Capstone Design II with Honors Thesis

ECE 4905H

Credit Hours:
3.00

Course Levels:
Undergraduate (1000-5000 level)

Course Components:
Lecture
Lab

Course Description:
Application of design principles and methodology to conceptual and detailed technical design, implementation and testing, culminating in a capstone design project.

Prerequisites and Co-requisites:
Prereq: Honors standing; and 3905 and 3090, or 3906; and permission of department.

Course Goals / Objectives:
- Demonstrate competence applying engineering design methods
- Demonstrate competence in the management of a project
- Demonstrate competence in a team-based environment. Student design is part of a larger research effort with others beyond the research advisor, e.g. other honors students, graduate students, faculty, research staff
- Demonstrate mastery in technical writing and presentation skills
- Design, build, demonstrate, and report on a major project, integrating material learned
- Be exposed to relevant engineering standards
- Demonstrate familiarity in considering multiple realistic constraints (e.g. economic, environmental, sustainability, manufacturability, ethical, health and safety, social and political issues) while carrying out their design
Course Topics:
- Course introduction and communications
- Project execution
- Test plans, test, and analysis
- Documentation of project (Honor's Thesis document)
- Team assessment meetings
- Final presentation (Honor's Thesis defense)
- Team project work
- Individual project work

Designation:
Elective