

# Freshman Engineering

## What is the Freshman Engineering Program?

This program is defined by a set of courses and several groups of people who work with engineering freshmen including advisors and instructors. The goal of the Freshman Engineering Program is to provide each new engineering student with the resources needed to be successful during the first year on campus. As an engineering freshman at Missouri S&T, you'll work toward completion of the courses included in the common freshman year and you'll acquire information that will help you to select a major and career.

## What is a common freshman year?

Some universities require new freshmen to select an engineering major before they arrive to campus. As you can imagine, many of these students end up changing majors. A better approach, we believe, is to provide freshmen with the information that they need to make an informed decision regarding an engineering major while they are taking courses that are common to all engineering majors. The common freshman year consists of the basic set of courses that are required by all of the engineering programs at Missouri S&T.

## When will I choose my engineering major?

You'll take a seminar course during your first semester on campus (FE 1100 Study & Careers in Engineering). In this 1-credit course, we provide lots of information about the different fields of engineering. You'll explore your strengths, desires, and goals as you visit engineering departments, attend professional presentations, and discuss potential majors with your advisor. Most students find themselves leaning toward one of the engineering degree programs by the end of the first semester. Others are able to narrow down their choices first semester, but wait until the second semester to make the final decision. The common freshman year provides you with the time that you need to make this important career decision.

## Why do I need an advisor?

Your freshman advisor's top priority is your academic success. You'll meet with your advisor several times in the fall and again in the spring to select courses and discuss any problems that arise. Your advisor will suggest an appropriate course load (number of classes), help you to select humanities & social sciences courses to meet elective requirements, direct you to various campus resources and help you make decisions that affect your academic progress.

## Common Freshman Year

The following courses are common to all sixteen engineering degree programs available at Missouri S&T. You'll complete this common freshman year before moving on to your chosen major.

### Chemistry & Physics

- Lab Safety & Hazardous Materials (Chem 1100)
- General Chemistry (Chem 1310)
- General Chemistry Laboratory (Chem 1319)
- Engineering Physics I (Phys 1135)

### Mathematics

- Pre-calculus classes, if needed\*
- Calculus for Engineers I (Math 1214)
- Calculus for Engineers II (Math 1215)

### Engineering

- Careers in Engineering Seminar (FE 1100)
- Engineering Design (MechE 1720)

### Humanities & Social Sciences

- Exposition & Argumentation (English 1120)
- Humanities/Social Sciences, two courses\*\*

\* A math placement test is taken prior to your first semester at Missouri S&T. Some students place directly into calculus the first semester, while others take algebra and/or trigonometry before taking calculus.

\*\* Missouri S&T engineering students are required to take several humanities and social sciences courses, including history (History 1200, 1300, 1310 or Political Science 1200), economics (Econ 1100 or 1200) and several electives. You'll take two of these courses freshman year.

## Undergraduate Engineering Degrees

Aerospace	Architectural
Ceramic	Chemical (and Biochemical)
Civil	Computer
Electrical	Engineering Management
Environmental	Geological
Mechanical	Metallurgical
Mining	Nuclear
Petroleum	

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