

ENGINEERING DESIGN PATHWAY

Program Description

Students trained in the Engineering Pathway will develop an overview of basic design functions and operations. Upon completion of the pathway requirements, students will find that their skills are highly marketable and will have the training to be employable as an entry level position in the increasingly demanding engineering industry. Students selecting this pathway will engage in an instructional program that integrates academic and technical preparation combined with hands-on contextual learning, including: project-and work-based instruction, laboratory, and career preparation. Students will explore and develop their innate creative talents to implement designs of their own. Students will research and work in multiple areas including product design, materials, process bidding, and rapid prototyping. Through the completion of this program, students will learn the principles, history, and theory of design. Also, students will be able to use industrial and technological products and systems, learn how to use computer-aided technologies, and how to allocate materials and space efficiently. Further post-secondary education is highly recommended and may be required.

For more information go to:

- www.onetonline.org
- www.bls.gov/ooh/
- www.careeronestop.org
- www.virtualjobshadow.com
- www.collegegrad.com
- www.cacareerzone.org

Interview Ready Portfolio

- Job Application
- Resume
- Cover Letter & Thank You Letter
- Letters of Recommendation
- Certificates of Achievement /



CTE PATHWAY CORD REQUIREMENTS

The following courses and program components are required for the pathway graduation cord and require a grade of “C” or better:

Introductory Course:

- Intro to Engineering Design (IED)

Concentrator Course:

- Principles of Engineering (POE)

Capstone Course (one course):

- Engineering Design and Development (EDD)
- Civil Engineering and Architecture (CEA)

Experiential Learning (20 hours):

- Projects require prior approval from instructor and instructor grade upon completion

Interview Ready Portfolio:

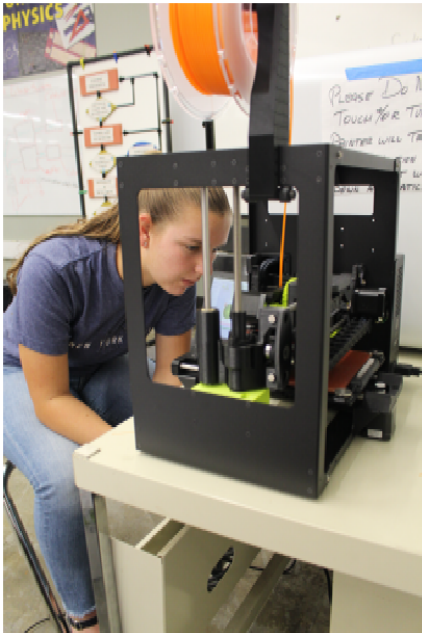
- Complete the Interview Ready Portfolio; including a final interview with a business partner

Upon completion of the program requirements, a certificate and graduation cord will be awarded.



CTE Pathways to the Future

ENGINEERING DESIGN PATHWAY



TECHNICAL SKILLS

The Engineering Design courses are A-G approved and apply Honors credit



REAL WORLD LEARNING

Engineering Design students will apply their learning in real world simulations.



CAREER EXPLORATION

Students will explore career options and post high school requirements needed to transition to employment or additional education and training



STUDENT LEADERSHIP

Leadership training is an integrated component of the Engineering Design Pathway

Careers in this Pathway include:

- Engineer
- Drafter
- Surveyor
- Engineering Tech.
- Building Inspector
- Engineering Instructor

Civil Engineer

2016 Employment
40,300

2026 Employment
44,500

Percent Change
(2016-2026)
10.4%

**Annual Projected
job openings**
3,430

Median Hourly Wage
\$51.52

Median Annual Wage
\$107,172

Entry Level Education
Bachelor's Degree

Source: EDD/LMID, California Projections 2016-2026