

Civil, Environmental and Construction Engineering Program Requirements

1-Jan-22

Course #	Description	TCC	UW			WSU		WSU-TriCities	Seattle U	St. Martins	Gonzaga U
		AS-CE/ME	Seattle		Tacoma	Pullman		Richland	Seattle	Lacey	Spokane
		MRP	CivE	EnvE	CivE	CivE	ConE	CivE	CivE	CivE	CivE
Math& 151, 152, 153	Calculus 1, 2, 3	R	√-app	√-app	√	√	√	√	G	G	G
Math& 254	Calculus 4	S	√-app	√-app	√	G		G	G		G
Math 238	Differential Equations	R	G	√-enr	√	G		G	G	G	G
Math 220	Linear Algebra	R	√-enr	G		G		G	G		
Phys& 221	Calc Based Physics 1	R	√-app	√-app	√	√	√	√	G	G	G
Phys& 222	Calc Based Physics 2	R	√-app	√-app	√	√	√	√	G	G	G
Phys& 223	Calc Based Physics 3	R	G	√-enr	√	A		A- see back	G	G	G
Biol& 100 or 260						G	G	G - see back		A	
Biol& 221	Intro to Evol, Ecol & Biodiv	S	A- need syll	√-enr need syll							
Chem& 161	General Chem 1	R	√-app	√-app	√	G	G	G	G	G	G
Chem& 162	General Chem 2	R	G	√-app		G	G	G		G	G
Chem& 163	General Chem 3	S		√-enr		Env-Rec		A- see back			
Geology					√ ³	Struc/Infras-Rec		A- see back		A	G
Engr& 104	Intro to Design	S or Soc ¹				G ⁴		G			
Engr& 114	SolidWorks/Graphics	S or Hum ¹	A ⁵			G-see back	G-see back		G	G (GE103)	
Engr 170	Intro to Materials Science	S	A ⁵			A					
Engr& 204	Electric Circuits	S	A ⁵					A	P		
Engr& 214	Statics	R	√-app	√-app	√	√	√	√	G	G	G
Engr& 215	Dynamics	R	√-enr	P	√	G	G	G	G	G	G
Engr& 224	Thermodynamics	S	A ⁵	√-enr		A		A	P		
Engr& 225	Mechanics of Materials	R	√-enr	√-enr	√	G	G	√-enr	G	G	G
Engr 240	Applied Numerical Methods	S	√-enr	√-enr		G		G? ² -see back	G		
CS 142	Java 1	S	Engr 240 Pref		√						G C++
Engl& 101	English Comp 1	R	√-app	√-app	G	G	G	G	G	G	G
Engl& 235	Technical Writing	S	G	G	A	G				G 102 ²	A
Bus& 201	Business Law						G				
Acct 210 and 220	Financial Accounting						G				
Hum and Soc Sci ¹		R	Gen - see back	Gen - see back	Gen - see back	Gen - see back	Gen-see back	Gen- see back	Gen - see back	Gen - see back	Gen - see back

TCC Key: There are two relevant associate's degrees: 1) AS Civil and Mechanical Engineering - MRP degree and 2) AS-T2. More info on back.

R = Required for the AS- CE/ME - MRP. The AS-T2 also requires completion of a minimum of 32 additional advisor-approved college level credits.

S = Specialization Course - Minimum of 4 courses for AS-CE/ME-MRP. You may need to take more than the minimum to meet university requirements. May also be used in the AS-T2.

University Key: √ = Required for admission or certification to the department. For UW, √-app class must be completed by April 5. √-enr by Fall start at UW

G = Graduation requirement for the Bachelor of Science at the university. These are freshman/sophomore level courses so take now, if possible.

A = Meets an additional requirement. The university requires the selection of additional classes from specific lists for the BS. Gen= Meets General Education requirement.

Gen = May be used as general education credit within the university BS degree.

P = Provides preparation for junior level university coursework and/or for the FE/EIT exam - the first step to being licensed.

Additional notes ¹ Economics is recommended. Engr& 104 counts as either a Specialization course or a Social Science, but not both. Engr& 114 may count as either Specialization course or as a Humanities, but not both. The AS degrees require 15 credits of Humanities and Social Science. At least 5 credits must be a Humanities and 5 credits must be a Social Science. One class must meet the multicultural requirement. See approved lists. Universities may have specific course Humanities/Social Science/Diversity course requirements.

² SMU requires Engl& 102 instead of Engl& 235. Engl& 102 may be substituted for 235 in the AS-CE/ME-MRP degree.

³ UWT strongly recommends a 5-credit course in Physical Geology, however, another 5-credit lab science course is also acceptable. Please note that this additional lab science course cannot be in physics or chemistry. All prerequisites must be completed with a minimum 2.0 grade.

⁴ Engr 104 will be waived by WSU if student transfers with 60+ credits. ⁵ Two of these four classes can apply to the CivE degree at UW-Seattle

Civil, Environmental and Construction Engineering Advising

Tacoma Community College

Students should generally be working toward one of three associate's degrees: 1) the Associate of Science - Civil and Mechanical Engineering - Major Related Program (AS-CE/ME - MRP), 2) the Associate of Science- Track 2 (AS-T2), and/or 3) the Associate of Arts DTA (AA-DTA). It is important to understand the distinctions. Most Civil and Environmental students should be working toward the AS-CE/ME -MRP, since it was developed to closely match university engineering program coursework. It requires 108 credits, rather than 90, which can be helpful with financial aid. The AS-T2 is less restrictive. Students can make more self-advising errors using this model and should not use this as a degree goal; however, if you are ready to transfer and a few classes shy of the AS-CE/ME-MRP degree, you might still be eligible for the AS-T2 (speak with an engineering advisor). The AA-DTA degree is intended for students to complete their general education requirements and is usually a poor fit for engineering students. Some universities give specific benefits for one or more of these degrees. Although we occasionally advise transferring without a degree, please transfer courses back to complete the degree. TCC funding is tied to associate's degree completion, so you help future students by finishing your degree. You may earn more than one degree from TCC, but must have an additional 30 credits for each degree.

University of Washington - Seattle

You must apply to both the university and the major separately. The Civil and Environmental Engineering department only admits students in fall quarter. The transfer student application deadline for the University of Washington (fall quarter start) is February 15. The application deadline for the department is April 5. Some classes must be completed before applying (V-app) and some must be completed before starting in the fall (V-enr). Students in the Civil Engineering program may substitute CS 142 for Engr 240, but Engr 240 is preferred. Environmental engineering students must take Engr 240. UW's BSCE and BSEnvE both require economics. This can be met by either ECON& 201 (Micro) or ECON& 202 (Macro). University of Washington requires core requirements from high school. This applies even if high school was years ago! High school is considered to start in 9th grade and the core requirements are 4 years of English, 3 years of math, 3 years of social science, 2 years of foreign language, 2 years of lab science, and 0.5 years of art. If you did not complete these in high school, the requirements can be met through TCC courses. In general, 1 year of high school class = 5 credits of college work. See the University of Washington website for more details.

University of Washington - Tacoma

The BSCE program at UWT is new with its first cohort of students starting in Fall 2022. Please note that you need to first apply to UWT and once accepted, to the BSCE major. As this is a new program, it has not yet been ABET accredited. However, the program will be eligible to apply for ABET accreditation after graduating its first student cohort. The program admits new students once a year, for the Fall quarter only. Admission decisions are made on a rolling basis. Students may be admitted conditionally with prerequisites in progress. All prerequisites must be completed with a minimum grade of 2.0 by the start of autumn quarter. Please see the UWT website for details on admission requirements and the application process.

Washington State University - Pullman

WSU's BSCE program provides several tracks to allow specialization: Environmental, Infrastructure, Structural, and Water Resource. Students planning to specialize in environmental engineering are encouraged to take BIOL&100 and to complete the full year of general chemistry (CHEM& 161/162/163). Completion of the AS-T degree (WA) automatically satisfies UCORE WRTG, QUAN, BSCI, PSCI, and three of the following requirements: HUM, SSCI, ARTS, DIVR, ROOTS. Up to three additional lower-division UCORE must be satisfied via transfer credit or in-residence credit prior to completion of a baccalaureate degree, and an individual course completed within the AS-T degree may not satisfy more than one UCORE category. Students planning to specialize in structural, geotechnical or infrastructure engineering are encouraged to take a geology course. WSU also has a Construction Engineering program; this is a new program for which we will seek ABET accreditation as soon as we have our first graduate from the program (anticipated in 2021). This program requires several construction management courses that are not available at community colleges. Both the BSCE and BSConE require a construction graphics course utilizing AutoCAD and Civil 3D. Any CAD course can be substituted for this requirement with the caveat that students are responsible for learning AutoCAD and Civil 3D as needed for other classes. WSU gives advantages to completing an Associate's degree. The AS-MRP is generally the best fit for CivE, while the AS-T track 2 is the generally the best fit for ConE (though it requires completion of Phys& 223). Individual departments have specific requirements, so while a social science may transfer, if you don't choose carefully, you may also have to take another class to meet the requirement. Choose the following courses for WSU's BSCE or BSConE: HIST& 128 (World Civ 3) and either ECON& 201 (Micro) or ECON& 202 (Macro). WSU requires a writing portfolio so save two samples of graded written work from TCC. WSU is on the semester system rather than the quarter system. They require application to the university followed by admission into the program. See university website for important deadlines.

Washington State University - TriCities

WSU-TriCities has not verified the data on this handout. Students must contact them directly to verify information. WSU-TriCities is separately ABET accredited. Choose the following courses: HIST& 128 (World Civ 3), CMST& 220, and either ECON& 201 (Micro) or ECON& 202 (Macro). Completion of the AS-T degree (WA) automatically satisfies UCORE WRTG, QUAN, BSCI, PSCI, and three of the following requirements: HUM, SSCI, ARTS, DIVR, ROOTS. Up to three additional lower-division UCORE must be satisfied via transfer credit or in-residence credit prior to completion of a baccalaureate degree, and an individual course completed within the AS-T degree may not satisfy more than one UCORE category. Although TCC's ENGR 240 (Applied Numerical Methods) transfers to other WSU campuses as EE 221, this articulation is still in progress with WSU-TriCities. Talk to a WSU advisor. Take at least one of the following: PHYS& 223, CHEM& 162 or Geology. Biology is required for Civil Engineering. Bio& 100 at TCC is an equivalent class to Biology 102 at WSU, but others may be acceptable. Talk to a WSU advisor.

Seattle University

Seattle University is a private Catholic (Jesuit) university. Transfer student priority application deadline is March 1 for Fall Quarter and scholarships are available. Students can begin their studies at Seattle U also in winter and spring quarters. Obtaining an AS-T2 degree is beneficial since it may reduce the number of CORE courses required for graduation to as few as 3. At least one course each in humanities, social science, and doing art (or creative writing) is highly recommended to maximize the benefit.

Saint Martin's University

SMU is a private Catholic (Benedictine) university. Completion of AA-DTA recommended so the transfer students will begin as a junior standing with satisfied core requirements with the exception of religious studies and philosophy. The AS-T2, AS-MRP, or its equivalent, will be evaluated on a course-by-course basis. CE students should take an additional science elective such as geology or biology. Take ENGL& 102 instead of ENGL& 235. Many classes require minimum of C for transfer.

Gonzaga University

Gonzaga University is a private Catholic (Jesuit) university. It is recommended students complete the appropriate AS-MRP for their engineering discipline which should include ENGL 101, Programming (C++ preferred), and the appropriate lower division engineering courses for the discipline. For Hum/Soc Sci, 10 cr of PHIL (Group A) is recommended (Intro to Phil, Ethics, or Logic/Critical Thinking). Please see our website (www.gonzaga.edu) for academic & transfer policies, application deadlines, and scholarship information.

It is the student's responsibility to check university websites and meet with university advisors to ensure the accuracy of advising information.