02_Unit 2: The Future of Aviation

Content Area: **Technology**
Course(s):
Time Period: **Full Year**
Length: **25 Days**
Status: **Published**

General Overview, Course Description or Course Philosophy

This is the fourth course in the four-year Aviation & Aerospace sequence. After having prepared for the Private Pilot Knowledge Test and the Part 107 Remote Pilot Knowledge Test students will examine advanced aviation topics and aviation career options. This course is foundational for both manned and unmanned aviation; students will explore advanced examination of instrument flight, commercial aviation, advanced aircraft systems, the world of UAS, aerospace, the business of aviation and crafting proposals. This course will explore new horizons in the aerospace industry within the next five to twenty years as well as business development and preparation for students capstone project in the second semester. Students will complete a pre-course and post-course exam that will culminate in the research project at the end of the course.

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Objectives, essential questions and enduring understandings are outlined within each unit of study and/or Curricular Calendar.

Aviation and aerospace have been technology incubators from their beginnings in the 1900s, but what does the future hold? In this unit students investigate new companions in the National Airspace System: unmanned aircraft. How will the next generation of aircraft—even spacecraft—affect the career paths of today's students? What technological innovations and dreams of today will become the everyday of tomorrow?

CONTENT AREA STANDARDS

SCI.HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
SCI.HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
SCI.HS-ETS1-4	Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

LA.RST.11-12.2	Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LA.RST.11-12.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.
LA.WHST.11-12.6	Use technology, including the Internet, to produce, share, and update writing products in response to ongoing feedback, including new arguments or information.
LA.WHST.11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
LA.WHST.11-12.9	Draw evidence from informational texts to support analysis, reflection, and research.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.

STUDENT LEARNING TARGETS

Student learning targets are outlined within each unit of study and/or Curricular Calendar.

Declarative Knowledge

Declarative knowledge is outlined within each unit of study and/or Curricular Calendar.

Procedural Knowledge

Procedure knowledge is outlined within each unit of study and/or Curricular Calendar.

EVIDENCE OF LEARNING

Formative Assessments

Formative assessemnts are included and outlined in each unit of study.

Summative Assessments

Summative assessemnts are included and outlined in each unit of study.

RESOURCES (Instructional, Supplemental, Intervention Materials)

Materials and resources are outlined in each unit of study.

Link to resources:

https://drive.google.com/file/d/1v8P0T3OnjmMSnrkqVRC1vlTgCfkMS7FV/view?usp=drive_link

INTERDISCIPLINARY CONNECTIONS

Interdisciplinary connections are outlined in each unit of study.

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

Accommodations & Modifications are outlined in each unit of study.