

Unit	Unit Title	Lessons	Objectives
Unit 1	Aerospace Technologies	Technology Overview	Know and understand the core concepts of technology.
		Engineering Design Process	Apply the core concepts of technology using the engineering design process.
Unit 2	ABC's of Aerospace	Types of Aviation	Understand that the mission determines the type of aircraft flown, which in turn determines the certifications, ratings, and endorsements needed by the pilot in command.
Unit 3	Science of Aerospace	Physics: Aerostatics	Define terminology associated with aerostatics and aerodynamics. Explain how buoyancy principles affect an object in a fluid. Build an aerostatic vehicle.
		Physics: Aerodynamics	Explain how Bernoulli's Principle and Newton's Third Law of Motion apply to an object in flight. Build an aerodynamic vehicle.
		Chemistry: Fuel Types	Explain how aerospace fuels provide the power needed to meet mission objectives of the aerospace vehicle.
		Biology: Effects of Flight on the Body and Living in Space	Explain impacts of flight on the human body. Explain effects of living in microgravity on the human body.
Unit 4	Aerospace: Flight in the Atmosphere	Introduction to the Airplane	Identify and explain the function of the parts of an airplane.
		Systems	Understand how various systems support the operation of an aircraft.
		Weight and Balance	Understand center of gravity, airplane weight and balance, and their importance to flight.
		Performance	Understand the factors that impact aircraft performance in takeoff, landing, and cruise phases of flight.
		Weather	Understand how weather theory contributes to a pilot's ability to make sound decisions regarding safety of flight.
		Navigation	Identify methods pilots use to navigate and plot courses to fly.
Unit 5	Aerospace: Flight Outside of the Atmosphere	Rocket Propulsion Systems	Demonstrate knowledge of both liquid and solid propellant rocket propulsion systems.
		Satellite Systems	Describe the basic functions and advantages of communications, weather, and navigation satellites.
Capstone		Aerospace Problems and Solutions	Given an aerospace problem, research and present potential solutions.

