Shrewsbury High School
Department of Science & Engineering
Engineering Courses - A Quick Guide

Considered "Electives" in terms of scheduling, All Engineering Courses can be taken *in addition* to a full year Science Course. Additionally students might consider joining the after school USFIRST Robotics team (visit Team467.org) or the Engineering Club.

Full Year Courses	**Semester Courses**
Engineering the Future (grade 9-12) Introduction to Engineering Design (grade 9-12)* Honors Principles of Engineering (grade 10-12)* Honors Digital Electronics (grade 10-12)*	(Both classes - grades 9-12) Exploring Technology (modules) Robotics/Electronics

***Project Lead The Way (PLTW)**

The purpose of this program is to provide high school students with a rigorous introduction to the field of Engineering. POE and DE are only offered at the Honors level and are not available for 9th grade students.

Introduction to Engineering Design – IED (grades 9-12)

Computer Aided Drafting using Autodesk Inventor software on PC's

Honors Principles of Engineering – POE (grades 10-12)

A survey of Engineering topics incorporating mathematics and engineering theory using a variety of software on PC's

Honors Digital Electronics – DE (grades 10-12)

An in-depth look at circuits, circuit logic, and using electronics in technology, also using PC's

Engineering the Future (grades 9-12)

Following the MA state Engineering frameworks, this is a hands-on, project-based course surveying various topics in Engineering

Semester Options

Exploring Technology (Runs during the 1st semester)

This course is a self-guided, hands-on, exploration of various industrial technologies using technology modules. The modules are sophisticated combinations of equipment and software that walk students through topics like: pneumatics, hydraulics, plastic injection molding, electricity, and others. Students work in pairs and progress through each one of ten different stations using the guided activities.

Robotics/Electronics (Runs during the 2nd semester)

This course is a very hands-on exploration of two topics each spanning 10 weeks. Robotics focuses on the construction and programming of robots using VEX robotic kits. The electronics portion covers basic electronics from simple circuits through creating complex operating circuits all designed to perform specific tasks. Students learn how to solder, build circuits using breadboards, and interpret wiring diagrams.