

CAVIT Drone Technology Program

Course Outline and Learning Standards

Semester One - 49.0199.10 sUAS Drones I

Foundational level for advanced exploration in the areas of flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible.

Semester Two - 49.0199.20 sUAS Drones II

Provides the background required by the Federal Aviation Administration in subject areas including: aerodynamics, aircraft performance, navigation, weather, and aviation regulations leading to pilot certification. Ground school preparation towards the Private Pilot and Unmanned Aerial Systems (UAS) Certificates.

Semester One - 49.0199.10 sUAS Drones I

1. Describe the major types, groups, and categories of UAS.
2. Recall key aspects of the UAS flight approval and authorization process.
3. Recognize legal and ethical considerations for specific types of UAS operations.
4. List the primary types of sensors used for data collection.
5. Compare and contrast types of detect, sense and avoid systems.
6. Differentiate the various levels of UAS Automation and Autonomy.
7. Demonstrate proper UAS safety procedures.

Semester Two - 49.0199.20 sUAS Drones II

8. Explain the basics of airplane systems and understanding of aerodynamic principles.
9. Identify necessary information about the environment in which the vehicle will be flown such as airport facilities, air traffic control services, communication procedures, and sources of flight information.
10. Describe variable atmosphere and its effect on aircraft operations, how to maximize safety by minimizing exposure to weather-related aviation hazards.
11. Justify aircraft capabilities and limitations in terms of performance parameters.
12. Execute the basics of navigation using charts and radio aids.
13. Demonstrate the application of aeronautical decision-making principles and flight-related physiological factors.