Engineering and Architecture -
Architecture

CTE Course Sequence

Architecture Design CAD 1 → Architecture Design CAD 2 → Architecture Design CAD 3
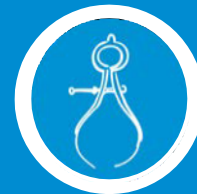
Course Descriptions

Architecture Design CAD 1
Optional Butte College credit DFT-24
A-G "F" VAPA Credit

Students will be introduced to basic architectural skills that include the fine art application of the **Design Elements and Principles**, **Interior Design**, **Landscape Design**, uniform **International Building Code** standards, **ADA Regulations**, **Fire Code**, **Universal Design**, **Space Planning**, and the completion of a **Student Portfolio** which contains a partial set of working drawings. Plans will be completed on computer using **computer aided design CAD software**. **Floor plans**, **electrical plans, plumbing** and **elevations** will be completed in this class. A **scaled model** will be created. Students will learn the fundamentals of basic building design, site design, and development. Students learn how engineers work by applying **STEAM** (science, technology, engineering, art, and math) using 3D architectural design software to design both residential and commercial projects.

Architecture Design CAD 2

Year-long course for students who have successfully completed Arch Design 1. Class starts by creating a tiny house plan with details in **AutoDesk Revit**. Either a **Plotter Printer**, **3D Printer**, or **Full Scale Model** will be used to display the Revit projects. Careers to be highlighted include **Architecture**, **City Planner**, **Construction**, **Drone Photography**, **Electrician**, **Environmental Engineer**, **HVAC**, **Interior Design**, **Landscape Design**, **Plumbing**, **Solar Installer**, and more.

Architecture Design CAD 3
Optional Industry Certificate

Year-long courses for students who demonstrate the ability to create **Revit CAD** designs, **Technical Sketching**, and a **Model,** utilizing **Universal Design,** and **Building Codes**. All projects will either be certificate-based, client-based, or part of the architecture internship program. **CAD Software** and **Industry Equipment** will be used.

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
Architecture Certification

CSU, Chico
Civil Engineering Architecture
Concrete Industry Mgmt
Construction Management
Engineering
Electronic Arts
Environmental Science
Game Development
Museum historical preservation
Interior Design
Land Use Environment Planning
Landscape Design
Media Arts Design Technology
Urban/Rural Planning

HIGHLIGHTED CAREERS:
Architect
Architectural Conservator/Historian
Builder
City Planner
Civil Engineer
Construction Management
Drone Photography
Electrician
Environmental Engineer
HVAC
Interior Designer
Landscape Designer
Land Surveyor
Movie Set Designer
Plumber
Property Manager
Solar/Wind Farm 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.