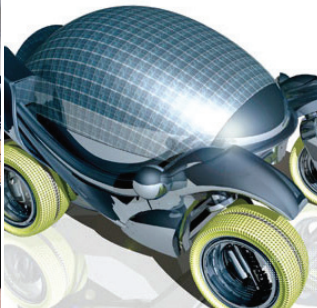




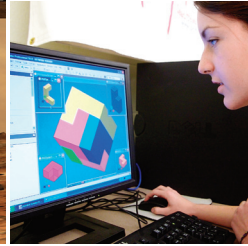
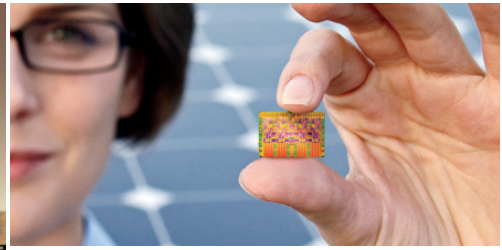
Engineering



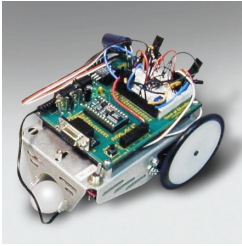
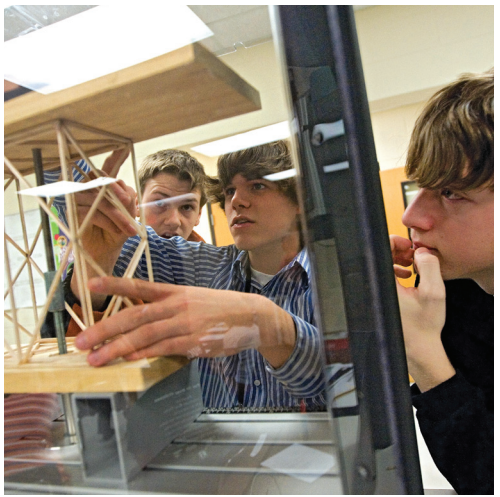
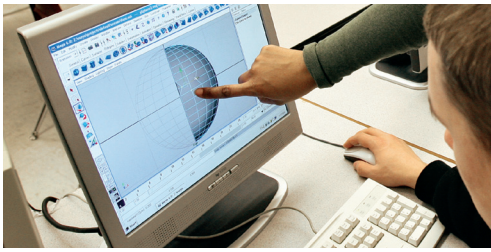
InnovationHS
Engineering for High Schools



PROJECT LEAD THE WAY
PLTW



The **PLTW Pathway To Engineering (PTE)** program is a sequence of courses, which follows a **proven hands-on, real-world, problem-solving** approach to learning. Throughout PTE, students learn and apply the design process, acquire strong teamwork and communication proficiency and **develop organizational, critical-thinking and problem-solving skills**. They discover the answers to questions like how are things made and what processes go into creating products? Students use the same industry-leading 3D design software used by companies like **Intel, Lockheed Martin and Pixar**. They explore aerodynamics, astronautics and space life sciences. **Hello, NASA**. Students apply biological and engineering concepts related to biomechanics - **think robotics**. They design, test and actually construct circuits and devices such as **smart phones and tablets** and work collaboratively on a culminating capstone project. It's STEM education and it's at the heart of today's **high-tech, high-skill global economy**.



Foundation Courses

IED

Introduction to Engineering Design

Students use the design process and industry standard 3D modeling software to design solutions to solve proposed problems.

POE

Principles Of Engineering

Students are exposed to major concepts like mechanisms, energy, statics, materials and kinematics.

Specialization Courses

AE

Aerospace Engineering

Students explore the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers.

BE

Biotechnical Engineering

Hands-on projects engage students in engineering design problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, forensics and bioethics.

CEA

Civil Engineering & Architecture

Students design and develop residential and commercial properties using 3D architectural design software.

CIM

Computer Integrated Manufacturing

Students explore manufacturing history, individual processes, systems and careers. The course also incorporates finance, ethics and engineering design.

DE

Digital Electronics

Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation. They are also exposed to programming integrated circuit kits and microcontrollers.

Capstone Course

EDD

Engineering Design & Development

Students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.

Igniting Innovation through imagination and learning.

PLTW is the leading provider of rigorous and innovative Science, Technology, Engineering, Mathematics (STEM) education curricular programs used in middle and high schools across the U.S. Students in PLTW programs create, design, build, discover, collaborate and solve problems while applying what they learn in math and science. The hands-on, project-based engineering and biomedical sciences courses engage students on multiple levels, expose them to areas of study that they typically do not pursue and provide them with a foundation and proven path to college and career success. The PLTW curriculum is founded in the fundamental problem-solving and critical-thinking skills taught in traditional career and technical education, but at the same time integrates national academic standards and STEM principles to create a model for 21st century learning.

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