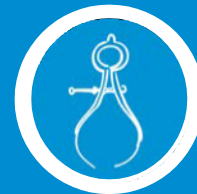


Engineering and Architecture - Engineering Design



CHICO HIGH SCHOOL

2021-2022

CTE Course Sequence



Course Descriptions

Engineering Design CAD 1

**A-G Credit*

**Optional Butte College Credit DFT-12*

The course explores real world strategies which reflect the current engineering field requiring the student to use their imagination, solve problems, and organize their thought patterns by navigating the design process. The project based curriculum supplants the hands-on textbook with hands-on activities. Cross-curriculum concepts include math, science, and English. Students will learn **Computer Aided Design (CAD)** software and **3D printing** to create a variety of 2 dimensional and 3 dimensional projects according to current industry standards. Students will enjoy designing and creating a **mechanical device**, a **movie/game prop**, **jewelry**, **wearable tech**, a **miniature golf course**, a **new invention**, and more.

Engineering Design CAD II

**Optional Butte College Credit DFT-2*

Students will explore a broad range of engineering topics, including mechanisms, materials, structures, automation, and motion. Students work like an engineer to apply an engineering design process to solve challenging problems, document solutions, and communicate work. The transportable skills in this course (communication, collaboration, and process thinking) can be applied to other courses and a future career! Students are prepared for employment in fields related to and including **engineering**, **automotive**, **electronics**, **robotics**, **manufacturing**, **mechatronics**, and **entrepreneurship**. Engineering 1 is a prerequisite.

Engineering Design CAD III

**Optional Industry Certificate*

Students may test for **Industry Certifications** at Butte College. In this course students will use state-of-the-art technology, industry-standard software and equipment. All projects will either be certificate-based, client-based, or part of the engineering design internship program. **CAD Software** and **Industry Equipment** will be used to create project models. Engineering 1 or 2 is a prerequisite.

Other Opportunities:

SkillsUSA: A national Student Leadership Organization that offers opportunities to compete in regional, state & national events as well as developing leadership skills

MESA: Math Engineering Science Achievement is a national organization who's goal is to promote opportunities for non-traditional and underserved population in STEM

SWE: The Society of Women Engineers - SWENext provides a variety of quality programs, resources, and access to engineers to empower students to prepare for engineering and technology careers

Computer Science Club: Group of student who meet to talk about current events in computer science, teach each other relevant skills and compete in competitions

Panther Robotics: Members compete in the VEX Robotics Competition (VRC) and the Remote Aerial Drone Competition (RAD) in a unique yearly challenge

IT Council: Student leadership opportunities within the various CHS IT pathways

Local Post-Secondary Options

Butte College

AS Degree in Engineering

CSU, Chico

Civil Engineering
Computer Animation/Design
Computer Engineering
Computer Info Systems
Computer Science
Construction Management
Electrical Engineering
Entrepreneurship
Environmental Science
Mechatronics/Manufacturing
Media Arts Design Technology

HIGHLIGHTED CAREERS:

3D Animation
Aerospace
Automotive Custom Design
Chemical Engineer
Civil Engineer
Computer Engineer
Mechanical Engineer
Electrical Engineer
Entrepreneur
Environmentalist
Fabrication
Manufacturing
Product Designer

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Career and Technical
Student Organization:

SkillsUSA
Champions at Work®

Note: these templates are designed to help guide students. The order of some classes may vary and individual variation can be applied.