ENGINEERING

About the Department

Engineering and Computer Science Faculty (https://spu.edu/academics/college-of-arts-sciences/engineering-and-computer-science/faculty-and-staff/)

Engineering and Computer Science Department Website (https://spu.edu/academics/college-of-arts-sciences/engineering-and-computer-science/)

Engineers work for the benefit of humankind and our world by applying knowledge of the mathematical and natural sciences in ways that responsibly utilize the materials and forces of nature in service to God and society.

At Seattle Pacific University, our Engineering programs provide a supportive environment for integrating the Christian calls for service and stewardship together with engineering problem-solving skills with a focus on critical thinking, teamwork, and communication.

As an SPU engineering student, you will develop these skills through an academically challenging curriculum with hands-on, design-oriented applications in a Christ-centered community supported by a dedicated and easily accessible faculty. With these foundations, you will be well prepared to engage our culture's technical challenges to change the world for the benefit of humankind and God's creation.

All of SPU's engineering bachelor's degrees are accredited by the Engineering Accreditation Commission of ABET (http://www.abet.org/accreditation/).

Our Mission

We prepare diverse students to collaboratively solve complex engineering and computing challenges with competence, integrity, and humility to reach their potential and to serve God and society.

Majors

- Computer Engineering (BS) (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/computer-engineering-bs/)
- Electrical Engineering (BS) (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/electrical-engineering-bs/)
- General Engineering (BS) (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/general-engineering-bs/)
- Mechanical Engineering (BS) (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/mechanical-engineering-bs/)

Minors

- Appropriate & Sustainable Engineering Minor (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/appropriate-sustainable-engineering-minor/)
- Computer Engineering Minor (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/computer-engineering-minor/)
- Electrical Engineering Minor (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/electrical-engineering-minor/)
- Mechanical Engineering Minor (https://catalog.spu.edu/undergraduate/college-schools/cas-stem-social-sciences/engineering-programs/mechanical-engineering-minor/)

Expected Student Outcomes

The following are the expected student outcomes for graduating seniors with majors in Computer Engineering, Electrical Engineering, Mechanical Engineering, and General Engineering. Attainment of these outcomes prepares graduates to enter the professional practice of engineering.

Graduating seniors will have…

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Internship or Professional Experience Requirement

All Engineering majors are required to participate in an approved engineering-related internship with industry or another career entity, OR complete an approved certification.

Internships

- Your internship must include a minimum of 200 hours of work. In most cases, you will be paid by the employer.
- Normally, students complete internships during the summer between their junior and senior years.
- The Engineering and Computer Science Department will provide information to help you find internships, but you are individually responsible for locating and completing an appropriate internship.

Certifications

A current list of approved certifications is available from the engineering faculty.

Incoming Freshmen

If you are a recent high school graduate and intend to enter the Engineering program, in addition to meeting all the general SPU

admission requirements, you should present a high school record showing four years of mathematics, one year each of physics and chemistry, and three years of a foreign language.

Those students entering without some of these courses should consult an engineering advisor to determine an appropriate path through the Engineering curriculum.

Engineering freshmen should enroll in an Engineering section of Colloquium during Autumn Quarter. Engineering students should enroll in an Engineering section of WRI 1100 Disciplinary Research and Writing Seminar.

Transfer Students

Detailed information on preparing to transfer to SPU to study engineering is available in the Engineering Department's transfer student web page (http://spu.edu/academics/college-of-arts-sciences/engineering-and-computer-science/for-prospective-students/transfers/).

Fundamentals of Engineering Exam

All mechanical engineering and electrical engineering seniors are encouraged to take the Washington State Department of Licensing Fundamentals of Engineering (FE) exam. Those passing the test are certified by the state of Washington as licensed engineers-in-training.