UFO or UAVE: The Wide World of Drones Simulator

Designed for learners in Grades 6-8

Course Description:

What exactly is a UAV? How do they work? What are they used for? Believe it or not, the first drone was built in 1935 by the British mimliray. Since then, drones have been used for surveillance, deliveries, search and rescue, wildlife monitoring, journalism, disaster response, mapping, and more. They are complex machines that use programming to maneuver them wherever they are needed. This course introduces drone mechanics and allows students to program drones using NextWaveSTEM's drone flight simulation software, without the need for additional equipment

Curriculum and Training Available:

- 14+ Lesson Hours
- Curriculum and supporting materials
- Ongoing product and curriculum support
- Professional development
- Facilitation by a trained STEM instructor (optional)

Lesson	Learning Target Examples
1. UFO or UAV? What is a drone?	Define UAV and identify drones in the real world.
2. Drone Coding Introduction: Basic commands and coordinates	Create virtual drone flight paths using estimation and measurement.
3. Drone Coding Introduction: Loops	Program flight paths using simple block coding and loops.
4. Drone Programming: Variables	Improve basic flight path programs by introducing variables.
5. Drone Programming: Functions	Use function commands to program virtual drone flights.
6. Fighting Climate Change with Drones	Identify how drones are used in climate change and create a program that will simulate drone seed dispersal.
7. Disaster Master	Explore how drones are used in disaster response and code a drone delivery.
8. Reading, Writing, and the Movies	Discuss drone journalism and ethics, and research a local topic for a news article.
9. Reading, Writing, and the Movies: Part 2	Create a program to capture images for the article or video, and write article or script for the presentation.
10. Opening Night	Share drone news stories with classmates.
11. Skywriting with Drones	Apply block coding skills to perform virtual skywriting using the drone simulator.
12. Using Drones to Map the World	Explore LiDAR measurement and create a flight path that maps a distance.
13. On My Own, Part 1	Work in groups to develop a drone program that helps solve a real-world problem.
14. On My Own, Part 2	Test, troubleshoot and debug a drone program solution!
Career Exploration Modules	Complete interactive missions to experience the real-world uses of drones across different industries!