Bachelor of Science in Environmental Engineering (BSENVE/ENVE)
University of Washington

Prerequisites & General Electives 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>
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<tr>
<td>▶ Enrollment Requirements - Transfer/Interest Changers must complete prior to enrollment in major.</td>
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**ENGRUD Students:** Plan to complete all CEE prerequisite courses (application and enrollment requirements) by the start of CEE Core Curriculum (Junior Year).

Mathematics (24-25 credits)

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

Sciences (35 credits)

- Biology (BIOL 180) 5cr
- General Chemistry 1 (CHEM 142) 5cr
- General Chemistry 2 (CHEM 152) 5cr
- General Chemistry 3 (CHEM 162) 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 BSENVE E&S Elective list for details.

Engineering Fundamentals (16 credits)

- Comp. Programming (AMATH 301, CSE 12, CSE 142 or CSE 160) 4cr
- Statics (AA 210) 4cr
- Mechanics of Materials (CEE 220) 4cr
- Thermodynamics (AA 260) 4cr

Written Communication (12 credits)

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

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

- INDE 250 (4cr), ECON 200 or ECON 201 (5cr)
  - ECON 200 or 201 will also satisfy I&S.

Areas of Inquiry (24 credits)

- Arts & Humanities (A&H) 10cr
- Social Sciences (SSc) 10cr
- Additional A&H and/or SSc 4cr

Diversity (3 credit minimum)

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

BSENVE Major Coursework

The BSENVE degree encompasses extensive coursework, labs, and project experiences centering on microbiology, chemistry, and sustainability. The degree includes particular focus on water and air quality, water/wastewater treatment, hydrology, and hydrodynamics. BSENVE students gain a deep understanding of the interactions among natural and human systems to develop innovative solutions to address environmental challenges.

Core Curriculum (30 credits)

*(See sample 4 year plan on second page for core curriculum sequencing.)*

- Intro to Fluid Mechanics (CEE 347) 5cr
- Hydrology & Env. Fluid Mechanics (CEE 348) 4cr
- Case Studies in Env. Engineering (CEE 349) 3cr
- Mass & Energy Balances in Env. Engr. (CEE 350) 4cr
- Intro to Microbial Principles in Env. Engr. (CEE 352) 5cr
- Intro to Chemical Principles in Env. Engr. (CEE 354) 5cr
- Quant. & Concept. Tools for Sustainability (CEE 356) 4cr

Capstone and Professional Practice (7 credits)

- Capstone Design Course 5cr
  - CEE 444/445 taken SPR Qtr. of senior year.
- Professional Practice (CEE 440) 2cr
  - CEE 440 taken SPR Qtr. of junior year.

Technical Electives (TE) (15 credits)

- Technical Electives are CEE 400-level courses that provide students with in-depth knowledge and design experience.
- See BSENVE Technical Electives list for details.

Engineering & Science Electives (E&S) (13 credits)

- BSENVE students are required to complete 13 credits of Engineering and Science Elective coursework. *Included in these 12 credits, students must include an additional earth science course.* See the BSENVE E&S Elective list for complete details.

General Electives

Additional credits to meet the 180 total required for the baccalaureate degree.

Prerequisite Tips

- Areas of Inquiry courses can also count toward Diversity and Additional Writing. Use MyPlan filters to identify courses.
- CEE Study Abroad opportunities are a great way to satisfy degree requirements.
**Sample 4-year Plan**

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>AUT</th>
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<th>SPR</th>
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<tbody>
<tr>
<td>MATH 124</td>
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<td>MATH 125</td>
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<tr>
<td>CHEM 142</td>
<td>5</td>
<td>CHEM 152</td>
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<td>Engl. Comp.</td>
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<td>A&amp;H/SSc/W</td>
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<td>ENGR 101</td>
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<td>CEE 102</td>
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<tr>
<td>AA 210</td>
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<td>CEE 220</td>
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<tr>
<td>PHYS 122</td>
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<td>PHYS 123</td>
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<tr>
<td>A&amp;H/SSc/DIV</td>
<td>3</td>
<td>AMATH 351</td>
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<td>AMATH 301</td>
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<td>A&amp;H/SSc</td>
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<tr>
<td>CEE 349</td>
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<td>CEE 347</td>
<td>5</td>
</tr>
<tr>
<td>CEE 350</td>
<td>4</td>
<td>CEE 354</td>
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</tr>
<tr>
<td>CEE 352</td>
<td>5</td>
<td>Additional Science</td>
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<tr>
<td>ENGR 231</td>
<td>3</td>
<td>Economics</td>
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<tr>
<td>Technical Elective</td>
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<td>Technical Elective</td>
<td>3</td>
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<tr>
<td>Technical Elective</td>
<td>3</td>
<td>E&amp;S Elective</td>
<td>4</td>
</tr>
<tr>
<td>Technical Elective</td>
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<td>Statistics</td>
<td>3-4</td>
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<tr>
<td>E&amp;S Elective</td>
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<td>+</td>
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<tr>
<td></td>
<td>Additional Credits as Desired of Needed</td>
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**BSENVE ADMISSIONS:**
The BSENVE 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.

**BSENVE TECHNICAL ELECTIVES: COURSE LIST**
Select courses from any of the following. If you have taken (or planning to take) a CEE 4XX course that is not on the list below (including CEE 498 Special Topics or Study Abroad), please speak to an advisor about your options. Thematic areas are shown to help guide selection.

**Engineered Systems and Processes**
CEE 482 Wastewater Reuse & Resource Recovery (3)
CEE 483 Drinking Water Treatment (3)
CEE 490 Air-Pollution Control (4)

**Natural Systems and Processes**
CEE 432 Advanced Remote Sensing & Earth Observation (4)
CEE 462 Applied Limnology and Pollutant Effects (3)
CEE 465 Data Analysis in Water Sciences (Env or Hydrology) (3)
CEE 480 Air-Quality Modeling (3)

**Hydrology & Hydrodynamics**
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 481 Hydraulic Design for Environmental Engineering (3)

**Study Abroad**
CEE 497 Engineering Jordan (Study Abroad) (5)
CEE 498/499 Grand Challenges Impact Lab (Credits TBD)