

11 End of Semester Project and Career Development

Content Area: **Technology**
Course(s):
Time Period: **Full Year**
Length: **11 Days**
Status: **Published**

General Overview, Course Description or Course Philosophy

The tenth grade year culminates in a review of aircraft components and design, a final project, and continued planning for a career in aviation and aerospace. Students will individually answer Private Pilot Knowledge Test questions from previous lessons to jog their memories and begin thinking about how the various aircraft components work together in particular designs to complete missions. Then they will work in pairs to create and present a poster that explains how a particular aircraft system and its components operate for different kinds of aircraft and missions. Students will then divide into teams of 3 or 4, with each team imagining it is launching a new aircraft company that will build a particular type of aircraft to serve a specific purpose or function. In the final lesson, students will explore the value of mentorships and work-based learning experiences.

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

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

Units of Study: <https://drive.google.com/drive/folders/11Q8sFu-T8ZX9O-2dZC7LEy8PaMNVtJnX?usp=sharing>

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.
CS.9-12.8.2.12.ED.1	Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.
TECH.8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
TECH.8.2.12.C.7	Use a design process to devise a technological product or system that addresses a global problem, provide research, identify trade-offs and constraints, and document the process through drawings that include data and materials.

TECH.8.2.12.D.1

Design and create a prototype to solve a real world problem using a design process, identify constraints addressed during the creation of the prototype, identify trade-offs made, and present the solution for peer review.

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

LA.RST.9-10.2	Determine the central ideas, themes, or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
LA.RST.9-10.7	Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
LA.WHST.9-10.1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant sufficient textual and non-textual evidence.
LA.WHST.9-10.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
LA.WHST.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LA.WHST.9-10.6	Use technology, including the Internet, to produce, share, and update writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LA.WHST.9-10.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
LA.WHST.9-10.9	Draw evidence from informational texts to support analysis, reflection, and research.

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 assessments are included and outlined in each unit of study.

Summative Assessments

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

RESOURCES (Instructional, Supplemental, Intervention Materials)

Materials and resources are outlined in each unit of study.

INTERDISCIPLINARY CONNECTIONS

Interdisciplinary connections are outlined in each unit of study.

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

Accommodations & Modifications are outlined in each unit of study.