

Bachelor of Science in Environmental Engineering (BSENV E)

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.

DTC Students: Plan to complete all CEE prerequisite courses (application and enrollment requirements) by start of CEE Core Curriculum (Junior Year). Placement info can be found [here](#).

Mathematics (24 credits)

- ▷ Calculus w/Analytic Geo. (Math 124/125/126) **15cr**
- ▷▷ Differential Equations (AMATH 351) **3cr**
- Matrix/Linear Algebra (AMATH 352) **3cr**
- Statistics (INDE 315, STAT 390 or QSCI 381) **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 UD E&S Elective list](#) for details.**

Engineering Fundamentals (16 credits)

- ▷▷ Computer Programming (AMATH 301 or CSE 142) **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** **4-5cr**
- ECON 200 or 201 (5cr) or INDE 250 (4cr)

Areas of Knowledge (24 credits)

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

- [Diversity \(3 credit minimum\)](#)** **3cr**
- One course from UW's approved DIV list. See MyPlan.

BSENV E Major Coursework

The BSENV E 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 E 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)

- 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 E Technical Elective](#) list for details)

UD Engineering & Science Electives (13 cr.)

- Choice of additional CEE 400-level courses or non-CEE courses from an approved list. **Must also include one science course from: ATM S 211, ATM S 212, ESRM 210, ESS 201, ESS 210, ESS 211, ESS 212, or OCEAN 200/201.** (See [BSENV E UD 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 Knowledge 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.
- MATH 307/308 may be substituted for AMATH 351/352.

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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	VLPA/I&S	5	PHYS 121	5
ENGR 101	2	CEE 102	1	CEE 103	1
Total	17		16		16
Sophomore Year					
AUT		WIN		SPR	
AA 210	4	CEE 220	4	AA 260	4
PHYS 122	5	PHYS 123	5	BIOL 180	5
VLPA/I&S/DIV	3	AMATH 351	3	AMATH 352	3
AMATH 301	4	VLPA/I&S	3	VLPA/I&S	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
ENGR 231	3	elective	+	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	UD E&S Elective	4	Technical Elective	3
Technical Elective	3	VLPA/I&S/DIV	5	Elective	4
UD E&S Elective	4		+		+
Additional Credits as Desired of Needed					

BSENV ADMISSIONS:

The BSENV program admits students once a year for autumn quarter only. See the CEE website for detailed application information and link to the online form. 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](#).

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)
CEE 496 Fate and Transport of Chemicals in the Environment (3)
CEE 498 Advanced Surveying (5)
CEE 498 Environmental Analysis (3)
CEE 498 Geospatial Data Analysis (5)

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)

Sustainability

CEE 420 Engineering with Developing Communities (3) DIV
CEE 429 Sustainability in Building Infrastructure (3)

Study Abroad

Students may use up to 10 credits of the study abroad experiences below toward BSENV Technical Electives requirement. Any additional credits from these programs will apply to the BSENV Upper Division Engineering & Science Electives requirement. Please contact your CEE Adviser for more information.

CEE 497 [Engineering Jordan](#) (Study Abroad) (5)
CEE 498/499 [Grand Challenges Impact Lab](#) (Study Abroad/Local)