

Benchmarks/Deadlines – Descriptions and Due Dates

PERSONAL PORTFOLIO: Due Friday 10/26 by 11:59pm

This is an individual assignment. Each individual will create a personal portfolio. Recently, the personal portfolio has become the number one thing recruiters are looking for in applicants. Resumes are important but the portfolio can set you apart. The portfolio should show what YOU have done, not your group. If you worked on a group project, what did YOU do on that project? This can be in the form of a simple youtube link, or you can make a website. This should be a hype video / site. What would make you want to interview you? Did you make an electric skateboard, great, detail it....if not, make a website now and start to chronicle the work you're doing on your Capstone project.

PRELIMINARY PROJECT PRESENTATION: 11/5 through 11/9 in class

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

PRELIMINARY PROJECT PLAN AND DESIGN SPECS: Due Wed 11/14 by 5:00pm

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 another section)
- II. ORGANIZATIONAL CHART (Large multidisciplinary teams only)
- III. PRELIMINARY DESIGN OF FINAL PRODUCT
 - System overview / block diagram / 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 over the course of the year (typically more is better), describe in as much detail as possible
 - Develop a plan/timeline for completing these prototypes (see class prototype demo schedule). This should cover the *entire span of the project!*
 - Assign ownership of each prototype, workload division among group members
- VI. PRELIMINARY COST ESTIMATES

FALL PROJECT PRESENTATION: Mon 12/3 – Fri 12/7

Each group will give a detailed presentation to their mentors and the instructor(s) 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 minutes, including questions.

PROTOTYPE DEMO: Week of 12/10-12/14

Each group will demonstrate their prototype(s) to advisors and peers.

REVISED PROJECT PLAN AND DESIGN SPECS: Due 12/13 by 11:59pm

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 12/13 by 11:59pm

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 1/21-1/25

Imagine you are trying to raise funding to start a venture based on your product and are 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 Fri 2/8 by 5pm

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

MID-PROJECT DESIGN REVIEW: Week of 2/19-2/23

Each group will give a 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 or a complete 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 and until project completion

DESIGN PACKET: Due 3/8 by midnight.

Each group will submit a detailed design packet, including some or all of the following items, by 3/8/2019. Multidisciplinary teams will also need to submit a design packet proposal in class on 1/25/2018 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: 3/18-3/20

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

WINTER GROUP / INDIVIDUAL EVALUATIONS: Due 3/20 by 11:59pm

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.

SPRING CLASS PRESENTATION: Week of 4/22-4/26

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

FINAL PRESENTATION/DEMO TO SPONSORS AND MENTORS: Week of 5/27-5/31

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.

ENGINEERING DESIGN EXPO: 6/7

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