

Seattle Central College Transfer Major Planning Guide

ENGINEERING

What can I do with a major in engineering?

Engineers can work in a wide variety of fields, from high tech firms to mining or oil companies. Engineers design software, build bridges, and find new ways of harnessing electricity. Engineering is a very broad field; many areas of engineering have strong employment prospects and high salaries.

The different varieties of engineering include:

- Aerospace and Astronautics
- Bioengineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Mining Engineering
- Petroleum Engineering

Different types of engineering are usually different majors.

How can I prepare at Seattle Central for a major in engineering?

Students planning to major in engineering at a baccalaureate institution usually take courses in **physics, calculus, and chemistry, as well as general education requirements**, to prepare to transfer. Most engineering programs will require a year of calculus, a year of physics, and at least introductory chemistry. The type of engineering you choose may have additional requirements, such as higher-level math, biology, additional chemistry, computer science, engineering, or other courses. Specific requirements also may vary according to the transfer university, so it is **STRONGLY** recommended that students work with an advisor at Seattle Central as well as advisors at the universities where they are considering transferring to ensure they take the appropriate classes to be prepared to enter the major when they transfer.

Students planning to major in engineering often earn the Associate of Science – Option #2 degree. Advisors can help students understand how to best approach the math and science requirements necessary to complete this degree.

Tips for Success as an Engineering Major

- Students planning to study engineering will need to take several sequences of courses, for example, three-course sequences of calculus and physics. Check prerequisites for these courses, start early, and make sure to complete the entire sequence at the same college.
- Some required courses are only offered once a year. Make sure to plan out your schedule well in advance so that you can include all required courses.
- Most engineering programs require substantial amounts of advanced math and science. If your math skills are weak or it has been some time since you took math, do not put off getting started! Depending on your placement scores, you may need to take math for several quarters before you are ready to start calculus or before you can complete the prerequisites for other required classes.
- Check prerequisites, admission requirements, and GPA requirements at your intended transfer university early so you can be well-prepared to transfer.
- Many universities offer at least one or two engineering specialties; mechanical and electrical engineering are the most commonly offered. Check with your potential transfer universities to make sure they offer the variety of engineering you prefer. Students interested in petroleum or aerospace engineering, for example, will have fewer transfer options than a student studying civil engineering.
- Check both university *admission* and *graduation* requirements at your preferred transfer university as a guide to choosing your classes. Some universities, for example, may require additional physics classes to graduate that are not required for admission. It may be much easier (and cheaper!) to meet that requirement at Seattle Central rather than at your transfer university.

Where can I earn a bachelor's degree in engineering in Washington?

Many universities offer at least some varieties of engineering as an undergraduate major. You can use the College Navigator search engine found at <http://nces.ed.gov/collegenavigator/> to find engineering programs in Washington State or around the country.

Next Steps:

- Consider taking ENGR 110 at Seattle Central. This course offers an orientation to the field of engineering and has no prerequisites. It is a great way to find out more about engineering and what you need to do to be successful as an engineering student.
- Research the universities you are interested in attending and the prerequisite classes they require for your major.
- Meet with an advisor to choose a transfer degree, discuss prerequisites, and plan what classes you need to take in the next quarter or two.
- Explore the professional organizations in your area of interest for more information about education and career options.