

# Engineering: Project Lead the Way (PLTW) Academy

**Location:** Academy coursework is taught at the high school.

## Summary

The high school Engineering Academy is a four-year sequence of five courses which, when combined with traditional mathematics and science courses, introduces students to the scope, rigor and discipline of engineering prior to entering college. In grades 9, 10 and 11, students build a foundation of pre-engineering knowledge and skills. In the senior year, students take PLTW Engineering Design and Development, where they design and build solutions to authentic engineering problems. These self-directed projects are mentored by engineers. For more information go to [www.pltw.org](http://www.pltw.org).

## Recommended Electives

- Science electives.
- Two years of World Language.

## Prerequisites

Engineering Academy students must enter the program in the ninth grade. Ninth grade students take Introduction to Engineering Design and must be concurrently enrolled in Algebra I as a **minimum** level mathematics course.

## Successful Academy Students:

- Maintain a C average in all academy coursework.
- Maintain a C average in mathematics.

In the senior year PLTW Engineering Design and Development 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 mentoring engineer. They must present progress reports, submit a final written report and defend their solutions to a panel of outside reviewers at the end of the school year.

## College Credit

In this program, students may be eligible for articulated credit with many four-year colleges and universities. See the PLTW website for current articulation agreements. (<http://www.pltw.org>)

9th Grade	10th Grade	11th Grade	12th Grade
English 9	English 10	English 11	English 12
Algebra I or above	Geometry or above	Algebra II or above	Mathematics
Science	Science	Science	Science Elective
U.S. History	American Government	World History	Elective
World Language	World Language	Elective	Elective
Lifetime Fitness/Health	Fine Arts	PLTW Digital Electronics – G/T CT-825-1	Elective
PLTW Introduction to Engineering Design – G/T CT-805-1 (Technology Education Graduation Credit)	PLTW Principles of Engineering – G/T CT-815-1	PLTW Computer Integrated Manufacturing – G/T CT-835-1	PLTW Engineering Design and Development – G/T CT-845-1

Shaded areas designate completer coursework.

## Industry Certification

There are no formal certification tests given, however, students who have taken high school engineering courses and/or received transcribed college credit have demonstrated their commitment to a rigorous, challenging program. They are prime candidates for a college or university engineering program. Students are encouraged to interview with the head of college programs to discuss what they have learned in high school and what college courses would be appropriate.

Sample Career Options			
< 4-Year Degree	4-Year Degree	> 4-Year Degree	
Engineering Technician	Chemical Engineer Civil Engineer Electrical Engineer Industrial Engineer Manufacturing Engineer	Materials Engineer Mechanical Engineer Process Engineer Quality Engineer Software Engineer	Scientist Nuclear Engineer