

AA 322 COURSE DETAILS

TITLE:	Aerospace Laboratory II
CREDITS:	3
FORMAT & SCHEDULE:	Individual Team Meetings with Instructor, TBA Individual Team Meetings with Project Mentor, TBA
FACULTY CONTACT:	James Hermanson

COURSE DESCRIPTION (Catalog Short Form, 50 words Max):

Design and conduct of experimental inquiry in the field of aeronautics and astronautics. Student groups propose, design, build, and conduct laboratory experiments in one of the following broad topic areas: aerodynamics, structures, propulsion, or energetics. Results are presented in written and oral reports.

COURSE OVERVIEW & LEARNING OBJECTIVES:

Course Objectives:

1. Students will be able to propose, design, build, and perform experiments on a topic of their choice.
2. Students will be able to utilize aerospace instrumentation and equipment to perform experiments.
3. Students will know how to take, reduce and analyze experimental data.
4. Students will know how to write good lab reports and make good oral presentations.

COURSE REQUIREMENTS

PREREQUISITES: A A 321 with minimum grad of 1.7.

REQUIRED TEXTBOOK: *None*

COURSE SCHEDULE

Example Projects:

- Pulsed cold-gas rocket (static)
- Vertical wind turbine
- Plasma thruster
- Electrothermal rocket (static)
- Morphing wing aerodynamics
- Aerodynamic decelerators
- CubeSat prototype lofted by weather balloon
- Rocket-boosted glider
- Aerodynamics of an annular wing
- Characteristics of a tailless airplane

Milestones

1. Weekly Summaries & Notebooks
2. Midterm Report
3. Midterm Peer Evaluation
4. Final Report
5. Final Oral Presentation
6. Final Peer Evaluations