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.


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 an 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.