

ECE232 Intro to Project Practices

Course Syllabus for Fall 2023
Monday 5:30-7:30, Engineering E105

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Office hours: send email to schedule a meeting
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Attendance at weekly workshops is required. A student may miss one workshop without penalty. All other absences, including school-excused trips, must be discussed with the TA in advance. If there is health-related or other reason for missing workshops, please send a note to Instructor and TA before class and they will work with you to accommodate your situation.

ECE232 is a 1-credit SME course with letter-grade. Grades will be assigned from A through F, with plus or minus categories (no C-, D+, and D-)

F: 0-60; **D:** 60-70; **C:** 70-77; **C+:** 77-80; **B-:** 80-83; **B:** 83-87; **B+:** 87-90; **A-:** 90-93; **A:** 93-97; **A+:** 97 and up

Grading policy:

20%	Pre-reading
25%	Weekly attendance and in-class work
25%	Submitted documents
10%	Video and survey
20%	Final project and review (15% + 10%)

Week	Date	Topic
1	8/21	Determining project specifications and needs/features
2	8/28	Resume and Interviewing
3	9/11	Project Lifecycle
4	9/18	Team formation and Team charter
5	9/25	Project Timeline
6	10/2	Budget
7	10/9	Project and Product Risk Analysis
8	10/16	DTVC - Design, Test, Validation and Characterization
9	10/23	Ethics and Internationalization
10	10/30	IP - Intellectual Property
11	11/6	Standards
12	11/13	Industrialization Phase
13	11/27	Presentation Skills
14	5/8	Final Project reviews - tbd

Tentative plan for the 2-hour workshop:

5:30 - 6:20 – Guest lecture

6:20 - 7:05 – Students will work on the deliverable connected with that week's topic. During this period, guest lecturer, facilitator, instructor and TA will visit different teams to check their progress and assist in creation of documents by providing feedback

7:05 - 7:30 whole class comes together to wrap-up and hear last-minute thoughts by workshop lead and facilitators

What is the core purpose of the course?

(by Richard Toftness, Director of EIR)

Core purpose of the course is to give students a realistic view of **Project Planning** in a commercial enterprise with practice centered on their student projects. While instructor can make students aware of the many facets of a project plan, students will not be experiencing the industrialization phase during their work on the project. Therefore, in this course, we are focusing on the subset of activities and skills that will help student teams be more successful, leading up to the industrialization phase.

For a successful project, there are **things that are known**, such as approximate selling price, amount of development money, time available for development, basic features and specifications. These are pretty much invariant and need to be up front goals of the project.

Then there are the things that add **competitive value** to a product such as features and functionality that separate their product from the competition.

Weekly workshop structure:

The speaker, weekly leader, would describe what needs to be considered in a commercial project for the given topic. Then describe briefly what students need to be concerned with for the student project to be successful. As two examples:

Budgeting:

Real World: In a commercial enterprise you would add in all salaries, overhead, material, cost of filing patents, etc. The budget could extend for multi-years and include cost increases for inflation. You also would do a worst-case, best-case analysis.

Student Project: You know what you are starting with as far as funds. List all the things that you are going to have to purchase and research the cost of each. What things are you going to try to get donated? Have you got enough money? What are the extras you might purchase if you have extra funds? Do a worst-case and best-case analysis of your costs.

Scheduling:

Real world: In a commercial enterprise you would include personnel time, time for reviews and presentations, holidays, staff vacations. Most important you would include milestones; first prototype, first turn-on of product, design revision #1, environmental test, final test, release to production, first production run, first shipment to a customer. And you would do a worst-case, best-case schedule.

Student project: You know your start time and you know your finish time (which is your demo day). Determine the milestones for your project: First prototype, mid-project review, final testing and verification complete, documentation complete, final project presentation complete, demo day complete. Your team has to decide how they are going to track progress.

Following speaker's brief introduction, class goes into the breakout session, during which student teams work on documents under the guidance and supervision of facilitators.

Presenter-

What happens in the real world and why?

Students-

Practice a subset relevant to a student project