Imagination, innovation & learning.
Introduction to Project Lead the Way
PLTW programs:
• Engage, Encourage, & Educate
• Thought-Provoking
• Project-Based Learning
• Real-World Preparation
Engineering Courses

- AP-Level Concepts
- 21st Century Skills
- Merging Theory and Practice
- STEM Curriculum
Classroom Characteristics

- Cutting-edge technology, equipment, and materials
- Collaboration
- Problem-solving
- Relevant subject matter
- Invested teachers
- College credit for high school courses
Example PLTW Innovations

- Discovering a new “patented” bio-fuel process
- Designing alternate housing projects
- Testing cutting edge wind turbines
- Programming robotics
Course Flowchart

IED → CEA → EDD → DE → POE
Introduction to Engineering Design (IED)

In this course, students use 3D solid modeling design software to help them design solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards and technical documentation. A lab fee will be charged.
Unit 1: Introduction to Design

Lessons:
- Design Process
- Technical Sketching and Drawing
- Measurement and Statistics
- Puzzle Cube
Unit 2: Design Solutions

Lessons:

• Geometric Shapes and Solids
• Dimensions and Tolerances
• Advanced Modeling Skills
• Advanced Designs
Unit 3: Reverse Engineering

Lessons:
• Visual Analysis
• Functional Analysis
• Structural Analysis
• Product Improvement by Design
Unit 4: Virtual Design Project

Lessons:

- Engineering Design Ethics
- Design Teams
Digital Electronics (DE)

Digital Electronics courses teach students how to use applied logic in the development of electronic circuits and devices. Students may use computer simulation software to design and test digital circuitry prior to the actual construction of circuits and devices.

Civil Engineering and Architecture (CEA)

Civil Engineering and Architecture courses provide students with an overview of the fields of Civil Engineering and Architecture while emphasizing the interrelationship of both fields. Students typically use software to address real world problems and to communicate the solutions that they develop. Course topics typically include the roles of civil engineers and architects, project-planning, site-planning, building design, project documentation, and presentation.
Principles of Engineering (POE)

Principles of Engineering courses provide students with an understanding of the engineering and technology field. Students typically explore how engineers use various technology systems and manufacturing processes to solve problems; they may also gain an appreciation of the social and political consequences of technological change.

Year 3

Engineering Design and Development (EDD)

Engineering Design and Development courses provide students with the opportunity to apply engineering research principles as they design and construct a solution to an engineering problem. Students typically develop and test solutions using computer simulations or models but eventually create a working prototype as part of the design solution.

Year 4
Course Registration Process
Registration Process:

- No applications are required
- Please note prerequisites for each PLTW course (*listed in the course guide*)
- Sign up for course via registration materials provided at your school
Summary
For more information, contact the Technology & Engineering Education Department Chair

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