ICT - Software and Systems Development

CHICO HIGH SCHOOL

Career and Technical Education Course Sequence

Programming & Software Engineering ⇨ **Robotics & Drone Design**

Course Descriptions

Programming & Software Engineering:

**** CHS Math Credit * Butte College Credit * UC A-G "G" Credit ****

Students learn modern **programming** basics using logic, pseudocode, flow charts, and storyboarding with programs such as **Python**. This course is designed to introduce students to math concepts in computer programming and data manipulation fundamentals. There is an emphasis on top down programming technique; syntax; documentation methods; modular, event oriented, object oriented programming; and graphic user interface design. Opportunity to use **3D modeling** in **Blender** and **game design** through **Unity**. Programming and Software Engineering experience is desired in **most** careers, even those outside of specific computer science fields, such as **business, manufacturing, nursing, and law enforcement**.

Robotics and Drone Design:

**** FFA Drone Pilot Certification * UC A-G "G" Credit ****

This course will explore, via **VEX V5 robotics equipment**, relationships between math, science, physics, and technology. The class caters to all levels (basic to advanced) of student expertise in robotics. Students will participate in class challenges, as well as having the opportunity of competing against other high schools through SkillsUSA and the VEX Robotics Competition. Experiences with drone development and deployment are also offered. Students are prepared for employment in fields related to **robotics, engineering, automation, manufacturing, electronics**, and **emergency services**.

Other Opportunities

SkillsUSA: A national Student Leadership Organization that offers opportunities to compete in relevant contests 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 various CHS IT pathways

PANTHERS CHICO HIGH SCHOOL

LOCAL POST-SECONDARY OPTIONS:

Butte College

- A.S. in Computer Programming
- A.S. in Computer Systems Administration
- Cert in Cisco Network Administration
- Cert in Microsoft Server Administration

CSU, Chico

- B.S. in Computer Animation and Game Development
- B.S. in Computer Engineering
- B.S. in Computer Information Systems
- B.S. in Computer Science
- B.S. in Mechatronic Engineering

HIGHLIGHTED CAREERS:

- Application Software Designer
- Web Developer
- Computer System Manager
- Computer Network Architect
- Computer Programmer
- Computer System Analyst
- Information Security Analyst
- Computer Graphics Designer
- Game 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.