

Bachelor of Science in Environmental Engineering (BSENV/ENVE)

University of Washington

Prerequisites & General Electives 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 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 or STAT 290) **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 [BSENV E&S Elective list](#) for details.**

Engineering Fundamentals (16 credits)

- ▷▷ Computer Programming **4cr**
(AMATH 301, CSE 122, CSE 142 or CSE 160)
- ▷ Statics (AA 210) **4cr**
- ▷▷ Mechanics of Materials (CEE 220) **4cr**
- ▷▷ Thermodynamics (AA 260) **4cr**

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)
- ECON 200 or 201 will also satisfy SSc.

[Areas of Inquiry \(24 credits\)](#)

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

[Diversity \(5 credit minimum\)](#) **5cr**

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

BSENV Major Coursework

The BSENV 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. BSENV 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 [BSENV Technical Electives list](#) for details.

[Engineering & Science Electives \(E&S\) \(13 cr.\)](#)

- BSENV students are required to complete 13 credits of Engineering and Science Elective coursework. **Included in these 13 credits, students must include an additional earth science course.** See the [BSENV 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.

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Sample 4-year Plan

Freshman Year					
AUT		WIN		SPR	
MATH 124	5	MATH 125	5	MATH 126	5
CHEM 142	5	CHEM 152	5	CHEM 162	5
Engl. Comp.	5	A&H/SSc	5	PHYS 121	5
ENGR 101	2				
Total	17		15		15
Sophomore Year					
AUT		WIN		SPR	
AA 210	4	CEE 220	4	AA 260	4
PHYS 122	5	PHYS 123	5	BIOL 180	5
A&H/SSc/DIV	3	AMATH 351	3	AMATH 352	3
AMATH 301	4	A&H/SSc	3	A&H/SSc	3
Total	16		15		15
Junior Year					
AUT		WIN		SPR	
CEE 349	3	CEE 347	5	CEE 348	4
CEE 350	4	CEE 354	5	CEE 356	4
CEE 352	5	Additional Science	5	CEE 440	2
Writing	3	Economics	+	TE/E&S/other	3+
Total	15		15		13+
Senior Year					
AUT		WIN		SPR	
Technical Elective	3	Technical Elective	3	Capstone	5
Technical Elective	3	E&S Elective	4	Technical Elective	3
Technical Elective	3	Statistics	3-4	A&H/SSc/W	5
E&S Elective	4		+		+
Additional credits as desired or needed to reach 180.					

BSENV ADMISSIONS:

The BSENV 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](#).

BSENV 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)