STRANDS AND STANDARDS
UAS Lab: Intermediate Flight

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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 (UAS)
Skill Certification Test Number	673
Test Weight	0.5
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 describe 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 describe the tasks of Visual Observer

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

Performance Objective

Perform the 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 Certification Test Points by Strand

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