Master of Science in Aerospace Engineering
(code 6-4310)

The Master of Science in Aerospace Engineering program has been created to educate graduate students in subjects relevant to the requirements of industry and in deductive reasoning which will benefit them and the community. This program is unique in its emphasis on practical applications and intimate interaction with the aerospace industry. It involves the most modern computational and experimental methods and provides the essential background of fundamental information permitting the students to acquire knowledge and skill of immediate practical importance. This knowledge is communicated in the courses listed below and used in the conduct of a thesis project to be carried out with participation from industry.

The program benefits from the advice of an advisory committee made up of senior staff of aerospace companies, government agencies and universities.

Further information and applications may be obtained from the Department of Aerospace Engineering, California State University, Long Beach, CA 90840.

Requirements for Admission

A bachelor's degree in an accredited curriculum in Aerospace or Mechanical engineering with a minimum grade point average of 2.70 in the last 60 (semester) units attempted. Applicants with lower GPA may be admitted subject to successful completion of appropriate deficiencies.

A bachelor's degree in engineering, mathematics or a natural science or other appropriate discipline with the requirement that essential undergraduate prerequisites in engineering be satisfied.

Graduate students must consult with the graduate advisor for information concerning procedures and requirements for appropriate approval of their courses of study prior to enrolling in their graduate programs.

Requirements for the Master of Science in Aerospace Engineering

1. The student must complete 31 units of which 25 units is course work and 6 units is thesis work.
2. Courses must include the following five required courses AE 502, AE 537, AE 554, AE 551, and AE 571, and Aerospace Engineering Seminar - AE 690.
3. The student must consult the graduate advisor for appropriate choice of minimum 3 other elective courses.

Advancement to Candidacy

Prerequisites for advancement to candidacy are:

1. Classified status.
2. An approved program of studies for the Master of Science in Aerospace Engineering.
3. Satisfactory completion of the CSULB Writing Proficiency Examination (WPE). Information is available in the Testing Office (SS/A-216). This requirement can also be met by evidence that the student passed the WPE while an undergraduate at CSULB or at certain CSU campuses.
4. Be enrolled in regular session.

5. Application for Advancement to Candidacy must be done prior to or concurrent with enrollment in AE 698, Thesis.

The courses are arranged in four categories, as detailed below. All students are expected to complete the five courses designated by an asterisk as "core courses", three additional courses from the first three categories and Aerospace Engineering Seminar - AE 690. The objective is to give students a well-rounded education in aerospace engineering, combined with the opportunity to specialize in a specific subject of the field.

Category A: Aerodynamics
Category B: Aircraft Design, Performance, Propulsion, Avionics
Category C: Aircraft Structures
Category D: Special Topics and Research

Category A: Aerodynamics

AE 436 - Aerodynamics (3)
*AE 537 - Fundamentals of Fluid Flow (3)
AE 539 - Gas Dynamics (3)
AE 540 - Aero Laboratories (3)
AE 631 - Viscous Flow Theory (3))
AE 632 - Inviscid Flow Theory (3)
AE 696 - Computational Fluid Dynamics (3)

Category B: Aircraft Design, Performance, Propulsion, Avionics

*AE 551 - Aircraft Performance and Design (3)
AE 552 - Flight Mechanics (3)
*AE 554 - Avionics Systems (3)
AE 555 - CAD/CAM (3)
AE 652 - Aircraft Stability and Control (3)
AE 654 - Guidance, Navigation & Control (3)
AE 661 - Propulsive Systems (3)

Category C: Aircraft Structures

AE 471 - Introduction to Aircraft Structures (3)
*AE 571 - Aircraft Structures I (3)
AE 575 - Structural Analysis of Composite Laminates (3)
AE 577 - Stability of Structures (3)
AE 672 - Aircraft Structures II (3)

Category D: Special Topics and Research

*AE 502 - Applied Numerical Methods for Aerospace Engineers (3)
AE 680 - Special Topics in Aerospace Engineering (3)
*AE 690 - Aerospace Engineering Seminar (1)
AE 697 - Directed Research (1-3)
AE 698 - Thesis (1-6)

*Core Courses

Effective: Fall 1992