



Introduction to Aviation

Course Number	
Grade Level	8-12
Career Cluster	Supply Chain & Transportation
Pathway	Aviation
Course Sequence	Introduction to Aviation
CTSO	SkillsUSA
Industry Recognized Credential	Industry Recognized Credential
Minimum Equipment List	Minimum Equipment
Course Description	

CIP Codes	CIP Title
47.0607	Airframe Mechanics and Aircraft Maintenance Technology/Technician
49.0102	Airline/Commercial/Professional Pilot and Flight Crew

SOC Codes	SOC Title
53-2011	Airline Pilots, Copilots, and Flight Engineers
49-2091	Avionics Technicians



Course Standards

**Domain 1.0
History & Evolution of Aviation**

Standard 1.1

Explore early Innovations and Foundational Milestones.

Performance Indicators

1.1.1 Describe major contributions from early flight pioneers.

1.1.2 Explain how early engineering challenges shaped later aircraft design.

1.1.3 Identify major historical firsts (e.g., first powered flight, first commercial airlines, first military aircraft).

Standard 1.2

Examine Aviation in Society, Industry, and Culture.

Performance Indicators

1.2.1 Summarize the role of aviation in global connectivity, commerce, and exploration.



1.2.2	Explain how world events (e.g., WWI, WWII, Cold War, Space Race) accelerated aviation technology.
1.2.3	Compare how civilian and military aviation evolved alongside each other.
Standard 1.3 Analyze the Evolution of Aircraft Technology.	
Performance Indicators	
1.3.1	Describe the progression from wood-and-fabric aircraft to modern composites and alloys.
1.3.2	Explain the evolution of engines (e.g., piston, turbine, electric).
1.3.3	Describe the emergence of Unmanned Aircraft Systems/drone technologies and their roots in aviation history.
Domain 2.0 Careers & Industry	
Standard 2.1 Identify aerospace career pathways.	
Performance Indicators	
2.1.1	Describe education and certification requirements for aerospace careers.



2.1.2	Explain the role of durable skills in aviation.
2.1.3	Interpret aviation job postings or certification requirements.
Standard 2.2 Demonstrate professional and technical aerospace communication skills.	
Performance Indicators	
2.2.1	Complete basic flight logs or task logs.
2.2.2	Demonstrate effective and professional aerospace communication practices.
Domain 3.0 Safety, Regulations, & Risk	
Standard 3.1 Explain fundamental Federal Aviation Administration roles and regulations.	
Performance Indicators	



3.1.1	Identify the mission and function of the FAA.
3.1.2	Differentiate between major types of regulations (e.g., safety or operation).
3.1.3	Describe basic pilot responsibilities under the FAA.
Standard 3.2 Demonstrate safe practices in aviation labs and flight areas.	
Performance Indicators	
3.2.1	Demonstrate basic safety procedures both in the classroom and on the flightline.
3.2.2	Identify common aviation hazards and how to mitigate them.
3.2.3	Use a simple risk assessment tool (Pilot, Aircraft, Environment, External Pressures and Illness, Medication, Stress, Alcohol, Fatigue, Emotion) to analyze different scenarios.
3.2.4	Explain how human factors play a critical role in aviation accidents.
3.2.5	Demonstrate proper handling, storage, and care of aviation equipment.
Domain 4.0 Principles of Flight	
Standard 4.1 Understand and describe the four forces of flight using scientific terminology.	
Performance Indicators	



4.1.1	Identify and define lift, weight, thrust, and drag.
4.1.2	Describe how each force acts on fixed-wing and rotary-wing aircraft during flight.
4.1.3	Identify and describe how fluid dynamics affect flight.
Standard 4.2 Explain basic weather concepts relevant to aviation.	
Performance Indicators	
4.2.1	Learn how weather develops in Earth's atmosphere.
4.2.2	Identify basic weather elements (e.g., temperature, pressure, wind, humidity).
4.2.3	Explain how weather affects flight operations.
4.2.4	Interpret simple weather observations or summaries.
4.2.5	Demonstrate understanding of stable vs. unstable air.
4.2.6	Describe the dangers of storms, fog, and turbulence to aviation.
Standard 4.3 Explore Math & Physics in Aviation.	



Performance Indicators	
4.3.1	Solve basic speed, time, and distance calculations. Formula: $\text{Speed} = \text{Distance} \div \text{Time}$
4.3.2	Convert between common aviation units (knots, mph, feet).
4.3.3	Relate Newton's laws to aircraft motion.
Domain 5.0 Aviation Technology & Systems	
Standard 5.1 Identify major aircraft components and their functions.	
Performance Indicators	
5.1.1	Identify and describe major parts of an aircraft (e.g., wings, fuselage, empennage).
5.1.2	Understand the function of major aircraft components and engine types.
5.1.3	Compare structures between aircraft types (e.g. fixed-wing, rotary-wing).
5.1.4	Explain basic differences in materials used in aircraft construction.
Standard 5.2 Compare basic aircraft types (fixed wing or rotary).	



Performance Indicators	
5.2.1	Differentiate between aircraft classes (single-engine, multi-engine, rotorcraft, glider, etc.).
5.2.2	Identify common general aviation aircraft and their missions.
5.2.3	Identify common commercial aircraft and their missions.
5.2.4	Identify common military aircraft and their missions.
5.2.5	Explain how what an aircraft is designed to do (its mission) influences how it is built.
Domain 6.0 Flight Operation & Navigation	
Standard 6.1 Interpret basic aeronautical charts and symbols.	
Performance Indicators	
6.1.1	Explain the purpose of aeronautical charts in flight planning (e.g., sectional, terminal area, and enroute charts).



6.1.2	Identify basic symbols on sectional charts.
6.1.3	Locate airports, runways, and landmarks using charts.
6.1.4	Interpret elevations and key chart information.
6.1.5	Use simple navigation tasks to find bearings and distances.
6.1.6	Identify restricted areas on a chart and explain their purposes.
Standard 6.2 Demonstrate basic flight communication and terminology.	
Performance Indicators	
6.2.1	Define common aviation communication terms.
6.2.2	Demonstrate standard flightline safety signals and communication.
6.2.3	Explain how pilots communicate with ground and tower.
6.2.4	Recognize airport signage and markings.



Contributors

Business & Industry Contributors	Post-Secondary Contributors	Educator Contributors
Batesville Regional Airport *Justin Thompson	North Arkansas Community College Laura Berry	Batesville High School Clint Howard
Batesville Airport Commission *Kirt Warden		
Batesville Association of Aviators *Chris Treat		
Oakwood Aviation Services Julianna Howard		