

AA 410-411 COURSE DETAILS

TITLE:	Aircraft Design I-II
CREDITS:	8 (4 + 4)
FORMAT & SCHEDULE:	Lecture & Individual Team Meetings, TBA
FACULTY CONTACT:	Kristi Morgansen

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

410: Conceptual design of a modern airplane to satisfy a given set of requirements. Estimation of size, selection of configuration, weight and balance, and performance. Satisfaction of stability, control, and handling qualities requirements.

411: Preliminary design of a modern airplane to satisfy a given set of requirements. Estimation of size, selection of configuration, weight and balance, and performance. Satisfaction of stability, control, and handling qualities requirements.

COURSE OVERVIEW & LEARNING OBJECTIVES:

The purpose of this two-quarter design course sequence is to integrate the material and techniques from traditional engineering science lecture and examination classes into a holistic “project-oriented” work environment that is typical in the engineering design industry.

Course Objectives:

1. Students will be able to carry out conceptual design and sizing of airplane systems.
2. Students will understand the interaction between key relevant disciplines, and the trade-offs, in airplane systems design.
3. Students will understand the function of aircraft components and subsystems and how they might be designed.
4. Students will understand systems engineering issues as they relate to mission goals and requirements.
5. Students will experience self-organization, delegation, teamwork, communication to peers and visitors, fiscal and schedule maintenance.
6. Students will experience hands-on prototyping and testing of their chosen design and supporting coupons and models.

COURSE REQUIREMENTS

PREREQUISITES: 1) A A 320
2) A A 311
3) A A 332
4) A A 460

REQUIRED TEXTBOOK: None

COURSE SCHEDULE

Milestones

WINTER

Intro / Prep Lectures

Systems Requirement Review (SRR)

Preliminary Design Review (PDR)

SPRING

Critical Design Review (CDR)

Final Design Review (FDR)

Final Poster Session