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

Prerequisites & General Elective 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 BSCE prerequisite courses (application and enrollment requirements) before starting 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, QSCI 381, STAT 390 **or** STAT 290)	**3-4cr**

Sciences (28+ credits)

▷	General Chemistry 1 (CHEM 142)	**5cr**
	General Chemistry 2 (CHEM 152)	**5cr**
	(Transfers: CIVE can accept any second chemistry course after CHEM 142)	
▷	Mechanics (PHYS 121)	**5cr**
▷	Elect-Mag & Oscillation (PHYS 122)	**5cr**
	Waves (PHYS 123)	**5cr**
	Basic Science Elective	**3-5cr**

(Choose from: BIOL 180 (5cr), ATMS 101 (5cr), ATMS 211 (5cr, SSc), ATMS 212 (3cr, SSc), ESRM 100 (5cr, SSc), ESRM 101 (5cr, SSc), ESRM 210 (5cr), ESS 101 (5cr, SSc) ESS 106 (3cr, SSc), ESS 201 (3cr), ESS 211 (5cr), ESS 212 (5cr), OCEAN 102 (5cr, SSc), **or** OCEAN 200 (3cr))

Engineering Fundamentals (16 credits)

▷▷	Computer Programming (AMATH 301, CSE 121, 122, 123, 142 **or** 160)	**4cr**
▷	Statics (AA 210)	**4cr**
▷▷	Mechanics of Materials (CEE 220)	**4cr**
▷▷	Dynamics & Kinematics (ME 230)	**4cr**

Written Communication (12 credits)

▷	English Composition	**5cr**
	Additional Composition or Writing	**7cr**

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

(INDE 250 , ECON 200/201, **or** ESRM/ECON/ENVIR 235)
*ECON/ESRM/ENVIR courses may also be applied to SSc req.

Areas of Inquiry (24 credits)

Arts and 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.

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.

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, **or** 445, taken SPR qtr of senior year

Professional Practice (CEE 440) **2cr**
- CEE 440 is taken in 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.)

Choice of additional CEE Technical Elective courses or courses from an approved list. See the BSCE E&S Elective list for complete details.

General Electives

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

Academic Planning Notes:
• Areas of Inquiry 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.

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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	PHYS 121	5
Engl. Comp.	5	A&H/SSc/W	5	A&H/SSc/DIV	5
ENGR 101	2				
Total	17		15		15

Sophomore Year

AUT		*WIN*		*SPR*	
AA 210	4	CEE 220	4	ME 230	4
PHYS 122	5	PHYS 123	5	AMATH 301	4
MATH 208	3	MATH 207	3	Basic Science	5
INDE 250/ECON	4	Elective	3	A&H/SSc/DIV	3
Total	16		15		16

Junior Year (Students Choose Track 1 or Track 2)

AUT		*WIN*		*SPR*	
Jr. Track 1 - Academic Year 2025-2026 only					
CEE 317	5	CEE 307	5	CEE 327	5
CEE 337	5	CEE 347	5	CEE 367	5
CEE 377	5	CEE 357	5	CEE 378 (if structures) or TE/E&S/other	+
CEE 440	2				
Total	17		15		10+
Jr. Track 2 - Academic Year 2025-2026 only					
CEE 307	5	CEE 327	5	CEE 337	5
CEE 317	5	CEE 367	5	CEE 357	5
CEE 347	5	CEE 377	5	CEE 378 (if structures) or TE/E&S/other	+
CEE 440	2				
Total	17		15		10+

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	Elective	4
E&S Elective	3		+		

Additional credits as desired or needed to reach 180.
*Transfers: CIVE can accept any second chemistry course after CHEM 142

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. This list is for AY 25-26 and may not include all TE options.

Construction, Energy & Sustainable Infrastructure
CEE 422* Energy & Transportation (3)
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 450 Behavioral Science for Engineering Designers (3, DIV)
CEE 454* Design of Timber Structures (3)
CEE 498 Sustainable Construction (3)
CEE 498 Civil Infrastructure Resiliency (3)

Environmental Engineering
CEE 437* Advanced Surveying (5)
CEE 459* Stormwater Management & Treatment (3)
CEE 462 Applied Limnology (3)
CEE 465* Data Analysis in Water Sciences (3)
CEE 467* Geospatial Data Analysis (5)
CEE 480* Air-Quality Modeling (4)
CEE 481* Hydraulic Design for Environmental Engineering (3)
CEE 482 Wastewater Reuse & Resource Recovery (3)
CEE 483 Drinking Water Treatment (3)
CEE 498* Antimicro. Resis. Impact on Env. & Public Health (3)

Geotechnical Engineering
CEE 436 Foundation Design (3)

Hydrology/Hydrodynamics (Water)
CEE 432 Advanced Remote Sensing (4)
CEE 437* Advanced Surveying (5)
CEE 459* Stormwater Management & Treatment (3)
CEE 465* Data Analysis in Water Sciences (3)
CEE 467* Geospatial Data Analysis (5)
CEE 473 Coastal Engineering (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 498 Coastal Hazards (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 457 Advanced Structures I (3)

Transportation Engineering
CEE 410 Traffic Engr Fundamentals (3)
CEE 412 Transportation Data Mgmt. (3)
CEE 415 Machine Learning for Civil Engineers (4)
CEE 416 Urban Transportation Planning & Design (3)
CEE 419 Transit Systems Planning (3)
CEE 422* Energy & Transportation

Non-Area-Specific Courses (WIll not satisfy area requirement)=
CEE 463 Applied Limnology Lab (2)
CEE 498 Engineering, Environment & Justice (3, DIV)
CEE 498 Engr. for Socioeconomic & Env. Justice (2, DIV)
CEE Study Abroad Opportunities (Rome (CEE 409), India, Jordan, etc.)