PACING GUIDE



TWELFTH GRADE CURRICULUM: UAS

UAS CAPSTONE

SEMESTER TWO

The UAS Capstone course is the culmination of the student's learning experience throughout this pathway. The students will work as individuals or in small groups to study and report on an approved aviation topic of their choosing. The goal of this capstone course is to allow students to demonstrate a deep understanding of a topic in aviation. The curriculum will include suggestions for research topics or projects that can be adapted to match available resources.

Unit 6: What is a Capstone?

The concept and scope of a capstone project is introduced. Students begin by reflecting on their research proposal from the end of the first semester, their past experiences, and lessons learned in preparation for this semester's project. They are asked to secure a bound composition book or engineering notebook to act as a legal document and serve as a record of their work this semester. Students are also introduced to time management principles and project management practices.

The concept of research being something beyond a typical term paper is emphasized, and students learn the importance of research as intellectual property. Research design, methods, and approaches are reviewed and expanded upon from those introduced in the first semester. Finally, students determine the topic they wish to present in their research proposal.

No. of Sessions	Day of
Per Lesson	Semester
2	2
2	4
1	5
4	9
2	11
1	12
	Per Lesson 2 2 1

Total Sessions Unit 6 12 Semester Total 12

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Unit 7: The Formal Proposal

Students were introduced to the concept of the research proposal at the end of their first semester. This unit continues that thread, deepens their understanding of the research proposal development process and provides an opportunity for students to plan their capstone project in detail.

Students also refine their professional "soft skills" as they prepare to engage with mentors, enter workplaces, network with those in their field of interest, and communicate with their contacts. Any expenses they may incur should be planned, and a budget for the project is developed.

Pitching any project proposal is an important skill, and the students will have practice in this area as they develop and present their pitch.

The overall plan is documented in a research notebook and presented for assessment.

		No. of Sessions	Day of
		Per Lesson	Semester
Section A – 1	The Research Professional		
Lesson 1	Refining the Topic	1	13
Lesson 2	Professionals in the Field	4	17
Lesson 3	Develop and Present a Budget	2	19
Section B – [Defending the Formal Proposal		
Lesson 1	The Pitch	5	24
Performance	e Assess <mark>m</mark> ent	1	25

Total Sessions Unit 7 13 Semester Total 25

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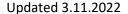
Unit 8: Collecting the Data

In Unit 8, students work to complete their capstone project. This may entail conducting surveys, engaging in an internship, participating in an apprenticeship, or other activity appropriate to the successful completion of their project.

At this stage, students are working independently, sharing progress regularly with the teacher, meeting with mentors, documenting and recording their progress, and deciphering data they have collected.

		No. of Sessions	Day of
		Per Lesson	Semester
Section A – T	he Deep Dive		
Lesson 1	Valid and Reliable Data	1	26
Lesson 2	Research in Action	19	45
Lesson 3	Deciphering the data	8	53
Performance	Assessment	1	54
Total Session	ns Unit 8 29		

Total Sessions Unit 8 29 Semester Total 54



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Unit 9: Research and Data Analysis

After collecting data from their capstone project research, students compile the data and create visualizations that effectively communicate their experience. They also develop a written research project report as well as a presentation to be delivered in the next unit.

		No. of Sessions	Day of
		Per Lesson	Semester
Section A – (Communicating the Results		
Lesson 1	Visualizing the Data	3	57
Lesson 2	The Research Paper	5	62

Total Sessions Unit 9 8 Semester Total 62

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Unit 10: Communicating the Findings

The semester ends with an event developed by the students that will allow them to share their capstone projects with peers, families, mentors, community members, teachers, etc. Time is given for planning, practicing, and presenting their work.

A semester assessment may include the final presentation event; however, a presentation of artifacts to mentors and sending professional thank you notes to contacts may also be included. Additionally, the completed research document and completed research notebook may be submitted for assessment.

		No. of Sessions	Day of
		Per Lesson	Semester
Section A – The	e Research Paper		
Lesson 1	Cleared to Launch	4	66
Lesson 2	Taking Flight	3	69
Performance A	ssessment	1	70
Total Sessions			
Semester Tota	l 70		