

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).

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 (VLPA) **10cr**
- Individuals & Societies (I&S) **10cr**
- Additional VLPA 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 E ADMISSIONS:

The BSENV E 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)
 CEE 497 Engineering Jordan (*Study Abroad*) (5)

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)

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)