

EAS 4710 : Aerospace Design 2

Class Periods: T 5-6 period (1145-1340) and R 6 period (1250-1340)

Location: NEB 0202

Academic Term: Spring 2026

Instructor

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Office Hours in NEB 427 : T,Th (0935-1025 and 1355-1445)

Course Description

(3 credits) Second part of EAS 4700-4710 sequence.

Course Pre-requisites

EAS 4400

Course Objectives

This course provides an introduction to the design of aircraft. Students explore the interactions and integration of disciplines related to courses taken throughout their undergraduate curriculum. The material and tasks are oriented towards developing an understanding of aircraft and the role of design in achieving mission performance. The primary focus of the course is understanding the use of optimization as a design tool.

Materials and Supply Fees

\$209 for components to build and test an aircraft design

Relation to Program Outcomes (ABET)

| | Outcome | Coverage |
|-----|--|----------|
| (1) | an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics | HIGH |
| (2) | an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors | MEDIUM |
| (3) | an ability to communicate effectively with a range of audiences | HIGH |
| (4) | an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts | HIGH |
| (5) | an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives | HIGH |
| (6) | an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions | MEDIUM |
| (7) | an ability to acquire and apply new knowledge as needed, using appropriate learning strategies | LOW |

Required Textbooks and Software

This course does not have a required textbook but some optional materials are identified.

- E-Books that everyone can always access through the UF library
 - Ajoy Kumar Kundu, “*Aircraft Design*,” Cambridge University Press, New York, NY, 2010.
 - Leland M. Nicolai and Grant E. Carichner, “*Fundamentals of Aircraft and Airship Design : Volume I - Aircraft Design*”, AIAA, Reston VA, 2010.
- Printed books that can be checked out through the UF library
 - Daniel P. Raymer, “*Aircraft Design : A Conceptual Approach*,” AIAA, Reston VA, 2006.
 - John D. Anderson Jr., “*Aircraft Performance and Design*,” McGraw-Hill, Boston MA, 1999.

Required Computer

UF requirement: <https://news.it.ufl.edu/education/student-computing-requirements-for-uf>

Course Schedule

The course will transition from analyzing a stock airplane to a preliminary design to an optimal design.

Attendance and Expectations

Students are required to attend lectures for which they are assigned. Some lectures will present team-based material for which everyone must attend while some lectures will present discipline-based material for which only specialists must attend. Students will be given 1-week advance notice as to who must attend upcoming lectures. Some additional attendance may be required for out-of-lecture events related to experimental testing. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies>

Evaluation of Grades The students are expected to demonstrate a sound understanding of the foundations in aerodynamics, structures, controls and propulsion in the context of design. A project is assigned that will require design of an aircraft to achieve mission performance. The grading will reflect the degree to which the foundations in various disciplines are combined and analyzed to achieve the mission objectives.

| | |
|-----|---------------------------|
| 5% | stock design report |
| 15% | preliminary design report |
| 55% | critical design report |
| 15% | presentation |
| 10% | peer grades |

Grading Policy

| | A | B | C | D |
|---|--------|-------|-------|-------|
| + | | 80-75 | 60-55 | 40-35 |
| | 100-85 | 75-65 | 55-45 | 35-25 |
| - | 85-80 | 65-60 | 45-40 | 25-20 |

Academic Policies and Resources

<https://go.ufl.edu/syllabuspolicies>

Commitment to a Positive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University's core values.

If you feel like your performance in class is being impacted, please contact your instructor or any of the following:

- Your academic advisor or Undergraduate Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu