



11th Grade Aviation STEM Curriculum Materials – Semester 2: UAS

Unit 7 - Operational Decision Making

Lesson 7.A.2 Small UAS Loading

Drone Center of Gravity Experimentation: Student Activity 1 (per group)

- 2 metal wire coat hangers
- 5 feet of string
- 20 rubber bands
- Needle nose pliers
- 5 pencils, markers, or pens
- Masking tape or duct tape
- Several thumbtacks

Unit 9 - From Theory to Practice: Planning and Executing a Mission

Lesson 9.A.3 Learning to Fly: Fundamentals of Controls

Learning to Fly: Fundamentals of Control: Student Activity Days 1–4

- Classroom drone(s)
- Several fully-charged batteries per drone
- Drone flight simulator(s) on a computer or mobile device
- Class rules regarding safety
- Obstacles and targets (e.g., safety cones, landing pads, photographic targets)
- First aid kit (recommended)

- Tool kit (recommended)

Flight Simulation Activity

- Computer(s) or mobile device(s) with drone flight simulation software
- Physical or electronic control station

Lesson 9.B.1 UAS Team Operations

UAS Team Operations Days 1–12

- Classroom or personal drone(s)
- Several fully-charged batteries per drone
- Class rules regarding safety
- First aid kit (recommended)
- Tool kit (recommended)

Flight Simulation Materials (if needed)

- Computer(s) or mobile device(s) with drone flight simulation software
- Physical or electronic control station
- Matches