ENGR 4803: Aeronautics Senior Design Project

3 Credit Hours

Prerequisite: ENGR 3801 and Engineering Standing

The course focuses on the student completing a project that is related to the design of an aerospace vehicle and demonstrating comprehensive application of the subject matter. The general intent is to demonstrate the students' knowledge of the integrative aspects of the systems engineering process. There is a formal report and a defended oral presentation required before industrial and academic experts.

ENGR 4901: Experiential Interdisciplinary Senior Design I

2 Credit Hours

Prerequisite: Senior Standing and permission of instructor

This is the first in a two-course experiential design sequence culminating the undergraduate engineering education. Students form small interdisciplinary engineering teams to apply engineering design principles and methods for solving current industry problems. This first course covers topics such as project planning, design tools, specifications, constraints, standards, ethics, physical and mathematical models, entrepreneurship and Fundamentals of Engineering exam practice.

ENGR 4902: Experiential Interdisciplinary Senior Design II

2 Credit Hours

Prerequisite: ENGR 4901

This is the second in a two-course sequence culminating the undergraduate engineering education. Under the guidance of a faculty mentor and an industry partner mentor, students form small interdisciplinary teams to apply engineering design principles and methods for solving industry-relevant engineering design problems. This sequence develops the previously done conceptual design through engineering analysis, modeling, and simulation using CAD/CAE, design iterations, sensitivity analysis, and proof of concept through prototype fabrication.