EENG 4990 Senior Design II

Spring 2024
Thursday, 2:30 – 3:50 PM, DP B242

Instructor: Dr. Shengli Fu
Office: DP B276
Phone: 940-891-6942
Email: Shengli.Fu@unt.edu
Office Hours: Tuesday 1:00 to 2:00 pm or by appointment

Course Description

The senior design II course is a comprehensive electrical engineering design course providing major design experience. Students form teams and work under the supervision of a faculty advisor. Scope of the course includes identifying, formulating and solving an electrical engineering design problem of practical value under realistic design and implementation constraints by conforming to the appropriate engineering standards. Development of an awareness of contemporary issues, global issues and professional ethics are included in the scope of the course. *Each project team is required to submit a project proposal, and present a written report about the conceptual design of their project at the end of the semester. Since writing a project proposal is a new activity, you will be provided with three opportunities to refine the proposal based on the feedback we provide*.

The capstone senior design course is a comprehensive electrical engineering design course designed to satisfy ABET EAC engineering design criteria. Each and every senior project will be submitted for review by ABET evaluators. Students may choose a design topic in VLSI, communications, Signal Processing or any other relevant electrical engineering area. Substantial design work is required for passing this course. The course is administered as a two-semester sequence of courses EENG 4910, and EENG 4990. *During the first part (EENG 4910), students are expected to develop a comprehensive project proposal and conduct research that results in a conceptual design.* In the second part (EENG 4990), detailed design, implementation, and documentation are conducted. The project deliverables include a comprehensive project proposal for EENG 4910 and a written report about the conceptual design of their project. A final report, oral presentation, and demonstration of the project constitute the deliverables for EENG 4990. All work submitted must be approved by the faculty advisor. All assignments should be submitted electronically, and the feedback is provided electronically.

Textbooks

No required books, but please check course material in Black Board.
Reference Book: R. M. Ford and C. S. Coulston, *Design for Electrical and Computer Engineers - Theory, Concepts and Practice*, New York: McGraw-Hill, 2008.

Prerequisite

EENG 3810, 3811, 3910 and 3920, all of which must be completed with a grade of C or better.

Learning Outcomes

After completing the course students will able to:

1. Design a system or process to meet specifications with engineering constraints.
2. Function as a member of an engineering team.
3. Utilize technical resources both from prior coursework, as well as from other relevant sources.
4. Demonstrate excellent written and oral communication skills related to design project results.
5. Demonstrate an understanding of ethical and professional issues as well as engineering standards related to their projects.
6. Demonstrate an understanding of contemporary issues as related to their projects.

Laboratory Resources

The Senior Design Lab M 201 is designated for exclusive use by Senior Design students. After the first week of classes, students will be able to access the laboratory with their student ID cards.

Grading Policy

- Assignments, 10 points, 10%
- Final Report, 10 points, 10%
- Evaluation by Industrial Advisory Board, 10%
- Faculty advisor's assessment, 70 points, 70%

Total 100 points, 100%

General Comments

- Students are encouraged to discuss class material and homework in order to better understand concepts. However, all the homework you submit must be of your own. Direct copying of a solution (from a friend or a book) will be considered as plagiarism and a violation of the University Honor Code.
- Homework assignments are to be turned in at the beginning of the class on the due date. Late submission (Homework and Project) will not be accepted.
- All students are responsible for announcements made in lecture or via the class email list.
- It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office (see http://www.unt.edu/oda).