



Engineering & Aerospace (PLTW)

PLTW – Introduction to Engineering Design

This is a foundation course in a series of Project Lead The Way (PLTW.org) pre-engineering courses designed to introduce students to the field of engineering and prepare the students to pursue a career in engineering. Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3-D modeling software, and use an engineering notebook to document their work.

PLTW – Engineering Science (Computer Science Principles)

This course is part of the Project Lead The Way (PLTW.org) pre-engineering sequence. Applying the principles of physics to various technology systems and manufacturing processes helps students learn how engineers and technicians use science, technology, and math in an engineering problem solving process. Projects and problems include app development, visualization of data, cybersecurity, and simulation.

PLTW – Digital Electronics

This course is part of the Project Lead The Way (PLTW.org) pre-engineering sequence. Digital Electronics is the study of electronic circuits that are used to process and control digital signals.

The primary focus is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

PLTW – Civil Engineering & Architecture

This course is part of the Project Lead The Way (PLTW.org) pre-engineering sequence in which students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software.

PLTW – Aerospace Engineering

This Project Lead The Way (PLTW.org) course propels students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through project such as remotely operated vehicles.

PLTW – Engineering Design & Development

The knowledge and skills students acquire throughout Project Lead The Way (PLTW.org) Engineering courses come together in Engineering Design and Development as they identify an issue and then research, design, and test a solution, ultimately presenting and defending their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards and develop a product.

Practicum in Engineering

Engineering Practicum is a capstone course intended to provide students with the opportunity to apply the skills and knowledge learned in previous Engineering courses within a professional, working environment. In addition to developing an understanding of the professional and ethical issues encountered by engineers and technologists in the workplace, students learn to refine their skills in problem solving, research, communication, data analysis, teamwork, and project management. The course is highly customizable to meet local system needs: instruction may be delivered through school laboratory training or through work-based learning arrangements such as internships, mentoring, and job shadowing.