

ENGINEERING TECHNOLOGY

0701 Intro to Engineering Design 1 year Grades 9, 10, 11, 12 1 credit

An entry level Project Lead the Way engineering foundation course that teaches problem solving skills using an approach called the "Design Development Process". This process involves students finding solutions by creating computer models of various products that are then analyzed and presented using a solid modeling design software program. This is a very hands on class using project based learning to actually solve real word problems that occur in automated manufacturing and machine processes. We will also study the history of engineering and the different careers available in the engineering field. Possible to receive college credit. Calculator required for the course. Prerequisite: 8th grade math and science with teacher recommendation. Fee: \$30

0702 Principles of Engineering (POE) 1 year Grades 10, 11, 12 1 credit

A second year Project Lead the Way engineering foundation course. Uses student activities, projects and problems to explore the wide variety of careers in engineering and technology and examine various technology systems and manufacturing processes. Students will explore technology systems and engineering processes to find out how math, science, and technology help people. This is a very hands on class using project based learning to actually solve real word problems. Possible to receive college credit. Calculator required for the course (graphing preferred). Prerequisite: Completion of Introduction to Engineering Design with teacher recommendation. Must have a "B" or better in Math & Science in the prior year of school with teacher recommendation. Fee: \$20

0703 Civil Engineering and Architecture (CEA) 1 year Grades 11, 12 1 credit

A third/fourth year of Project Lead the Way engineering course focusing on civil engineering and architecture. Builds upon previous course(s) of using computer software as well as problem solving methods. Students will work on a long-term project involving development of a property site. Students will learn about how to design and develop the property throughout the year. Students will have both hands-on project, as well as projects focusing on both residential and commercial buildings designed using Revit CAD software. Calculator required for the course. Possible to receive college credit. Prerequisite: Completion of Introduction to Engineering Design (IED) and Principles of Engineering (POE) or teacher recommendation. . Must have a "B" or better in Math & Science in the prior year of school with teacher recommendation. Fee: \$15

0705 Aerospace Engineering (AE) 1 year Grades 11, 12 1 credit

A third/fourth year of Project Lead the Way engineering course focusing on learning 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 projects such as remotely operated vehicles. Calculator required for the course (graphing preferred). Prerequisite: Must have a "B" or better in Math (Algebra II or higher) & Science in the prior year of school with teacher recommendation. Completion of Introduction to Engineering Design (IED) and Principles of Engineering (POE) or teacher recommendation. Fee: \$40

PLTW Engineering Pathway: For students who wish to pursue a career in engineering, students will take engineering in one of the two possible pathways (please see above as the table below is abbreviated)

	<u>Freshman</u>	<u>Sophomore</u>	<u>Junior</u>	<u>Senior</u>
Option 1	IED	POE	CEA	AE
Option 2	IED	POE	AE	CEA