Sheldon High School

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EXPLORE
COLLEGE & CAREER CONNECTIONS | EGUSD

Engineering Design Pathway

About This Pathway

Love to design projects? Then join Engineering Design Pathway and utilize computer programs that design buildings and advanced 3D models. Explore through hands-on projects using design software, laser engravers, and 3D printers. Instead of sitting at desks to learn, students are out of their chairs and involved in such projects as designing and building 3-D furniture out of cardboard - using weaker material to create strong pieces. Students also design and build miniature models of bridges to test its strength, often holding over 50 pounds. Students will go on to work on advanced projects to get you prepared and motivated for a future in the fields of manufacturing, electoral, traditional mechanical and computer engineering!

"I love working on projects, displaying my innovative thinking, and improving my communication skills as I get to share ideas with my peers!" Engineering Design Pathway Student

College & Career Pathway

Average Wage for Engineering and Architecture Sector: **$91,630**

ENTRY LEVEL

- Non-Destructive Testing Specialist • Power Plant Operator • CAD Technician • Drafting Apprentice
- Security Equipment Installer

ASSOCIATE'S DEGREE/CERTIFICATION

- Civil and Mechanical Drafter • Electro-Mechanical Technician
- Photonics Technician • Power Distributor and Dispatcher
- Architectural Drafter

BACHELOR'S DEGREE +

- Aerospace Engineer • Biofuels/Biodiesel Technology and Product Development Manager • Cartographer and Photogrammetrist • Geodetic Surveyor • Product Safety Engineer • Radio Frequency ID Device Specialist

Explore Your Future Career

ENGINEERING TECHNOLOGY

ARCHITECTURAL DESIGN

ENGINEERING DESIGN

ENVIRONMENTAL ENGINEERING

Engineering Design Pathway

SHELDON HIGH SCHOOL

Competitive Advantage

INDUSTRY SKILLS

- Drawing fundamentals: Conception, drawing, scaling, plotting
- Hardware-software functions: Lines, colors, dimensioning, layers and blocks
- AutoCAD software: Revit and Inventor
- Disciplines: Geotechnical, civil, structural, mechanical HVAC, electrical

STUDENT ACCOMPLISHMENTS

- Produce 2D & 3D mechanical, civil, and introductory architectural drawings
- Create 2D, 3D, parametric models, and simulations
- Explore robotics, electronics, hydraulics, pneumatics, & computer design technologies
- Complete architectural drawing of a 1,200 square foot house
- Organize a final project with their knowledge of the design process

EARLY COLLEGE CREDIT

- Students enrolled in the following course have the opportunity to earn college units:
  - Engineering Design A (12346)

INTERNSHIPS

- Teichert
- Granite Construction
- CC Myers Construction
- Lennar Homes
- Villara Building Systems

COMPETITIONS

- CO2 cars
- Robotics competitions
- PECG (Professional Engineers in California Government) Bridge Competition
- Solar Car Race
- AASHTO Bridge Competition

Sequence Of Courses

ENGINEERING TECHNOLOGY #12355
10th GRADE - INTRODUCTORY

ENGINEERING DESIGN A #12346
11th GRADE - CONCENTRATOR

ENGINEERING DESIGN B #12347
12th GRADE - CAPSTONE

DISCLAIMER: The courses outlined above meet pathway requirements and are subject to change. This sequence does not list all courses needed for graduation.