

## **FREQUENTLY ASKED QUESTIONS**

**If I sign up for the program now, do I have to take all of the courses?**

*No. A student may choose to “drop” from the program by simply not signing up for the next course.*

**Does a student have to enroll in the program as a freshman?**

*Students may enroll in PLTW any year, but they will most likely not be able to take the Engineering Design and Development capstone course if not enrolled as a freshman.*

**Does this program have any math requirements?**

*Students must be either in Algebra or have already had Algebra to enter the program.*

**Is the program challenging?**

*Yes. The program is designed to be an academically challenging program to fully prepare the student for post-secondary education.*

**How “hands on” is the program?**

*For students who enjoy “hands on” learning, this program is for them. Many projects that test principles and materials are assigned.*

**Is post-secondary credit given to students who successfully complete the program?**

*Yes. Seymour High School engineering students can take an end-of-the-year college credit exam if they earn 85% or better in the class.*

## **Goals of Project Lead the Way**

- To increase the number of young people who pursue engineering and engineering technology programs requiring a four- or two-year college degree.
- To provide clear standards and expectations that allows student success in the program.
- To provide leadership and support that will produce continuous improvement and innovation in the program.
- To provide equitable and inclusive opportunities for all academically qualified students without regard to gender or ethnic origin.
- To reduce the future college attrition rates within four- and two-year engineering and engineering technology degree programs.
- To contribute to the continuance of America's national prosperity.

## **SEYMOUR COMMUNITY SCHOOL CORPORATION**

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**Seymour High School**  
**Pre-Engineering Program**  
**Project Lead the Way**  
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## **PRE-ENGINEERING PROGRAM**

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## What is Project Lead the Way?

Seymour High School implemented the national pre-engineering program called **Project Lead the Way (PLTW)** in the 2004-05 school year. Students who enroll in PLTW take elective courses that prepare them for a career in engineering or engineering technology. The rigorous series of courses challenge the student to apply the math and science principles from their core courses to engineering principles. A national standards-based curriculum is followed. In addition, there is the anticipated goal of partnering with Purdue University's School of Technology and Jackson County Industrial Development for guidance and corporate industry expertise. Representatives from these partners visit the classrooms periodically to monitor and aid in the student's progress.

Five PLTW courses are offered at Seymour High School. If a student follows through the full program and successfully completes four core courses, they may choose to enroll in the capstone course in their senior year. In this course, students work as a group to research, design, and develop a physical project of their own choosing. With completion of these classes, students who enter the field of engineering at a post-secondary institution will have a head start within their course of study.



## Which courses are offered?

### Introduction to Engineering Design (IED):

This course teaches problem-solving skills using a design development process for products. Models of product solutions are created, analyzed, and communicated using solid modeling computer design software.

Principles of Engineering (POE): This course helps students understand the field of engineering/engineering technology. Fundamental principles of engineering (including dynamics and kinematics, machines, hydraulics, pneumatics, thermodynamics and strength of materials) are discussed in preparation of the mechanical and civil engineering disciplines.

Digital Electronics (DE): This course in applied logic encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices in preparation for the electrical engineering discipline.

Civil Engineering & Architecture (CEA): In this course, students will learn about various aspects of civil engineering and architecture, apply what is learned to the design and development of a property. The course provides freedom to develop property as a simulation or to model the real-world experiences that civil engineers and architects experience when developing property.

### Engineering Design and Development (EDD):

In this course, students work in teams to research, design, and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor in this capstone course.

## Sample schedule for student completing capstone course

### Freshman Year

ENGLISH	FINE ART OR FOREIGN LANG.
ALGEBRA OR GEOMETRY	SOCIAL STUDIES
BIOLOGY	<b>PLTW (IED)</b>
CAREER INFORMATION	DIGITAL COMMUNICATION TOOLS

### Sophomore Year

ENGLISH	FINE ART OR FOREIGN LANG.
ALGEBRA II OR PRE-CALCULUS	HEALTH/COMPUTER APPLICATIONS
CHEMISTRY	<b>PLTW (POE)</b>
P.E.	-----

### Junior Year

ENGLISH	<b>PLTW (DE)</b>
PRE-CALCULUS	<b>PLTW (CEA)</b>
US HISTORY	ELECTIVE
PHYSICS	-----

### Senior Year

ENGLISH	<b>PLTW (EDD)</b>
GOVERNMENT/ECONOMICS	SCIENCE ELECTIVE
AP CALCULUS	ELECTIVE
ELECTIVE	-----

It is still worthwhile to take one or two courses if you can't take the whole sequence. Ask your counselor.