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