



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Experimental Projects I

AEROENG 4510

Credit Hours:

2.00

Course Levels:

Undergraduate (1000-5000 level)

Course Components:

Lecture

Recitation

Course Description:

Conceive, plan and design an experiment with a group of students. Emphasis on planning and experiment preparation.

Prerequisites and Co-requisites:

Prereq: 3543 and 3570, and Sr standing, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).

Course Goals / Objectives:

- Develop as a team the strategy and tactics for the design of an experiment and for data analysis procedures to achieve experimental objectives, including detailed description of the necessary technical tasks
 - Formulate an experimental program and success criteria to obtain information for a particular problem
 - Implement as a team a detailed design for an experiment and for data analysis procedures necessary to achieve the objectives defined above
 - Effectively communicate orally and in writing the results of the project design process, and subsequently the key aspects of the overall project (from concept to end goal)
 - GE Reflection-Engag Citizens & Intercultr Comp: Students consider public health, safety, and welfare as well as global, cultural, social, environmental, and economic factors in applying engineering design to produce solutions meeting specified needs
 - GE Reflection - Personal and Professional Development: Students individually assess and pursue personal professional growth in concert with project requirements and personal career goals
 - GE Reflection - Cultivate Engineering Mindset: Students develop an engineering mindset that demonstrates constant curiosity, makes connections between disparate bodies of information, and seeks opportunities to create value
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Course Topics:

- Introduction
 - Ethics and Experimental Research Projects
 - Hypothesis, Objective, Success Criteria
 - How Writers and Speakers Plan Communication Strategy
 - Experimental Design
 - Literature Searches
 - Test Matrices
 - Experimental Measurement: Methods and Methodology
 - Error Analysis
 - Data Analysis
 - Data Reduction
 - Creating Effective Graphics
 - Graphics that Present Data
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Designation:

Required