Prerequisites & General Elective Coursework

**Prerequisite Course Key**
- Application Requirements - Transfer/Interest Changers must complete by time of application (April 5).
- Enrollment Requirements - Transfer/Interest Changers must complete prior to enrollment in major.

**ENGRUD Students:** Plan to complete all BSCE prerequisite courses (application and enrollment requirements) by the start of CEE Core Curriculum (Junior Year).

### Mathematics (24 credits)
- Calculus w/ Analytic Geo. (Math 124/125/126) 15cr
- Differential Equations (MATH 207 or AMATH 351) 3cr
- Matrix/Linear Algebra (MATH 208 or AMATH 352) 3cr
- Statistics (INDE 315 or STAT 390 or STAT 290) 3-4cr

### Sciences (25+ credits)
- General Chemistry 1 (CHEM 142) 5cr
- General Chemistry 2 (CHEM 152) 5cr
- Mechanics (PHYS 121) 5cr
- Elect-Mag & Oscillation (PHYS 122) 5cr
- Waves (PHYS 123) 5cr
  - **Note:** Students need to take 1 additional science course. See BSCE & S Elective list for details.

### Engineering Fundamentals (20 credits)
- Computer Programming (AMATH 301, CEE 122, CSE142 or CSE160) 4cr
- Statics (AA 210) 4cr
- Mechanics of Materials (CEE 220) 4cr
- Dynamics & Kinematics (ME 230) 4cr
  - One Additional Engineering Fund. Course 4cr
    - Choose from ME 123 (A&H), MSE 170, EE 215, INDE 250, AA 260 or INDE 315.
    - If you complete statistics w/ INDE 315, you can apply MATH 209 or MATH 224 toward this requirement.

### Written Communication (12 credits)
- English Composition 5cr
  - Additional Composition or Writing 7cr

### Economics (4-5 credits)
- CEE Topic Requirement 4-5cr
  - INDE 250 (4cr), ECON 200 or ECON 201 (5cr)
    - INDE 250 will also satisfy your Add'l Engr. Fundamentals requirement; ECON 200 or 201 will also satisfy SSc.

### Areas of Inquiry (24 credits)
- Arts and Humanities (A&H) 10cr
- Social Sciences (SSc) 10cr
- Additional A&H and/or SSc 4cr

### Diversity (5 credit minimum)
- One course from UW's approved DIV list. See MyPlan.

### BSCE Major Coursework
The BSCE degree covers six areas of interest: **Construction, Environmental, Hydrology, Geotechnical, Structural, and Transportation.** The 300-level CEE Core Curriculum provides a foundation in all areas. Technical Electives and Engineering & Science Electives, typically taken in the senior year, allow students to develop depth in their preferred area(s) of interest. Seniors also complete a capstone design course in an area of their choice.

### Core Curriculum (40 credits)
(See sample 4 year plan on page 2 for core curriculum sequencing (Track 1 and Track 2))
- Construction Engineering (CEE 307) 5cr
- GeoSurveying (CEE 317) 5cr
- Transportation Engineering (CEE 327) 5cr
- Construction Materials (CEE 337) 5cr
- Intro to Fluid Mechanics (CEE 347) 5cr
- Environmental Engineering (CEE 357) 5cr
- Geotechnical Engineering (CEE 367) 5cr
- Intro to Structural Design (CEE 377) 5cr

### Capstone & Professional Practice (7 credits)
- Capstone Design Course 5cr
  - CEE 441/442/444/445 taken SPR Qtr of senior year.
- Professional Practice (CEE 440) 2cr
  - CEE 440 is taken SPR Qtr of junior year.

### Technical Electives (TE) (15 credits, 3 areas)
- Technical Electives are CEE 400-level courses that provide students with in-depth knowledge and design experience.
- **Area Requirement:** Students are required to take at least 3 credits from 3 of the 6 areas. (See BSCE TE list for details)

### Engineering & Science Electives (E&S) (12 cr.)
BSCE students are required to complete 12 credits of Engineering and Science Elective coursework. **Included in these 12 credits, students must include a basic science course.** See the BSCE & S Elective list for complete details.

### General Electives
Additional electives to meet the 180 total required for the BSCE.

### Academic Planning Notes:
- Areas of Inquiry courses can also count toward Diversity and Additional Writing. Use MyPlan filters to identify courses that satisfy multiple requirements.
- CEE Study Abroad opportunities are a great way to satisfy degree requirements.

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### Bachelor of Science in Civil Engineering (BSCE/CIVE)
University of Washington

#### Sample 4-year Plan

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>AUT</th>
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<tr>
<td>MATH 124</td>
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<td>CHEM 142</td>
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<td>CHEM 152</td>
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<td>A&amp;H/SSc/DIV</td>
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<td>CEE 220</td>
<td>4 ME 230</td>
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<td>PHYS 122</td>
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<td>5 AMATH 301</td>
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<td>INDE 250/ECON</td>
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<td>CEE 307</td>
<td>5 CEE 337</td>
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<td>CEE 327</td>
<td>5</td>
<td>CEE 347</td>
<td>5 CEE 367</td>
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<tr>
<td>CEE 357</td>
<td>5</td>
<td>CEE 377</td>
<td>5 CEE 440</td>
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<td><strong>Total</strong></td>
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| **Jr. Track 2** |
| CEE 307  | 5 | CEE 327 | 5 CEE 337 | 5 |
| CEE 317  | 5 | CEE 367 | 5 CEE 357 | 5 |
| CEE 347  | 5 | CEE 377 | 5 CEE 440 | 2 |
| **Total** | 15 | 15   | 12+ |

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<th>Senior Year</th>
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Additional credits as desired or needed to reach 180.

#### BSCE ADMISSIONS:
The BSCE program admits students once a year for autumn quarter only. See the [CEC website for detailed application information](#). Transfer students must also submit a UW admissions application for autumn. See [UW Admissions](#) for more information. Transfer students seeking course substitutions should be prepared to present a course description and syllabus. WA State Community College Transfers should consult the [UW Equivalency Guide](#).

#### BSCE TECHNICAL ELECTIVES: COURSE LIST
Students must take 3cr from 3 of 6 areas. Courses with an * are listed in multiple areas but will only satisfy one TE area req.

**Construction, Energy & Sustainable Infrastructure**
- CEE 424 GIS for Civil Engineers (3)
- CEE 433* Design and Construction of Temporary Structures (3)
- CEE 434 Project Estimating (3)
- CEE 435 Project Scheduling (3)
- CEE 454* Design of Timber Structures (3)

**Environmental Engineering**
- CEE 462 Applied Limnology and Pollutant Effects (3)
- CEE 465* Data Analysis in Water Sciences (3)
- CEE 480* Air-Quality Modeling (3)
- CEE 481* Hydraulic Design for Environmental Engineering (3)
- CEE 482 Wastewater Reuse & Resource Recovery (3)
- CEE 483 Drinking Water Treatment (3)
- CEE 490 Air-Pollution Control (4)
- CEE 497 Engineering Jordan (Study Abroad) (5)

**Geotechnical Engineering**
- CEE 436 Foundation Design (3)

**Hydrology/Hydrodynamics (Water)**
- CEE 465* Data Analysis in Water Sciences (3)
- CEE 473 Coastal Engineering (3)
- CEE 474 Hydraulics of Sediment Transport (3)
- CEE 475 Analysis Techniques for Groundwater Flow (3)
- CEE 476 Physical Hydrology (3)
- CEE 477 Open-Channel Engr (3)
- CEE 478 Water Systems Management and Operations (3)
- CEE 480* Air-Quality Modeling (3)
- CEE 481* Hydraulic Design for Environmental Engineering (3)

**Structural Engineering**
- CEE 378 Structural Analysis (Formerly CEE 456) (5)
- CEE 433* Design and Construction of Temporary Structures (3)
- CEE 451 Design of Metal Structures (3)
- CEE 452 Design Reinforced Concrete Structures (3)
- CEE 453 Prestressed Concrete Design (3)
- CEE 454* Design Timber Structures (3)

**Transportation Engineering**
- CEE 410 Traffic Engr Fundamentals (3)
- CEE 412 Transportation Data Mgmt. (3)
- CEE 416 Urban Transportation Planning & Design (3)

**Non Area-Specific Courses** (Will not satisfy area requirement)
- CEE 409 Engineering Rome (Study Abroad) (5)
- CEE 432 Advanced Remote Sensing & Earth Observation (4)
- CEE Study Abroad Opportunities (India, Indonesia, etc.)
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