

STRANDS AND STANDARDS

AVIATION 1



Course Description

Students will get an exposure to aviation professions, history, technology, and related business segments.

Intended Grade Level	9-12
Units of Credit	0.5
Core Code	40.11.00.00.131
Concurrent Enrollment Core Code	N/A
Prerequisite	N/A
Skill Certification Test Number	N/A
Test Weight	N/A
License Area of Concentration	CTE and/or Secondary Education 6-12
Required Endorsement(s)	
Endorsement 1	Aviation-Flight
Endorsement 2	Aviation-Maintenance
Endorsement 3	N/A

STRAND 1

Students will understand and identify aviation careers.

Standard 1

Know pilot career opportunities (i.e. Cargo, Passenger Rotor/fixed, Government, Military, Civil Defense, Corporate, General Aviation)

Standard 2

Know Airframe and Powerplant Maintenance opportunities

Standard 3

Know supporting aviation careers (i.e. Traffic Control, Fleet, Airport Management, Flight Attendant, Flight Safety, FSDO, Security, Training)

STRAND 2

Students will have an overview of the history aviation from the late 1700s to the present.

Standard 1

Early Aviation (1700s-WWI)

- K. Lilienthal
- Wright Bros.
- Montgolfier Bros.

Standard 2

Military Aviation

- WWI
- WWII
- Korea/Vietnam
- Stealth/GPS/ Drone

Standard 3

Birth of Commercial Aviation to Modern Day Carriers

- Airmail
- DC3
- Deregulation Act of 1978
- Major/Regional Carriers

Standard 4

Post-9/11 Aviation

- Safety
- Security

Standard 5

Commercial Space Flight and Entrepreneurial Air and Space Systems

- SpaceX
- Boeing
- NASA

STRAND 3

Students will understand basic principles of controlled flight.

Standard 1

Describe functional rotor parts of an aircraft.

- Nose – Engine/Prop
- Main/Tail Rotor
- Configurations
- Fuselage
- Empennage
- Wing
- Tail
- Cowling
- Landing gear

Standard 2

Understand the basic principles of flight.

Standard 3

Understand basic flight instruments (six-pack)

- Airspeed Indicator
- VSI
- Attitude Indicator
- Altimeter
- Compass
- Turn Coordinator

STRAND 4

Students will understand basic aviation weather considerations.

Standard 1

Understand basic atmospheric principles.

- Air Density
- Temperature
- ISA 29.92
- Metric evaluation

Standard 2

Describe common cloud types.

- Cumulus
- Stratus
- Lenticular

Standard 3

Understand impact of wind on aviation.

- Runway Direction
- Jetstream
- Winds Aloft

Standard 4

Understand how atmospheric condition effect flight & performance.

- Density Altitude
- Icing
- FRO's
- Dew Point

STRAND 5

Students will understand National Aerospace System.

Standard 1

Phonetic Alphabet + Numbers

Standard 2

Traffic Control

- Radio Communication
- Tower, En Route, Ground, Uncontrolled

Standard 3

Airspace

- Airports
- Charts
- Altitudes
- Classifications (A-G, restrictions, special use, TFR)

Performance Skills

- "Fly" a traffic pattern (sim, real, tabletop model, etc.)
- Make simulate radio calls using appropriate etiquette
- Identify Cloud types
- Identify Aircraft parts
- Following Checklist
- Use Compass to find direction

Workplace Skills

Students will develop professional and interpersonal skills needed for success in industry. Determine the difference between hard skills and soft skills.

- Hard Skills: Hard skills are specific, teachable abilities that can be defined and measured
- Soft Skills: Personal attributes that enable someone to interact effectively and harmoniously with other people.

Identify soft skills needed in the workplace

- Professionalism
- Respect Legal requirements/expectations
- Good communication skills
- Resourcefulness & creativity
- Work ethic