

STRANDS AND STANDARDS

UAS Lab: Intermediate Flight



Course Description

UAS Lab: Intermediate Flight continues your exploration of aviation principles and gives students experience with various categories of drones in action. Unmanned Aerial Systems 1 is a prerequisite.

Intended Grade Level	10-12
Units of Credit	0.5
Core Code	40.11.00.00.052
Concurrent Enrollment Core Code	40.11.00.13.052
Prerequisite	Unmanned Aerial Systems 1
Skill Certification Test Number	000
Test Weight	0.0
License Area of Concentration	CTE and/or Secondary Education 6-12
Required Endorsement(s)	
Endorsement 1	Aviation - Flight
Endorsement 2	Unmanned Aerial Systems

STRAND 1

Students will demonstrate how to properly log and document flying activities

Standard 1

Follow a prescribed documenting procedures after each flight.

- Document the Date and Time of Flight
- Document Vehicle Type
- Document your Role
- Document Location (longitude, latitude, simulator)
- Document Airspace Class
- Document Reason for Mission
- Document Flight Time
- Document Takeoffs and Landings
- Document Battery Use

Standard 2

Students will document 10 hours of logged simulator or device flight time, no more than half should be on simulator

Performance Objective

Properly maintain a UAS flight log.

STRAND 2

Students will perform the tasks of both the Pilot In Command (PIC) and the Visual Observer (VO) on at least two of the following types of drones:

- Quad or Multi-Rotor Vertical Takeoff
- Racing (First Person View)
- Fixed-Wing
- Mini
- Emerging technology drones
- Virtual Drones (Simulator)

Standard 1

Students will perform the tasks of Pilot in Command

- Be properly designated prior to flight.
- Ensure no undue hazards to people, aircraft, or property.
- Ensure compliance with all rules, regulations, and safety measures for the UAS and flight crew.

Standard 2

Students will perform the tasks of Visual Observer

- Keep the UAV in sight.
- Scan for threats or obstacles.
- Maintain communication with the remote operator.

Performance Objective

Describe Pilot in Command and Visual Observer tasks.

STRAND 3

Students will understand and experience Mission Planning through a variety of flight control methods or techniques. (Choose at least one flight method in addition to Standard 1 from the Standards below.)

Standard 1 (required)

Students will operate a drone using Mission Planning.

- Clear objective/purpose for flight and data to be captured
- Detailed shot list or method list or mapped flight paths
- Prior authorizations (LAANC, photo release, etc)
- Considerations and back-up plans for inclement weather or other delay
- Pre/Post Flight checklists
- IMSAFE and PAVE

Standard 2 (optional)

Students will operate a drone using the System Interface.

Standard 3 (optional)

Students will operate a drone using Simple Programming.

Standard 4 (optional)

Students will operate a drone using a Semi-autonomous method.

Performance Objective

Conduct a well-planned mission.

STRAND 4

Students will understand how flight operations change with different mission objectives.

Standard 1

Students will complete at least one challenge flight event from the following suggestions:

- Obstacle Course: demonstrate flying around, over and through obstacles
- Skills Challenge: demonstrate a pick-up and delivery, object drop or other task
- Objective Course: demonstrate ability to determine temperature, color or other task
- Speed Course: race course around a circuit

Skill Certificate Test Points by Strand - Coming Soon

Test Name	Test #	Number of Test Points by Strand										Total Points	Total Questions	
		1	2	3	4	5	6	7	8	9	10			