be used for Technical Electives with the approval of a Civil Engineering faculty advisor.

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<tr>
<td>CE 493</td>
<td>Internship *</td>
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<tr>
<td>CE 496</td>
<td>Independent Study *</td>
</tr>
</tbody>
</table>

* CE Internship and/or Independent Study may be used for up to 3 credits each in meeting the Technical Elective requirements.

** ENGR 360, MATH 360, and MATH 361 ** may ** not be ** used as a Technical Elective.

### SCIENCE ELECTIVES (SciE)
A Science Elective is defined as a science course from a field that is not Chemistry or Physics and expands the student's understanding of the nature of an aspect of Civil Engineering. Courses in addition to those listed may be used to meet this requirement with the approval of the Civil Engineering Faculty.

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<tr>
<td>BIOL 100</td>
<td>Concepts of Biology</td>
<td>GEOG 321</td>
<td>Sustainability Of Natural Resources</td>
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<tr>
<td>BIOL 107</td>
<td>Introduction to Human Biology</td>
<td>GEOG 331</td>
<td>Climatology</td>
</tr>
<tr>
<td>BIOL 109</td>
<td>Plants and Society</td>
<td>GEOG 360</td>
<td>Introduction To GIS</td>
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<tr>
<td>BIOL 191</td>
<td>General Biology I</td>
<td>GEOPH 305</td>
<td>Applied Geophysics</td>
</tr>
<tr>
<td>BIOL 192</td>
<td>General Biology II</td>
<td>GEOS 100</td>
<td>Fundamentals of Geology</td>
</tr>
<tr>
<td>ENVHLTH 310</td>
<td>Water Supply And Water Quality Mgmnt</td>
<td>GEOS 101</td>
<td>Environmental Geology</td>
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<tr>
<td>ENVHLTH 416</td>
<td>Noise And Other Physical Agents</td>
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<tr>
<td>ENVSTD 121</td>
<td>Introduction To Environmental Studies</td>
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