Computer Engineering and Software Engineering Program Requirements

Course #	Description	TCC AS-CompE	UW Seattle CompE	UW Tacoma CompE	UW Bothell CompE	WSU Pullman CompE	WSU Pullman, Everett Software E	Seattle U Seattle EE w/CompE	SPU Seattle CompE	Gonzaga Spokane CompE
Math& 151, 152, 153	Calculus 1, 2, 3	R	√-app	√	√	√	√	G	G	G
Math& 254	Calculus 4	R	√-app	√	√	√	A	G		G
Math 238	Differential Equations	R	A	√	G	G		G	G	G
Math 220	Linear Algebra	R	G	√	G	√	G(P), √(E)	G	G	
Phys& 221	Calc Based Physics 1	R	√-app	√	√	√	√[5]	G	G	G
Phys& 222	Calc Based Physics 2	R	G	√	√	√	√[5]	G	G	G
Phys& 223	Calc Based Physics 3	R	A	√		G		G	G	G
Chem& 161	General Chem 1	S	A		√	G				G
Chem& 162	General Chem 2	S	A							
Engr& 104	Intro to Design		A	A		A		G		
Engr& 204	Electric Circuits	R	G	√	G	√[6]		G	G	G
Engr 240	App Numerical Methods	S						G		
CS 142	Java 1	R	√-app	√ C++	√	√	√[5]	G C++	G C++	G
CS 143	Java 2	R	√-app	√ C++	√	√	√[5]	G C++	G C++	
Engl& 101	English Comp 1	R	√-app	G	√	G	G(P), √(E)	G	A	G
Engl& 235	Technical Writing	S	G	A	G	G	G			G 103[4]
Hum and Soc Sci[1]		R	A - see back	A	A	A - see back	A-see back	A - see back	A - see back	A - see back

TCC Key: There are two relevant TCC Associate's degrees, the AS with Computer Engineering Specialization and the AS-T2. More info on back.

R = Required for the Associate of Science degree . 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-MRP. Minimum of 32 college level credits for 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.

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

C++ = The equivalent course at this university is a C/C++ course. Check with the university to see if Java is acceptable. It may be expedient to take programming at the university and transfer credits back to the CC for AS. However, knowing both languages is a benefit for majors.

Additional notes [1] Engr 104 is a Social Science. Engr 114 is a Humanities. 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 course requirements.

[2] UW EE dept requires a minimum of three classes with this [2] superscript for the BSEE. All are topics on FE/EIT exam.

[3] SMU requires English 102 instead of English 235. English 102 may be substituted for 235 in the AS degree.

[4] GU requires English 103 instead of English 235. English 103 may be substituted for 235 in the AS degree.

[5] WSU Software E: Chem& 161/162 may be subsitututed for Phys& 221/222. Require Java or C++ equivalent to both WSU's Cpts 131 and 132 or Cpts 121 and 122.

[6] While TCC's Engr& 204 has a lab, and course equivalency for WSU's EE 261 and 262, not all community college circuits courses transfer. Check with WSU academic coordinator.

Computer Engineering Program Requirements

Tacoma Community College

Students should generally be working toward one of three associate's degrees: 1) the Associate of Science - Major Related Program for Mechanical/Civil (AS-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. The AS-MRP was developed on the state level to most closely mirror the coursework that a student would be taking at a university engineering program. It requires 108 credits, rather than 90, which can be helpful with financial aid. In general, most Civil and Environmental students should be working toward the AS-MRP. The AS-T2 was also developed on the state level for a broader group of science/engineering fields. Students can make more self-advising errors using this model and should not use this as a degree goal; however, if ready to transfer and are a few classes short of the AS-MRP degree, 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 since it does not allow them to take all of the required prerequisites. Some universities give specific benefits for one or more of these degrees. Although we advise transferring without a degree in some instances, transferring courses back to complete the degree is requested. 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. TCC strongly encourages economics courses for engineering students.

University of Washington - Seattle

You must apply to both the university and the major. The Computer Engineering departments only admits transfer students in fall quarter. The transfer student application deadline for the University of Washington (fall quarter start) is February 15. (There may be other deadlines for international students.) The application deadline for the department is April 5. Some classes must be completed before you apply (√-app). Some courses must be completed before you start in the fall (√-enr). 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. 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.

Washington State University - Pullman, Everett

WSU gives advantages to completing the AS-MRP degree.   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: HIST& 128 (World Civ 3) and ECON& 202 (Macro). Save samples of graded written work from TCC. Download forms from the WSU website, and ask your instructor to sign them. Do it as you are taking classes, rather than having to go back and ask instructors to evaluate your work again. WSU is on the semester system, rather than the quarter system. They require application to the university, followed by certification into the program. See university website for important deadlines. WSU now offers a new Software Engineering (SE) major in Pullman and Everett campusses. Everett SE is a 2.5-year, full-time BS degree completion program for transfer students. Pullman SE is a 4-year BS program but accepts transfer students. We will seek ABET accreditation for SE program as soon as we have our first graduate from the program (anticipated in 2019). The Everett SE program requires the equivalent to WSU's Economics 101 or 102, and two of the following: Calc IV, Math 146 equivalent to WSU Stat 212, Phil 201 equivalent to WSU Phil 201 or Math equivalent to WSU Math 301 (not generally offered at community colleges). The statewide Associate of Arts in Computer Science (DTA MRP) is the best fit associate's degree for the Software Engineering Program.

University of Washington - Tacoma

The University of Washington - Tacoma would be separately accredited from the University of Washington- Seattle. Each school has its own requirements, and application process. You must apply to both the UW-T and CompE programs. The Computer Engineering and Systems program only admits students once a year for autumn quarter. See website for details. The most appropriate TCC associate's degree is the Associate of Science Computer Engineering Specialization, selecting ENGL& 235. (Note: This degree is an AS-T2 with Math 220 replacing Chem& 161.)

University of Washington - Bothell

UW-Bothell is separately ABET accredited. The CompE program admits new students for Autumn quarter only.

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 or AS-MRP 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. SU's program is BS in Electrical Engineering with Computer Engineering Specialization. The programming language at SU is C/C++. The SU EE with Comp. Eng. specialization program accepts Java as a substitute. It is highly recommended that students transfer after completion of Electric Circuits.

Seattle Pacific University

SPU is a private Christian university. If you have earned, prior to matriculation at SPU, an AS-T2, you will be required to take only two of the three required University Foundations courses, UFDN 3001 Christian Scriptures and UFDN 3100 Christian Theology. At least 15 credits of your transfer coursework in humanities and social sciences will be used to fulfill SPU's humanities and social science requirements, whether or not the courses match SPU requirements on a course by course basis.   There are then two years of coursework at SPU. You will be required to complete any remaining general education requirements, demonstrate proficiency in a foreign language, and complete the cultural understanding and engagement requirement prior to graduation.   The introductory programming language at SPU is C++. The Comp E program has a C++ transition class for transfer students who took two quarters of programming in a different object-oriented language (e.g., two quarters of Java). Note the Comp E program requires one additional course in Math/Science, satisfied by either Math& 254 or Chem& 161 (i.e., students do not need to take both).

Gonzaga University

Gonzaga is a private Catholic (Jesuit) university. Take ENGL 103; PHIL& 101, 106, 215 & elective; CMST& 101 & MATH 210 while at TCC. One Java (CS 142) class is accepted.

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