PLTW Engineering Pathway

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ENGINEERING
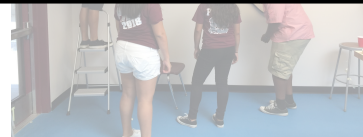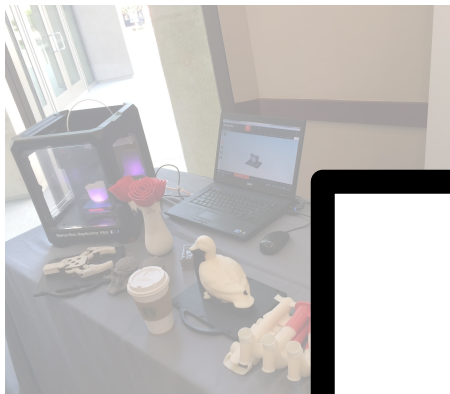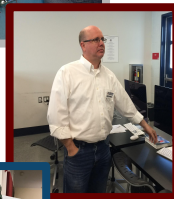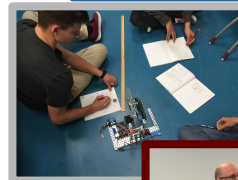## Pathway

Become Tomorrow's Problem Solvers

**Mrs. Arguello & Mr. Heiny**

PLTW Engineering Pathway

- PLTW is a curriculum that is designed to encompass all four years of high school and is hands-on and project based.

- Students learn how to use the same industry-leading 3D design software that is used by companies like Intel, Lockheed Martin, and Pixar.

- Students design, test, and actually construct circuits and devices. Students will also have the option to compete in UCR MESA Design Challenges with other schools.

- These are UC-CSU A-G approved courses. The first two courses are articulated with MSJC. Students who complete the course with a B or better and pass the end of course assessment with a score of 7 or higher will receive 3 college credits.

- Students should take these courses in sequence. These classes are hands on. If you are creative, are passionate about technology and like to build, then this is the class for you!

- Students who complete 3 or more years of the pathway with a B or better will receive a medallion upon graduation.

Teachers:
Classes are taught by Mrs. Arguello and Mr. Heiny. Both participate in rigorous trainings that are provided by PLTW at Cal Poly Pomona and San Diego State University each year to keep up to date on the latest technology trends.
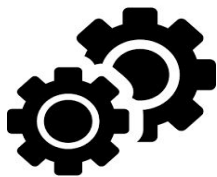
Engineering Pathway Courses
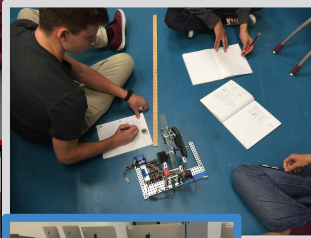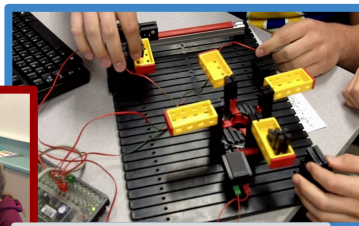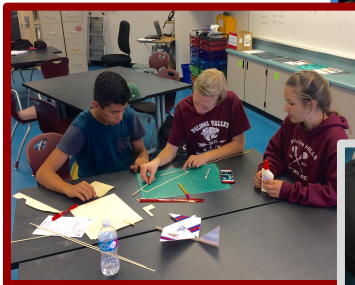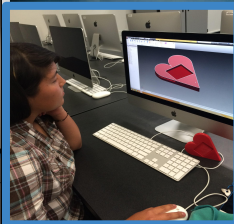
Design Your Future!

Introduction to Engineering Design (IED):
- Design Process
- Problem Solving
- Teamwork
- 3D Printing
- A-G
- 9th -12th
- Algebra 1 or Higher
- College Credit Available

Principles of Engineering (POE):
- Dynamics
- Kinematics machine,
- Hydraulics,
- Pneumatics
- Thermodynamics
- A-G
- 9th -12th
- Geometry or Higher
- College Credit Available

Computer Integrated Manufacturing (CIM):
- Design Process
- CNC equipment
- Fundamental concepts of robotics
- Automated Manufacturing
- A-G
- 10th-12th

Engineering Design & Development (EDD):
- Research & Design
- Construct
- A-G
- 11th-12th
- Earn a Medallion
- *This is a Capstone Course

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Introduction to Engineering (IED, Year 1)

Dig deep …. into the engineering design process, applying math and science…

This Project Lead the Way course utilizes engineering concepts to prepare students for an ever changing world, in a **hands-on, mind-on environment through CAD and 3D modeling.** This course is A-G. College credit is available!
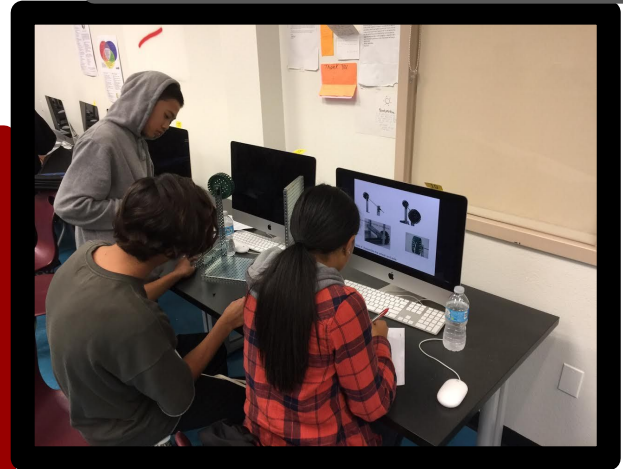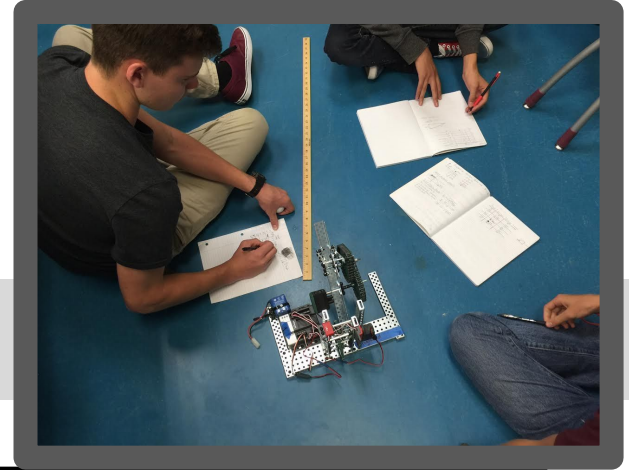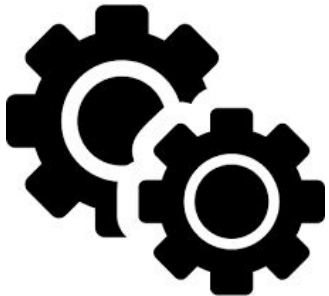Prerequisite: Algebra 1

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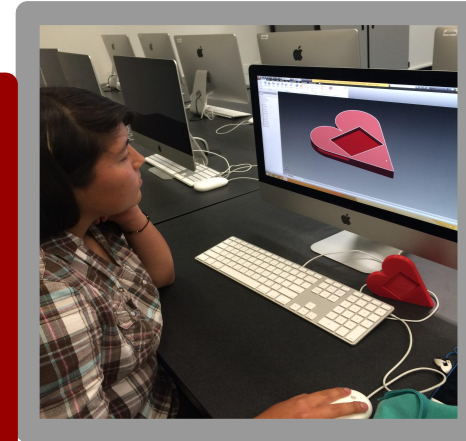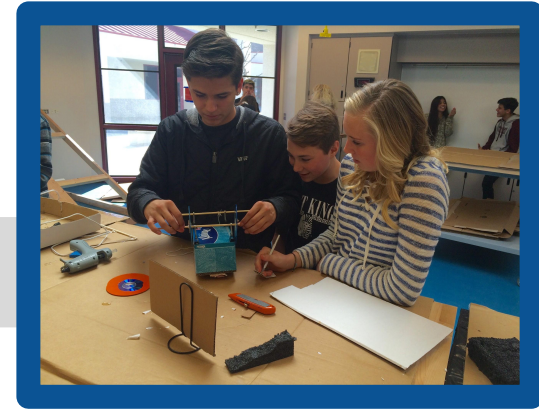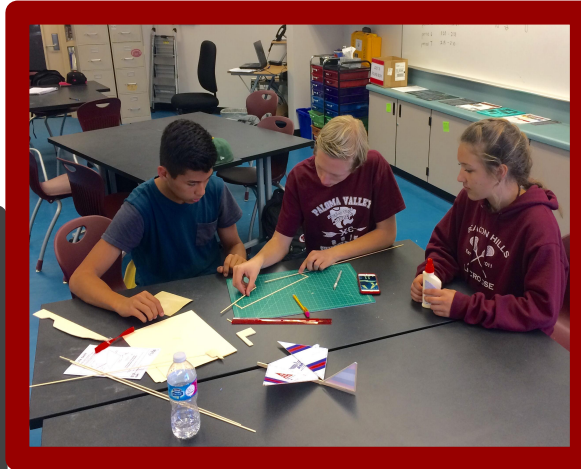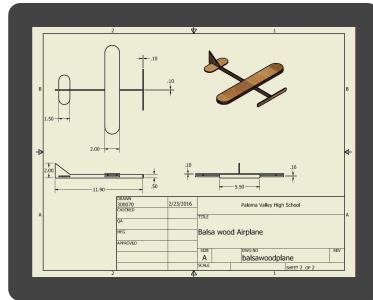
Principles of Engineering (POE, Year 2)

Explore

… a broad range of engineering topics including mechanisms, robotics, and automation, and then **take on the challenge**.

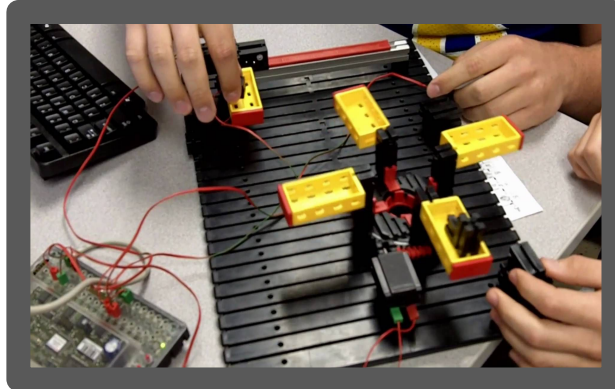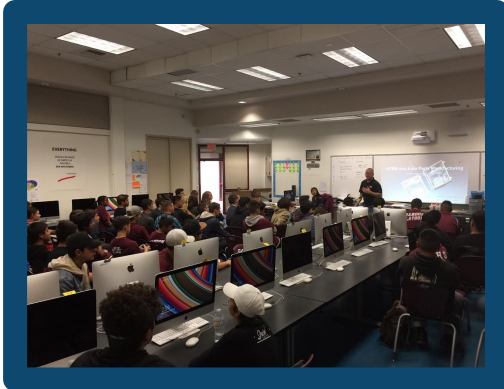This course is A-G and college credit is available!
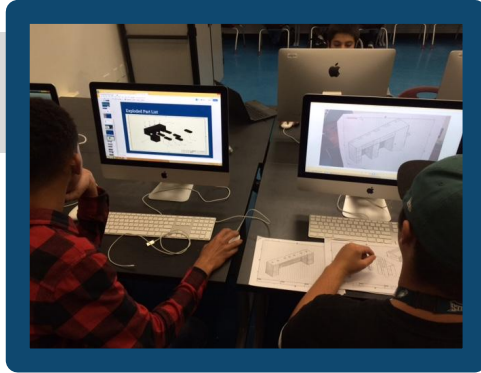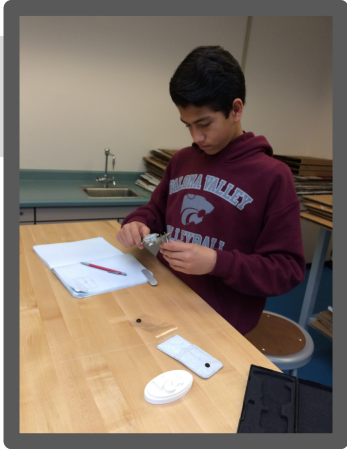
Prerequisite: Geometry

Computer Integrated Manufacturing (CIM, Year 3)

Discover

… manufacturing processes, product design, robotics, and automation, and then they apply what is learned to design solutions for **real-world manufacturing problems**. Prerequisite: Principles of Engineering

Engineering Design & Development (EDD, Year 4)

Identify

… a real-world challenge and then research, design, and test a solution, ultimately presenting the unique solutions to a panel of engineers.
This is a capstone course. Prerequisite: Computer Integrated Manufacturing

Get Ready. Set. Enroll Today !

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Follow: @ArguelloRamirs and @ATeachineer
Explore: https://www.**pltw**.org

Engineers Get Top Pay

Year after year, engineering jobs are paid the **highest average starting salary**. According to the U.S. Bureau of Labor Statistics (BLS) engineers have a median annual wage of **$91,010** and the engineering field projects to have employment growth of nearly 140,000 new jobs over the next decade. The bottom line: it is well worth the time and effort it takes to become an engineer. So how much do engineers make?

Industry	Median Entry-Level	Mean Annual	Top 10 Percent
Biomedical Engineering	$62,459	$92,970	$142,610
Civil Engineering	$59,058	$91,790	$138,110
Computer Engineering Computer Hardware	$73,228	$119,650	$176,900
Software Developers, Systems Software	$70,322	$111,780	$164,150
Chemical Engineering	$68,500	$112,430	$169,080
Electrical Engineering	$67,684	$99,580	$150,340
Environmental Engineering	$58,766	$91,180	$134,060
Geological and Mining Engineering and Sciences	$69,598	$103,710	$160,320
Materials Science and Engineering	$68,529	$98,610	$149,860
Mechanical Engineering	$64,819	$91,500	$133,900

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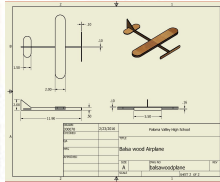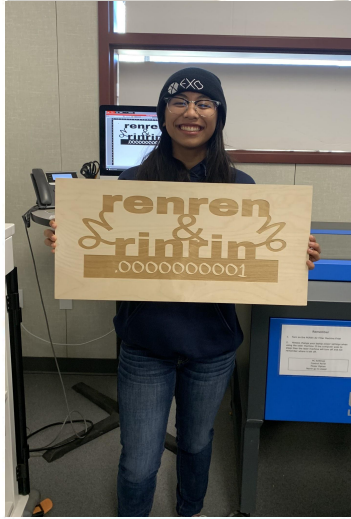
- Have fun
- Be creative
- Get hands on
- Get techy
- Collaborate
- Problem solve

Learn skills that get you ready for employment in the 21st Century!

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