

Description

The CTEC Drone Technology & Robotics program will provide students with the opportunity to learn technical and professional skills consistently expected within the Unmanned Autonomous Systems (UAS) industry. The program will provide innovative curriculum, instruction, facilities, and equipment for students to learn advanced aspects of programming, designing, assembling, operating, and analyzing assets from unmanned autonomous systems for air, ground, and/or water. Students will have the opportunity to learn and practice skills necessary to prepare for broad careers in robotics, programming, engineering, and UAS design and operation. Students will study for the Part 107 Operating License.

Student Outcomes

- Design, build, repair, and operate systems
- Understand, design and implement mission dynamics and protocols
- Understand and implement practical application of equipment
- Understand and implement the engineering process and lifecycle
- Quality management systems (ISO standards)
- Trouble shooting process and refinement

- Certifications – Part 107 certification
- Dual Credit –Central Oregon CC – Aviation UAS

Curriculum Materials

- A. Flight and other Simulators
- B. Electronics lab (diodes, soldering equip, motherboards, breadboards, micro-controllers, etc.
- C. 3 D printers
- D. CAD Lab, laptops
- E. Arduino platform
- F. Micro-controller kit
- G. CNC Mill
- H. Quad-copters / cameras controller set up (small, medium and a couple of large)

UAS Courses

Intro to UAS (0.5 credit)
 Basic Electronics (0.5 credit)
 Designing with Microcontrollers (0.5 credit)
 UAS Mission Planning & Integration (0.5 credit)
 UAS Development & Prototyping (1.0 credit)
 Mission Operations & Analysis (1.0 credit)

Integrated Core Courses

English 11 (1.0 credit)
 English 12 (1.0 credit)

 Physics (1.0 credit)
 Environmental Studies (0.5 credit)
 Earth/Space Science (0.5 credit)

Suggested FTE

1.5 licensed program teachers
 1.0 Instructional Assistant
 0.5 English
 0.5 Science

Student Capacity

90-120