Engineering

Industry Sector - Engineering and Architecture

Career Pathway: Engineering Design

IUSD Schools - IHS - NHS - UHS

The Engineering Pathway aims to make students future ready by preparing them for college entry as engineering majors and preparing them for technical work in high demand, high wage, entry-level STEM jobs right out of high school. The Engineering Pathway consists of a sequence of engineering courses utilizing the Project Lead The Way (PLTW) Engineering curriculum with a special focus on career and technical education (CTE).

Intro to Engineering Design (IED): In this course students learn the foundational skills of engineering such as the engineering design process, technical sketching and drawing, 3D CAD solid modeling, statistical analysis and forecasting, and maintaining an engineering notebook.

Principles of Engineering (POE): In this course students explore a broad range of engineering topics including mechanical systems, energy and power, strength of structure and materials, automation, and kinematics. After successful completion of IED and POE students continue onto a third year engineering specialization course, followed by an advanced capstone course where previously acquired skills and knowledge come together in solving a real-world challenge.

All engineering courses are hands-on and project-based. Students use state-of-the-art rapid prototyping technologies such as 3D printing, CNC milling, and laser cutting to build their projects. Hardware available for use include VEX equipment, Arduino, and much more. Software tools include Autodesk, SolidWorks and ROBOTC.

PATHWAY COURSES

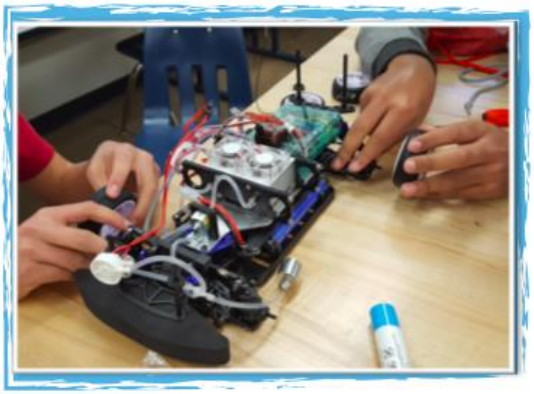
IHS - NHS - UHS

Engineering Design

Principles of Engineering

To Enroll
See your counselor
Visit the College & Career Center

Students also have opportunities to participate in various STEM projects and competitions as part of the Engineering Pathway. These projects include Irvine CubeSat, OC Maker Challenge, UCI Rescue Robotics, UCI Race Car Performance Engineering, VEX Robotics, Hydrogen Horizon Automotive Challenge, CyberPatriot, and others. STEM offerings are aligned to current and future labor market trends.



An emphasis is placed on connecting students with industry and industry professionals through work-based learning, internship, apprenticeship, online industry chats and virtual fieldtrips. Traditional field trips to local companies, colleges, and STEM events are offered to students.