

The Mission of Project Lead The Way® is to create dynamic partnerships with our nation's schools to prepare an increasing and more diverse group of students to be successful in engineering and engineering technology programs.

PLTW achieves its mission by providing

- An interactive, project based high school and middle school technology curriculum.
- A comprehensive professional development program.
- Continuous improvement in both the curriculum and training.
- Quality assurance through systematic program evaluation, and
- Leadership and support to PLTW schools and students on the national and state/regional level.

Currently, the program operates in 30 states from New York to California and is expected to begin operations in additional states through its partnering with the Southern Regional Education Board's *High Schools That Work* (HSTW) initiative, which works with schools in 23 southern states.

PLTW recognizes that many opportunities await young people who complete an upgraded academic core and a career/technical concentration, such as pre-engineering technology. To further this goal, PLTW is ready to assist schools and states that want to expand their career programs by offering the Project Lead The Way® (PLTW) pre-engineering program of study.

High-Demand High Wage Careers

The United States is suffering from a severe shortage of engineers and well-educated technical workers. The nation has more than 1 million jobs available in these fields but no qualified candidates to fill them. One reason for this problem is that more than half of the students who enroll in postsecondary engineering and engineering-technology programs drop out because they were not adequately prepared in high school.

As a result, U.S. technical industries are suffering, and salaries and benefits for those who do complete their education are very desirable.

Introducing students in middle school and high school to engineering and engineering technology will attract more of them to these fields and will allow them to determine (before college) whether they are interested in pursuing an engineering-related career. The PLTW graduate will be better prepared for engineering programs in college or technical school and will be more likely to succeed.

Rigorous and Relevant Curriculum

Project Lead The Way® pre-engineering program

1. Meets national standards for mathematics, science, and technology education
2. Offers a complete career/technical concentration with an emphasis on both mathematics and science
3. Links demanding mathematics and science courses with quality academic/technical courses

Middle School Technology Program

Gateway to Technology

The middle school math, science, and technology curriculum is designed to give students a broad overview of technology-related fields and processes. Because engineers use technology to solve problems, the course is "activity-oriented." It incorporates four 10-week units, each of which is developed specifically for grades six through eight. It is recommended that these units be taught in the following order:

- Design and Modeling
- The Magic of Electrons
- The Science of Technology
- Automation and Robotics

A Sequential, Flexible High School Program

With its commitment to recruit and retain all students, PLTW offers a flexible and rigorous high school four-year program that recognizes students' college-preparatory math and science sequences and their career goals. PLTW's three-tiered approach (Foundation, Specialization, and Capstone) prepares students to enter a two or four-year college or technical school in engineering and engineering technology, while offering students who do not intend to pursue further formal education the knowledge and logical thought processes in these courses.

High School Courses

- Principles of Engineering is a broad-based survey course to help students understand engineering and engineering technology and identify career possibilities. Theoretical and hands-on problem-solving activities are emphasized.
- Introduction to Engineering Design is an introductory course that develops students' problem-solving skills, with emphasis on visualization and communication skills using a computer and a 3-D solid modeling software.

National Alliance
For
Pre-Engineering
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Lead The Way®
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**A Pre-Engineering Program
for Secondary Schools**