

**EEL 4914: Senior Design 1
Spring 2005**

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References: Bundle in Book store.

Prerequisites: EE EEL 4309, EEL 4767C, and all required EEL 3XXX courses
CpE EEL 4768C, EEL 3307C, and Co requisite of EEL 4884

Goals: To provide students a complete design experience, including the necessity to set design goals and objectives, integrate knowledge, exercise engineering judgment, plan to meet a budget and a schedule, to work as a team member, and to communicate in writing.

Course

Structure: This course is the first part in a 2-course sequence. In the first course (this one) the student will select a team and propose a project. The complete design documentation will be delivered at the end of the first semester and will be used to determine the first semester's grade. In the second semester the proposed project will be manufactured. At the end of senior design 2 each team will present and demonstrate their project to a review panel made up of UCF faculty. This panel will recommend the final grade for senior design 2.

Rule: Each team must demonstrate functionality of their project in order for them to pass senior design 2. There are no exceptions. Factors that are beyond your control are not considered valid excuses. This does not mean that every part of the project must work perfectly. Projects that function, although poorly, satisfy this rule. The panel will determine the functionality of the project.

Lectures: There will be lectures during class time on Economics, Management, Engineering Ethics and Teamwork. There could be also invited speakers.

Grading:	Exam 1 on Economics	25%
	Exam 2 on Management, Ethics, and Teamwork	25%
	Proposal	5%
	Final design report	45%

Teams: Each project will be implemented by a group of 3 or 4 members. The instructor may assist in the formation of the teams, but you have the freedom to form your teams.

Projects: Projects can be in any area of electrical or computer engineering, and are subject to approval. By the end of Senior Design 2, all projects will be physically realized, documented, and demonstrated. It is expected that the proposed project will be completed by the end of senior design 2.

**Selection
of Project:**

The most important part of this course is in selecting the proper project. The final grade for senior design 2 is almost entirely based on the comments from the review panel. Your project must impress the reviewers. Selecting a project that is too easy may not be accepted well by the reviewers and may result in a lower than expected final grade for senior design 2. On the other hand a project that is so difficult that you ran short in time and did a sloppy job will not impress the reviewers either. An overly difficult project may also have you work harder than necessary. To be successful in this 2-course sequence you must reach a careful balance. Furthermore because no excuses for nonfunctional projects will be considered, you need to ensure completion of your project. That means you must consider part availability, cost, reliability, etc so that your chances of completing the project are high.

Proposal: Your team must submit a complete detailed proposal. You must use the format provided. You must specify a block diagram showing all parts of the project and indicate the team member that will be responsible for each part. This proposal is a commitment. You must realize the proposed project in order to pass senior design 2.

Design

Specifications: By the end of the semester you will submit a complete set of design specifications detailing all design details of your project. This should include all design detail such that a 3rd party contractor will be able to manufacture the project. The format will be provided.

Consultations: Consultation on each project will be available either from the course instructor, or from any other SEECs faculty who has expertise on the subject, through appointments. There is a limit on the amount of help that you can receive from consultation. The instructor or the consulting faculty member may provide recommendations, but by no means are responsible neither to design parts of your project for you, nor to solve all the problems that you may have.

Expenses: All expenses are the responsibility of the student. You are encouraged to get a sponsor for your project and share expenses.

Computer

Usage: There will be no specific computer assignments. However, word processing is required for all documentation. Some projects can utilize computer simulation during the design, while other can be based on personal or single board computers where software and/or hardware development will be required.

Laboratory: No formal laboratory work is required. However, many projects require hardware construction, debugging, and testing. The Senior Design Laboratory will be available for this purpose. In order to protect project installations, only students that are registered in the class will allowed in the lab.

NOTE: Some students prefer to use their home laboratories for their convenience. It is however advised that students use as much as possible the university laboratory facilities so that maximum interaction with the instructor or faculty advisor can be maintained. All workstations should at anytime be clean and neat. Building a prototype is by no means equivalent to creating a mess. You can work in the lab during non-business hours and weekends (if so desired), by requesting an electronic lab key. See however the warning below.

University policy requires that for safety reasons, at least two people must be present in the lab at any time. Violators will be asked, either by faculty or staff, or the police, to leave the lab premises. Since it is not possible to enforce this policy at all times, violators that are not caught will be working entirely at their own risk.