STRANDS AND STANDARDS
FLIGHT SIMULATOR

Course Description

The Flight Simulator course will give students hands-on experience, training, and knowledge in preparation for the real world experience of flying. In the simulator, students will receive instruction from a Certified Flight Instructor. Students will learn the basic skills needed to fly an airplane. Some of those skills include takeoffs, climbs, turns, descents, landing, navigating, and much more. Flight simulation provides a safe, low stress and cost effective way to learning some of the basic aviation skills that you will need as a pilot.

Intended Grade Level	11-12
Units of Credit	Minimum 0.5
Core Code	40.11.00.00.048
Concurrent Enrollment Core Code	40.11.00.13.048
Prerequisite	Private Pilot
Skill Certification Test Number	Industry test 959
Test Weight	1.0
License Type	CTE and/or Secondary Education 6-12
Required Endorsement(s)	
Endorsement 1	Commercial Aircraft Pilot
Endorsement 2	N/A
Endorsement 3	N/A

CTE Learning that works for Utah

STRAND 1

Students will be able to understand and demonstrate pre-flight procedures.

Standard 1

Aircraft systems and flight preparation.

- Cockpit familiarization
    - Required documents and inspections
    - Instruments for visual flight rules (VFR) flights
    - Flight controls and control surfaces
- Checklists: before start, start/run-up, cruise, shutdown
- Engine run-up
- Engine gauges and monitoring
- Four basic flight maneuvers – VFR
    - Straight/level, climbs, descents, turns
    - VFR scanning outside/inside references

Standard 2

Pre-flight preparations.

- Weather and wind operations
    - Cross-wind operations
- Traffic patterns
- Radio procedures
- Basic VFR navigation
- Use of aeronautical charts/automatic direction finder (ADF)
- Go-arounds
- Regulations

Performance Skill

Understand and demonstrate pre-flight procedures.

- Aircraft systems and flight preparation.
- Pre-flight preparations.

STRAND 2

Students will be able to understand and demonstrate communications procedures and flight information.

Standard 1

The use of mathematics in flight operations.

- Performance chart calculations
- Weight and balance calculations
- Take-off and landing distances
- Maximum performance take-off and climb
- Maximum performance approach and landing

- Slips

Standard 2

The use of information to determine flight plans.

- Navigation charts
- Pilotage and dead reckoning
- Radio navigation
- Last procedures
- Flight watch – adverse weather procedures
- Flight service station (FSS) services
- Radio communication
- Flight plans – open and close

Performance Skill

Understand and demonstrate communications procedures and flight information.

- The use of mathematics in flight operations.
- The use of information to determine flight plans.

STRAND 3

Students will be able to understand and demonstrate flight operations.

Standard 1

Understand the airport and runway methods of communications.

- Airport operations and taxing
    - ATS, wake turbulence, runway incursions
    - Radio communications
    - Airport markings, signs and lighting

Standard 2

Flying the aircraft.

- Normal take-off
- Airspeed and altitude control
- Straight flight
    - Use of outside and inside references
- Scanning for traffic
- Normal landing
    - Use of visual slope indicators

Standard 3

Using the aircraft systems in the event of an emergency.

- Emergencies
    - Instrument failure
    - Lost procedures
    - Lost communications

- VHF omnidirectional receiver (VOR) triangulation and tracking
- ADF orientation and homing
- Introduction to global positioning system (GPS)
- Night operations
    - Lighting, physiology, scan, landing light use

Standard 4

Solo flight (optional).

- Accomplish all procedure from previous lessons

Performance Skill

Understand and demonstrate flight operations.

- Understand the airport and runway methods of communications.
- Flying the aircraft.
- Using the aircraft systems in the event of an emergency.
- Solo flight (optional).