



12th Grade Aviation STEM Curriculum Materials – Semester 1: UAS

Unit 1 - Technology and Teambuilding

Lesson 1.A.1 You and Your Path

- No special materials required

Lesson 1.A.2 Mission Briefing

- Optional: Classroom drones for use in safety stand-down activity (no flying required)

Lesson 1.B.1 Scavenger Hunt

Group Activity

- Drones with mounted cameras for each group
- Items for scavenger hunt list

Lesson 1.B.2 Drone Race

- FPF transmitter (Jumper T16 Flight Controller or FrSky Taranis, for example)
- Drones (eMax TinyHawk, Tiny Whoop, etc.)
- Additional batteries and propellers
- PC with drone simulation software and controller (Jumper T16 for example)

Lesson 1.C.1 An Introduction to Programming

- Programming app provided by manufacturer of classroom drone
- Programming tools such as DroneBlocks

Unit 2 - UAS Segments

Lesson 2.A.1 Surveying the Landscape

- No special materials required

Lesson 2.A.2 Careers in Focus

- No special materials required

Unit 3 - The Business of Aviation

Lesson 3.A.1 Aviation Business Entrepreneurs

- Flip chart or poster board
- Flip chart markers (assorted colors)

Lesson 3.A.2 Elements of a Business Plan

- No special materials required

Lesson 3.A.3 Pitching for Success

- Appropriate space, seating, and presentation equipment for pitch activity

Unit 4 - Perspectives on Drones

Lesson 4.A.1 Setting the Stage: A Community Conundrum

- No special materials required

Lesson 4.A.2 Building Solutions

- No special materials required

Lesson 4.A.3 A Meeting of Minds

- Appropriate space, seating, and presentation equipment for community meeting activity

Unit 5 - Aviation Research Projects

Lesson 4.A.1 Choosing a Research Topic

Choosing a Research Topic Activity (per student)

If creating a physical (print) research portfolio:

- 1 three-ring binder
- 1 folder
- 1 packet of dividers

Lesson 4.A.4 Literature Review

Student Activity 1

- Envelopes
- Clear tape

For all lessons, an internet-connected computer or mobile device is also required.

PROPRIETARY