

ECE280A Intro to Project Practices

Course Syllabus for Fall 2020
Monday 5:30-7:30, online workshops, via Zoom

Instructor: Olivera Notaros, olivera@colostate.edu
Office: Engineering Building, C201F
Office hours: send email to schedule a meeting
TA: Siddhi Sawant Siddhi.Sawant@colostate.edu
EIR website: www.csueir.com

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 Instructor in advance. If there is health-related or other covid-related reason for missing workshops, please send a note to Instructor and TA and they will work with you to accommodate your situation.

ECE280A 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		Topic and explanation
1	24-Aug	Determining project specifications and needs/features
2	31-Aug	Project Lifecycle
	7-Sep	NO CLASS - Memorial Day
3	14-Sep	Team formation and Team charter
4	21-Sep	Budget
5	28-Sep	Timeline
6	5-Oct	DTVC - Design, Test, Validation and Characterization
7	12-Oct	FMEA and Risk Analysis tables
8	19-Oct	Ethics and Internationalization
9	26-Oct	IP - Intellectual Property
10	2-Nov	Standards
11	9-Nov	Technical Writing Skills
12	16-Nov	Presentation Skills
		THANKSGIVING BREAK
13	30-Nov	Industrialization Phase
14	7-Dec	Final Project reviews
15		NO CLASS – Exam Week

Tentative plan for the 2-hour workshop:

5:30 - 6:15 – Guest lecture (camera and microphone on)

6:15 - 7:10 – Students will enter individual (team) meeting rooms to work on the deliverable connected with that week's topic. During this period, guest lecturer, facilitator, instructor and TA will visit different meeting rooms to check on team's progress and assist in creation of documents by providing feedback

7:10 - 7:30 whole class comes together, again, into a single meeting to wrap-up and hear last-minute thoughts by workshop lead and facilitator (camera and microphone on)

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