SEATTLE PACIFIC UNIVERSITY

BS Computer Engineering

2019-20

What can you do with a BS in Computer Engineering from SPU?

The BS in Computer Engineering at Seattle Pacific University provides a solid foundation in math, physics, computer science, and electronics that will enable you to analyze and design computers, peripheral devices, or embedded systems such as those found in today's smart appliances and transportation. **Potential occupations** include:

- Computer Engineer
- Computer Security Analyst
- Firmware Engineer
- Hardware Engineer
- Network Administrator
- Network Engineer/Analyst
- Network Security Analyst
- Programmer Analyst
- Quality Assurance Analyst
- Systems Administrator
- Systems Engineer/Analyst
- Systems Programmer

Suggested Transfer Preparation at Seattle Central College

Associate of Science-DTA (AS-DTA) or Associate of Science option 2 (AST-2), with careful selection of distribution courses and electives to complete the courses listed below. Students who study Java rather than C++ take CSC 2330 in their first quarter at SPU.

Majors with similar requirements in first two years

BS in Electrical Engineering

Courses in the major you may complete at Seattle Central College

Seattle Central College Courses	Equivalent SPU Courses
CSC 142 Computer Programming I (5)	CSC 1230 Problem Solving & Programming (5) if CSC 273 is also completed
CSC 143 Computer Programming II (5)	CSC 2430 Data Structures I (5) if CSC 273 is also completed
CSC 273 Data Structures Algorithms (5)	CSC 2431 Data Structures II (5)
MATH& 151 Calculus I (5)	MAT 1234 Calculus I (5)
MATH& 152 Calculus II (5)	MAT 1235 Calculus II (5)
MATH& 163 Calculus 3 (5)	MAT 1235 (5)
MATH 220 Linear Algebra (5)	MAT 2401 Linear Algebra (5)
MATH 238 Differential Equations (5)	MAT 3237 Differential Equations (5)* (LD)
PHYS& 221 Engineering Physics I (5)	PHY 1121 Physics for Science & Engineering (5)
PHYS& 222 Engineering Physics II (5)	PHY 1122 Physics for Sci & Eng II (5)
PHYS& 223 Engineering Physics III (5)	PHY 1123 Physics for Sci & Eng III(5)

*LD=Lower-division: the course transfers as a lower-division equivalent to the SPU course

Note: Completion of these courses is not required for transfer, but will aid in timely completion of your degree. Only courses with a regular grade of 1.7 (C-) or higher may count toward a major or minor. LD indicates the course transferred as a lower-division course.

Admission to the Major

Admission to this major is guaranteed for transfer students admitted to SPU. Once you begin classes at SPU, complete the Major Application form in the Banner Information System to formalize your acceptance to the major.

Learn more about the BS in Computer Science at:
https://spu.edu/computer-science-engineering
https://spu.edu/computer-engineering-reqs

Courses in the major to complete at SPU

MAT 2720 Discrete Mathematics (3)
CSC 3150 Systems Design (5) **or** CSC 3220 Applications Programming (3) **or** CSC 3221 Netcentric Computing (3) **or** CSC 3310 Concepts in Programming Languages (3) **or** CSC 3430 Algorithm Design & Analysis (3)
EGR 2200 Engineering Probability & Stats (3)
EGR 3000 Engineering Seminar & Internship Prep (1)
EGR 3810 Engineering Design (5)
CPE 4211 Computer Engr Senior Design I (3)
EGR 4812 Engineering Senior Design II (3)
EGR 4899 ENGR Capstone & Senior Design (3)
EGR 4941 Engineering Internship Review (1)
CPE 3280 Microcontroller System Design (5)
CPE 3350 Operating Systems Programming (3)
CPE 3550 Communication System Analysis (5)
CPE 3760 Computer Orgnztn & Assembly Language (5)
Choose 10 credits from three courses below: CPE 4750 Computer Networks (5) CPE 4760 Advanced Computer Architecture (5) EE 3722 Elec II Analog Electronics (5)
EE 1210 Intro to Logic System Design (5)
EE 2627 Electric Circuits I (5)
EE 2727 Electric Circuits II (5)
EE 3721 Elec I Analog Devices & Circuits (5)
Complete 5 credits of approved Technical Electives (5)

Other University Requirements

All students must complete the University Foundations Requirement at SPU—even those who have completed the Direct Transfer Agreement (DTA) Associate Degree.

Students admitted with fewer than 90 credits (freshmen and sophomores) complete 15 credits:
UFDN 1000 The Christian Faith (5)
UFDN 2000 Christian Scriptures (5)
UFDN 3100 Christian Theology (5)

Students admitted with 90 credits or more (juniors and seniors) complete 10 credits:
UFDN 3001 Christian Scriptures (5)
UFDN 3100 Christian Theology (5)

In addition to the major, the degree requires complete any remaining general education and University requirements, and at least 180 college-level credits total, including 60 upper-division (UD) credits.

Sample course plan for your junior and senior years at SPU

(Assumes satisfactory completion of CSC 142, 143, and 273; ENGR& 204 and ENGR 205; MATH& 151, 152, 163; MATH& 220 and 238; and PHYS& 221, 222 and 223 prior to transfer.)

Junior Year			
AUTUMN	**WINTER**	**SPRING**	**NOTES**
• CSC 2330 (5) • EE 1210 (5) • EE 2627 (5) • EGR 3000 (1)	• CPE 3760 (5) • EE 3721 (5) • EE 2727 (5) • CSC Elective (3)	• CPE 4750 (5) **or** CPE 4760 (5) **or** EE 3722 (5) • CPE 3280 (5) • EGR 3810 (5)	• Complete 45 credits total this year
ANY QUARTER Internship: 200+ hours (usually completed in the summer between your junior and senior years). UFDN, General Education (GE) and University Requirements			
Senior Year			
AUTUMN	**WINTER**	**SPRING**	**NOTES**
• MAT 2720 (3) • CPE 4211 (3) • CPE 3550 (5) • EGR 2200 (3) (or take in spring) • EGR 4941 (1)	• EGR 4812 (3) • +Credits to reach 15-18	• CPE 4750 (5) **or** CPE 4760 (5) **or** EE 3722 (5) • CPE 3350 (3) • EGR 4899 (3) • Upper-div Tech Elective (5)	• Be sure you take enough credits to total 180, with at least 60 numbered 3000-4999.
ANY QUARTER UFDN, General Education (GE) and University Requirements not yet completed			

Get more information about transfer admission to Seattle Pacific University at: http://spu.edu/transfer
Questions? Contact transfer@spu.edu