Bachelor of Science in Civil Engineering (BSCE)
University of Washington

Prerequisites & General Elective Coursework

<table>
<thead>
<tr>
<th>Prerequisite Course Key</th>
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<tbody>
<tr>
<td>▶ Application Requirements - Transfer/Interest Changers must complete by time of application (April 5).</td>
</tr>
<tr>
<td>▶ Enrollment Requirements - Transfer/Interest Changers must complete prior to enrollment in major.</td>
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</tbody>
</table>

DTC Students: Plan to complete all BSCE prerequisite courses (application and enrollment requirements) by 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) 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 E&S Elective list for details.

Engineering Fundamentals (20 credits)

- Comp Programming (AMATH 301, 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 (VLPA), 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. See your adviser for details.

Written Communication (12 credits)

- English Composition 5cr
- Technical Writing (ENGR 231) 3cr
- Additional Composition or Writing 4cr

Economics (4-5 credits) *CEE Topic Requirement 4-5cr

- INDE 250 (4cr), ECON 200 or ECON 201 (5cr)
  - INDE 250 will also satisfy your Addtl' Engr. Fundamentals requirement; ECON 200 or 201 will also satisfy I&S.

Areas of Knowledge (24 credits)

- Visual, Literary & Performing Arts (VLPA) 10cr
- Individuals & Societies (I&S) 10cr
- Additional VLPA or I&S 4cr

Diversity (3 credit minimum)

One course from UW's approved DIV list. See MyPlan.

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 E&S Elective list for complete details.

General Electives

Additional credits to meet the 180 total required for the BSCE.

Academic Planning Notes:

- Areas of Knowledge 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.

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.
## Bachelor of Science in Civil Engineering (BSCE)  
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### Sample 4-year Plan

#### Freshman Year

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<tr>
<th>AUT</th>
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<tr>
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<td>CHEM 142</td>
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<td>CHEM 152</td>
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<td>VLPA/I&amp;S</td>
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**Junior Year (Students Choose Track 1 or Track 2)**

#### Jr. Track 1

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#### Jr. Track 2

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#### Senior Year

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<td>E&amp;S Elective</td>
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**Additional Credits as Desired of Needed**

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### BSCE ADMISSIONS:

The BSCE program admits students once a year for autumn quarter only. See the CEE 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 408 Sustainable Roadway Design and Construction (3)
- CEE 420 Engineering with Developing Communities (3) DIV
- 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 496* Fate and Transport of Chemicals in the Env. (3)
- 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)
- CEE 496* Fate and Transport of Chemicals in the Env. (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)
- CEE 455 Structural Unit Masonry (3)
- CEE 457 Advanced Structures I (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

- CEE 409 Engineering Rome (Study Abroad) (5)
- CEE 432 Advanced Remote Sensing & Earth Observation (4)
- CEE Study Abroad Opportunities (India, Indonesia, etc.)