Engineering Design and Build Competitions

First Robotics Competition
UCI Energy Invitational
VEX Robotics Competition
SeaPerch Robotics
Kid Wind Challenge
Chevron Design Challenge
C-STEM Linkbot Robotics

Faculty

- John Cooper – EDD, IED, POE, CIM, ROB, Director
- Dan Shell – IED, Visual Imagery

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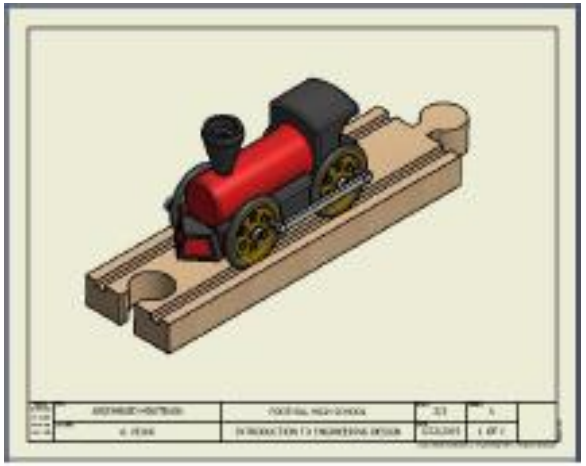

FEAT

Foothill Engineering And Technology

- A STEM pathway in which students explore a variety of Engineering, Manufacturing, Design and Production courses

The pathway prepares students for entry to college, training or certification programs or the workplace. The courses are taken along with approved college preparatory academic classes. The project-based learning pathway courses count as general elective credit (UC/CSU) and upon completion of a pathway students receive special recognition at graduation.

IED-Introduction to Engineering Design

IED teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software. The courses major area of focus is using the 3D modeling Software: SolidWorks with prototype modeling being done the second semester.

POE-Principles of Engineering

POE helps students understand the field of engineering and engineering technology. The course is a survey of engineering principles across engineering disciplines. Through hands on projects students learn how engineers and technicians use math, science and technology to solve engineering problems to benefit people. The courses major areas of focus include, mechanical, electrical, civil and robotics engineering.

CIM-Computer Integrated Manufacturing

CIM applies principles of robotics and automation. The course builds on computer solid modeling skills developed in IED and design principles from POE. Students use CNC, welding equipment and other machines to produce actual models of their three-dimensional designs. Machines used in the class include CNC Mill, CNC Lathe, CNC Plasma Arc Cutter, CNC Router, Laser Engraver/Cutter, MIG Welding Machine, TIG Welding Machine, Sheet Metal Shear/Brake/ Roller, Hydraulic Press, Tubing Bender, and Sheet Metal Bead roller.

EDD-Engineering Design and Development

EDD is an engineering research course in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in their proceeding courses and are guided by a community mentor. They must present progress reports, submit a final written report and defend their solutions to a panel of outside reviewers at the end of the school year.

ROB-Robotics

ROB is offered for all ability levels and is recommended for all students that want to participate on the Foothill Robotics Team. This course is taken in addition to other courses in the FEAT program and taken each year like a sport. This is a project-based course with students working in teams of 3-4 developing robotics systems. These systems include electronics, chassis, intakes, indexers, arms, bumpers, elevators and climbers. Students will learn and utilize their skills in rapid prototyping, system design and test. In order to prototype and fabricate, students will learn and utilize hand tools, machine tools, the manual mill, laser cutter, 3d printers, CNC lathe, CNC mill and CNC routers.