

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

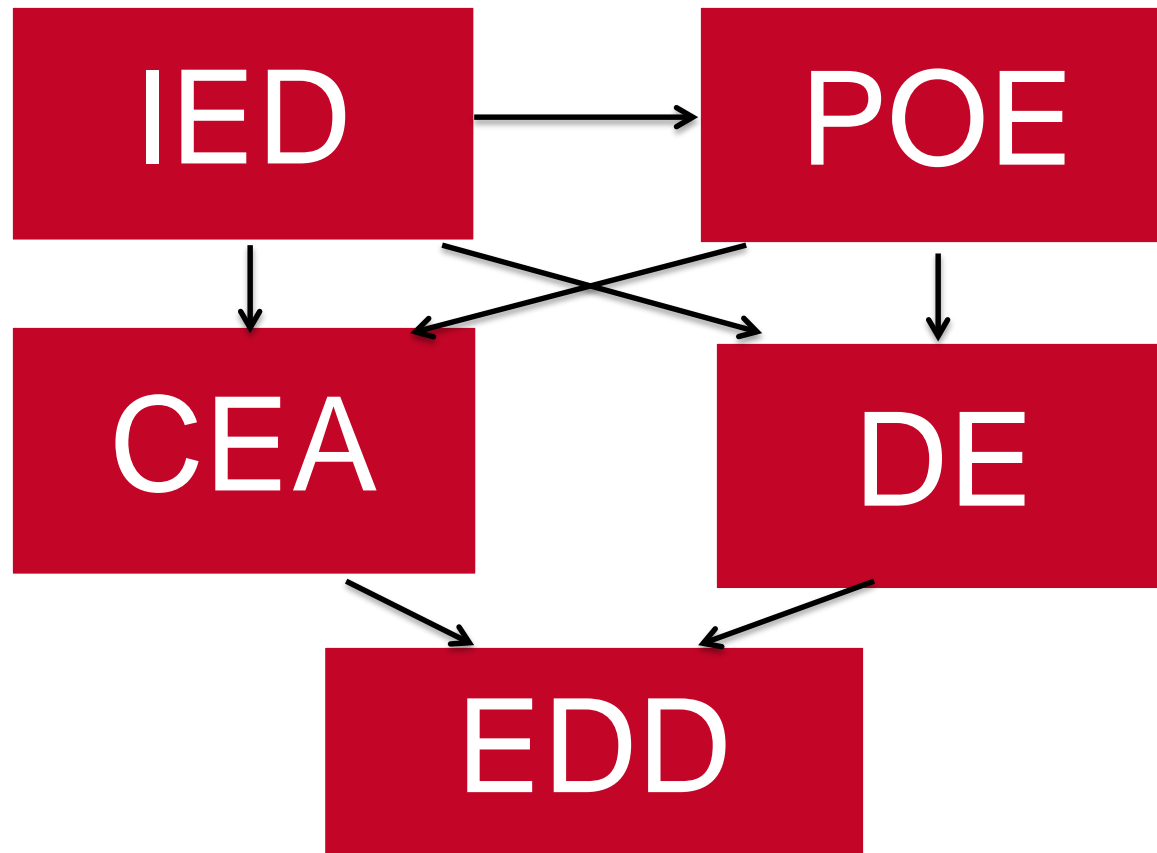
- Discovering a new “patented” bio-fuel process
- Designing alternate housing projects
- Testing cutting edge wind turbines
- Programming robotics



High School
Pathway To Engineering
IPSD Course Sequencing



Course Flowchart





Introduction to Engineering Design (IED)

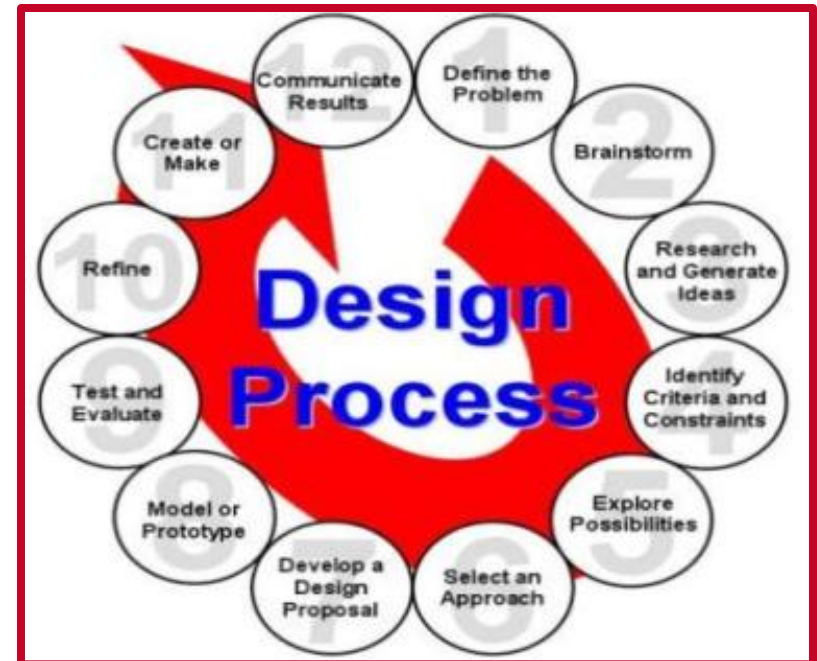
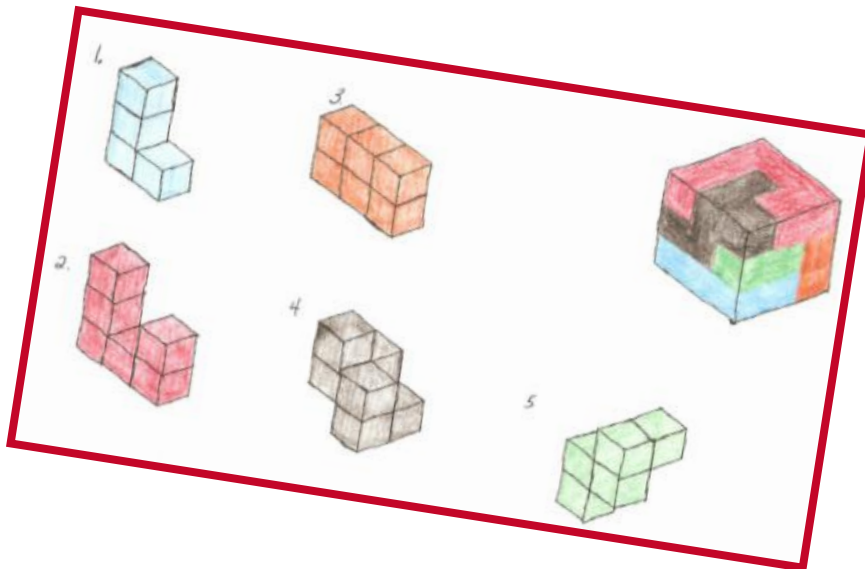
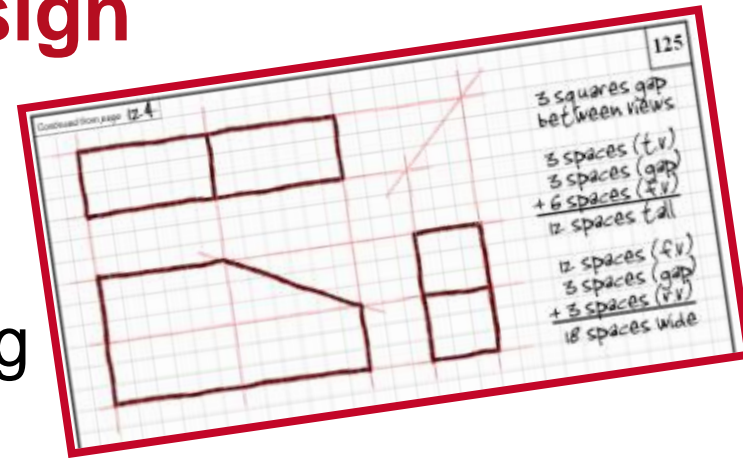
In this course, students use 3D solid modeling design software to help them design solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. The major focus of the IED course is to expose students 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.

Year 1

Unit 1: Introduction to Design

Lessons:

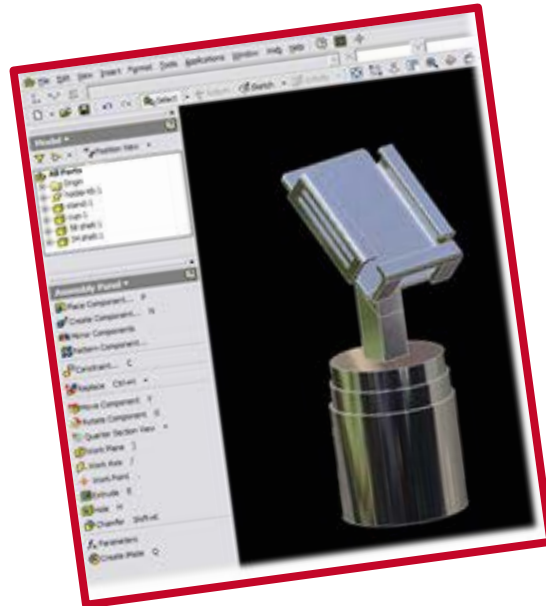
- Design Process
- Technical Sketching and Drawing
- Measurement and Statistics
- Puzzle Cube



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.

Year 2



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:

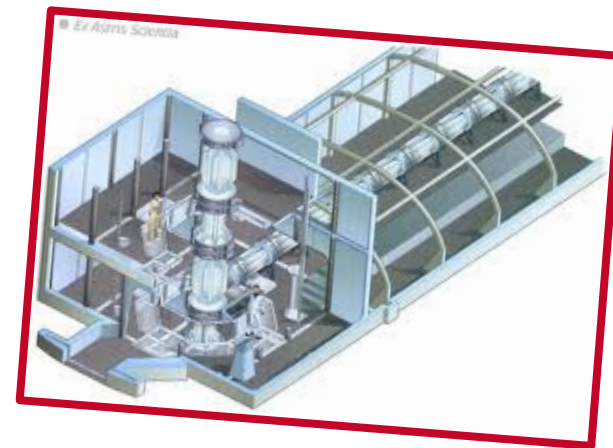
- No applications are required
- Please note prerequisites for each PLTW course (*listed in the course guide*)
- Sign up for course via registration materials provided at your school

Summary



For more information, contact the Technology & Engineering Education Department Chair

- **MVHS:** Brian Giovanini, brian_giovanini@ipsd.org
- **NVHS:** Lisa Traut, lisa_traut@ipsd.org
- **WVHS:** Andrea Hendrickson, andrea_hendrickson@ipsd.org



Learn More... www.pltw.org



The screenshot shows the PLTW website homepage. At the top left is the PLTW logo. To the right are 'LOGIN' and 'SEARCH' buttons. Below the logo is a navigation menu with 'About Us', 'Getting Started', 'News', 'Program Support', and 'Contact Us'. A main banner features the text 'IGNITING IMAGINATION AND INNOVATION THROUGH LEARNING.' and 'OUR PROGRAMS' with a dropdown arrow. The banner image shows a young woman looking through a microscope. Below the banner is a call to action: 'Cutting-Edge Technology For Our Leading-Edge Curriculum.' and 'The 2010-2011 PLTW Purchasing Manual is now available online.' with a 'CLICK HERE' button. Below this are four columns representing different stakeholder groups: Educators & Administrators, Students, Parents, and Partners & Sponsors. Each column has a representative image, a title, a short paragraph, and a 'More' link. At the bottom left of the page is the 'PLTW Network' link.

PROJECT LEAD THE WAY
PLTW

LOGIN SEARCH

About Us Getting Started News Program Support Contact Us

IGNITING IMAGINATION AND INNOVATION THROUGH LEARNING. OUR PROGRAMS

Cutting-Edge Technology For Our Leading-Edge Curriculum.

The 2010-2011 PLTW Purchasing Manual is now available online. [CLICK HERE](#)

EDUCATORS & ADMINISTRATORS
The educators and administrators who implement, oversee, and use PLTW programs every day are an integral part of PLTW's growth and success. [More](#)

STUDENTS
Would you work with doctors to make better tools to help sick people? Would you use your artistic talents to make beautiful and safe buildings and bridges? With PLTW, you don't have to imagine. You can do those things—and much more—right now. [More](#)

PARENTS
With PLTW, your daughter or son will develop the science, technology, engineering and mathematics skills essential for achievement in the classroom and success in college through hands-on experience preparing them for the real world. [More](#)

PARTNERS & SPONSORS
The wide range of support from some of America's leading corporations and foundations, not to mention the dedicated involvement of PLTW parents and volunteers, ensures that our program and our students are successful. [More](#)

[PLTW Network](#)