



TECHNOLOGY EDUCATION KENMORE EAST & KENMORE WEST HIGH SCHOOLS

Project Lead the Way – Pathway to Engineering

What is Project Lead the Way (PLTW)?

The PLTW Pathway to Engineering Program is a hands-on and project-based sequence of study that engages students in a real-world learning environment. Students explore science, technology, engineering, and mathematics (STEMs) in a unique, nontraditional manner that allows students to not only see concepts on paper, but learn through experience and experimentation. For further information on this nationally recognized program go to: www.pltw.org.

What courses are available in the PLTW program?

The following PLTW courses are available during the 2012-2013 school year:

PLTW Introduction to Engineering Design / DDP (*PLTW IED/DDP*):

In this course, students use 3D solid modeling design software to develop solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. This course is open to all students, but is typically taken by 9th and 10th graders. IED/DDP is a prerequisite for all other PLTW courses, but may also be taken as a stand-alone course.

Principles of Engineering (*PLTW POE*):

This survey course of engineering exposes students to some of the major concepts they'll encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers and to develop skills and understanding of course concepts. Students employ engineering and scientific concepts in the solution of engineering design problems. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges.

Computer Integrated Manufacturing (*PLTW CIM*):

The major focus of this course is to answer the question: How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How does an assembly line work? As students find the answers to these and other questions, they learn about the past, present, and future of manufacturing. This course is built around several key concepts: computer modeling, Computer Numeric Control (CNC) equipment, Computer Aided Manufacturing (CAM), and robotics.

Kenmore-Town of Tonawanda Union Free School District
1500 Colvin Boulevard Buffalo, New York 14223-1196
(716) 874-8400

Digital Electronics (PLTW DE):

Students in this course study electronic circuits that are used to process and control digital signals. Digital electronics is the foundation of all modern electronic devices such as cell phones, computers, communication systems, digital cameras, high-definition televisions, and MP3 players. The major focus of the DE course is to expose students to logic design, teamwork, communication methods, and engineering standards.

What are the advantages of PLTW and technology education?

Students have many course choices as they plan their high school career. The faculty of the Technology Education Department works to attract students to the program who will benefit most from the curriculum. Advantages to taking PLTW and technology education courses include:

- All students may earn college credit through agreements with local institutions including Erie Community College (ECC) and Rochester Institute of Technology (RIT), and from other participating PLTW universities across the nation.
- All 9th grade students must earn credit to satisfy the art/music/design requirement. PLTW IED/DDP satisfies this requirement. All students may take PLTW IED/DDP without being obligated to take further PLTW or technology education courses.
- PLTW POE may be used as a substitute for a third year of mathematics or science credit. PLW DE and Networking 1 (Cisco networking) may substitute as a third unit of mathematics.
- All technology education courses allow students to develop important skills for future careers through the use of advanced computer technology and laboratory/workshop projects.
- Regents Advanced Designation – A five unit sequence in Technology Education may be used to satisfy the three credit foreign language requirement.

Other Technology Education courses and opportunities....

All high school students may take PLTW courses or general technology education courses. Other courses available to **all students** as electives include:

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| • Architecture | • Construction Systems |
| • Electricity & Electronics | • Media Design & Video Production |
| • Tool Time (<i>Manufacturing</i>) | • Computer Aided Design (CAD) |
| • Tool Time 2 (<i>Materials</i>) | • Advanced CAD |
| • Networking 1 & 2 (<i>Cisco networking</i>) | • Graphic Communications |

For more information and further questions....

If you would like to learn more about Project Lead the Way and technology education or have any further questions, please feel free to contact any technology education teacher or your counselors. Questions may also be addressed to:

Kevin Day Kenmore West High School (716) 874-8401 kday@kenton.k12.ny.us	Tom Koprevich Kenmore East High School (716) 874-8402 tkoprevich@kenton.k12.ny.us	Joel Maerten Curriculum Learning Specialist (716) 874-8403 jmaerten@kenton.k12.ny.us
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