Benchmarks/Deadines – Descriptions and Due Dates

PRELIMINARY PROJECT PRESENTATION: 10/21 through 11/1 in class

Give a 10 minute informational powerpoint/slide presentation on your project to the class. Allow 5-10 minutes for questions.

PRELIMINARY PROJECT PLAN AND DESIGN SPECS: Due Wed 11/9 by Midnight

Each group will submit a written report outlining their project plan and design specifications. The report should include the following:

I. EXECUTIVE SUMMARY
- 1-2 pages max, including figures
- High level overview of project
- Identify problem to be solved and your solution
- If applicable, benchmark relevant competitor products
- If applicable, include preliminary image of final product and/or system schematic diagram (in some cases, one or both of these are better placed in the next section)

II. ORGANIZATIONAL CHART (Large interdisciplinary teams only)

III. PRELIMINARY DESIGN OF FINAL PRODUCT
- System overview / schematic diagram
- Description of all components/subsystems that will be integrated into the final product
- Flow chart showing operation of final product (e.g., pseudocode for your software)
- Minimum performance specs that need to be met by final product
- Where applicable, minimum performance specs for components/subsystems

IV. RISK ANALYSIS

V. PROTOTYPE PLAN
- Identify at least 3 components/subsystems of your product that can be prototyped (typically more is better), describe in as much detail as possible
- Develop a plan/timeline for completing these prototypes (see class prototype demo schedule)
- Assign ownership of each prototype, workload division among group members

VI. PRELIMINARY COST ESTIMATES

FALL PROJECT PRESENTATION / PROTOTYPE DEMO: Mon 11/28 – Fri 12/2

Each group will give a detailed presentation to their mentors and the instructor describing the current status of their project and their current project plan, including any revisions to their plan that have occurred since submission of the Preliminary Project Plan. Each group may choose to demo their first prototype or show a video, and any results that may have been obtained through prototyping (if applicable). Plan for 45-60 minutes, including questions and prototype demonstration. In some cases, project presentation and prototype demo may be split into 2 separate presentations.

REVISED PROJECT PLAN AND DESIGN SPECS: Due Wed 12/7 by 5pm

Each group will submit a written revised project plan and specifications. It does not need to be a complete stand-alone document; it should have the preliminary project plan/specifications attached to it, and simply detail any revisions or updates. The beginning section should be a brief overview of revisions made to the preliminary project plan/specs.

FALL GROUP / INDIVIDUAL EVALUATIONS: Due Wed 12/7 by 5pm

Each individual will submit a short evaluation report, in which they evaluate their group's overall performance, evaluate each group member's contributions, and provide a self-evaluation of their own contributions during Fall Quarter.

ELEVATOR PITCHES: Week of 1/23-1/27

Imagine you were trying to raise funding to start a venture based on your product and were in standing in front of a potential investor, or that you are simply just trying to sell your product. Your group has 3 minutes to make their case. You may optionally have 1 slide with no text on it (only images). Ready, set, go!!!

LOGO / BRANDING ASSIGNMENT: Due Mon 2/13 by 5pm

Each group will finalize their product name and create a logo.

MID-PROJECT DESIGN REVIEW: Week of 2/20-2/24

Each group will give a 30-45 minute (longer for interdisciplinary teams) presentation to the instructor and their sponsors/mentors. Broadly, your presentation should cover your product specifications, the current status of your project, your plan for completion of the project, and a complete cost analysis. You must also dedicate 5-10 minutes presenting detailed engineering analysis or testing of an aspect of your project that significantly informed your design. Below is a suggested outline/format with a few more details, but feel free to adjust this to fit the specifics of your project:

- Introduction (adapted from elevator pitch)
- Updated key specifications that you will be discussing in this presentation
- Detailed presentation of your design and how it will work
- *Special section: Present ***engineering analysis or testing that significantly informed your design***. This may be focused on a single element, chunk, or subsystem.
    - Develop this section prior to the presentation with help from your advisors.
    - Grade for this section is influenced by whether your analysis or testing demonstrates that: your design will work (good), proves your design will be better than alternatives (better), or proves via optimization that your design will be the best (best). This grade is also influenced by the significance of your analysis or testing to the overall design objectives, as well as the technical strength and clarity of your presentation.
- Budget
- Schedule for the rest of the quarter / until completion

DESIGN PACKET: Due 3/10 by midnight.

Each group will submit a detailed design packet, including some or all of the following items, by 3/10/2017. You will also need to submit a design packet proposal in class on 1/24/2017 that lists all of the items from the list below that will be included in your packet.

Include in design package (Y/N)	**Item**	**Responsible team member(s)**
	Documents	
	Updated Project description and target specifications (from first quarter report)	
	Assembly drawing	
	Sub-assembly drawings (list)	
	Detail drawings (list)	
	Plumbing schematic(s) (list if more than one)	
	System and sub-system block diagram(s)	
	Operational flowcharts(s)	
	Circuit schematic(s), wiring diagram(s)	
	Bill of materials	
	Budget	
	Schedule for completing fabrication and testing in spring quarter	
	Prototypes and testing	
	Design questions that you have answered or plan to answer with prototype testing (list).	
	Describe the new prototypes that you built or plan to build this quarter	
	Analysis and modeling	
	Design questions that you have answered or plan to answer with modeling and analysis (list)	

WINTER PROTOTYPE DEMO: 3/20 (EE teams) and 3/22 (interdisciplinary teams)

Each group will demo their second prototype, and any results that may have been obtained through prototyping (if applicable).

WINTER GROUP / INDIVIDUAL EVALUATIONS: Due Mon 3/20 by 5pm

Each individual will submit a short evaluation report, in which they evaluate their group's overall performance, evaluate each group member's contributions, and provide a self-evaluation of their own contributions during Winter Quarter.

FINAL PRODUCT DESIGN / SPECS: Due Fri 4/21 by 5pm

This is the final version of the product design / specs that was submitted in the Fall. The prototype plan can be omitted, and the cost estimates section should be revised to reflect actual costs that have been or will be incurred. This document should also detail exactly what features will be included in the final product, and which features may be included if time permits.

SPRING CLASS PRESENTATION: Week of 4/24-4/28

Give a 10 minute informational powerpoint/slide presentation on your project to the class. Allow 5-10 minutes for questions.

SPRING PROTOTYPE DEMO: Week of 5/8-5/12

Each group will demo their third prototype, and any results that may have been obtained through prototyping (if applicable). Ideally, this prototype will be close to a finalized version of your product, including most or all of the hardware and implementing some of the software.

FINAL PRESENTATION/DEMO TO SPONSORS AND MENTORS: Week of 5/29-6/2

Each group will give a 45-60 minute presentation to the instructor and their sponsors/mentors. This will include all the details of their finalized product, along with a demo of the product.

CAPSTONE DESIGN FAIR: 6/7

Public presentation and demo of Capstone project to a group of judges. Poster session. Project-of-the-year awards given out.