Curriculum MAP

General Information

Description

To build a multi-tiered curriculum that can be used in elementary, middle, and high school settings. Grade level lessons of STEAM education based around drones will be used to teach math, science, and language arts skills.

Expectations and Goals

The expectation of this course is to create awareness, safety, student skills, and knowledge regarding drones and aviation. The goal of this course is to create a culture of students more interested in math and science and eager to learn, operate, and communicate deeper using drone aviation as the backdrop.

Course Materials

Required Materials

• Computers with internet access

• Projection device

• Drones

• Assessments & Rubrics

• Cones

Course Schedule

Lessons	Topics	Exercises
Lesson 1	Introduction to Course	AI avatar led video, class discussion, Intro to drone
Lesson 2	History of Drones	AI avatar led video, class discussion, flight time
Lesson 3	FAA & Pilot Certification	AI avatar led video, class discussion, flight time
Lesson 4	Air Space Restrictions	AI avatar led video, class discussion, flight time
Lesson 5	Pilot Safety	Flight Time
Lesson 6	How do drones fly	AI avatar led video, class discussion, flight time.
Lesson 7	Mapping	AI avatar led video, class discussion, flight time

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Lessons	Topics	Exercises
Lesson 8	Map Reading	AI avatar led video, class discussion, flight time
Lesson 9	Weather	AI avatar led video, class discussion, flight time
Lesson 10	Weather	AI avatar led video, class discussion, flight time
Lesson 11	Mission Planning Essentials	AI avatar led video, class discussion, flight time
Lesson 12	Pythagorean Theorem	AI avatar led video, class discussion, flight time
Lesson 13	Drones and Entrepreneurship	Develop drone company idea and present to class
Lessons 14-16	Group Project	Observations and Performance Aviation Assessments

Assessment Schedule

Week	Action
Week 3	Safety Quiz
Week 4	Paragraph
Week 6	Observation list/notes of the school
Week 8	Map of the school exterior
Week 11&12	Performance Aviation Assessment
Week 13	Entrepreneurship Competition
Week 16	Group Project Presentation

Highlighted Standards

National Science Education Standards Grades 5-8

Content Standard E: Science and Technology

- Abilities of technological design
- Understanding about science and technology

Standards for Technological Literacy- All Ages

Technology and Society

- Standard 6: Students will develop an understanding of the role of society in the development and use of technology.
- Standard 7: Students will develop an understanding of the influence of technology on history.

Design

- Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, intervention and innovation, and experimentation in problem solving.

Common Core State Standards for Mathematics

CCSS.MATH.CONTENT.4.MD.A.1; A.2; A.3 – Solve problems involving measurement and conversion of measurement.

CCSS.MATH.CONTENT.4.MD.B.4 – Represent and interpret data.

CCSS.MATH.CONTENT.4.MD.C.5; C.5.A; C.6; C.7 – Geometric measurement: understanding concepts of angle and measured angles.

CCSS.MATH.CONTENT.5.MD.A.1 – Convert measurement units within a given measurement system.

CCSS.MATH.CONTENT.5.MD.B.2 – Represent and interpret data.

CCCCS.MATH.CONTENT.HAS.CO.A.1 - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment.

CCSS.MATH.CONTENT.HSA.REI.D.10 - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

CCSS.MATH.CONTENT.HSA.REI.D.11 - Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x).

CCSS.MATH.CONTENT.HSA.REI.D.12 - Graph the solutions to a linear inequality in two variables as a half-plane

CCSS.MATH.CONTENT.HSS.MD.B.5.B - Evaluate and compare strategies based on expected values.

CCSS.MATH.CONTENT.HSS.MD.B.7 - Analyze decisions and strategies using probability concepts.