

AE 6344 - Aircraft Design II

Catalog Data: Aircraft Design II. Credit 4 (3-3-4). Prerequisite: AE 6340.

Students work together on this application to complete the preliminary design stage of a specific aircraft. Participants are exposed to disciplinary and interdisciplinary issues.

Textbook: b) Raymer, Daniel P. *Aircraft Design: A Conceptual Approach*. AIAA Education Series, Inc. Washington D.C. 1992.

References: Course notes and select papers relevant to aircraft design.

Coordinator: Dr. Dimitri Mavris, professor of A.E.

Goals: The course builds upon the material learned and conceptual design work completed in AE6340, to accomplish preliminary design of a aircraft. The objectives are:

- (a) to examine the implementation of the skills learned in AE6340, by carrying the conceptual design developed in AE6341 through the preliminary design.
- (b) to introduce students to both specific disciplinary needs and interdisciplinary needs .
- (c) to allow students to learn how to apply their disciplinary knowledge to a multidisciplinary design project.

Topics:

1. Elements of preliminary-level aerospace systems design.
2. Experience in applying disciplinary skills and knowledge within a multidisciplinary environment.
3. Execution and completion of a preliminary vehicle design effort.
4. Student presentation of results to a combined Industry/Government/Academia review board.

Computer Usage:

Familiarity with programming (FORTRAN) and scripting (UNIX,Tk/Tcl) languages.
Working knowledge in use of UNIX, PC, and Macintosh computing platforms.
Knowledge of pertinent computational analysis and design tools.