

## Design Project #3 Proposal

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For this assignment, you will draft a preliminary proposal for design project #3. This project can be on (almost) anything you want, ranging from electronic hardware, to software and more. Your project must be technical and require that you design a prototype. **This is an individual project.** For this assignment, draft a proposal document with the following sections and information:

### Project Overview

- Describe your project idea at a high level
- If your idea builds significantly on a preexisting design, reference the previous design, and clearly explain the modifications that you will make.
  - Copying an existing design in its entirety is not acceptable, nor is using projects from existing courses or previous endeavors unless they are significantly modified in some way.
- Include as much detail as you can (e.g. schematics, drawings, pseudocode, etc).

### Required Resources

- Explain what components (if any) are needed for your design. Indicate where they will need to be acquired from (e.g. vendors, in ECE stockroom, already in possession of, etc)
  - Since you have not yet completed your design, you may only be able to generically describe what you need for some items. For other items, you may be able to specify exactly what you need and where to acquire it. Include as much detail as possible.
- Include an estimated budget. To the best of your knowledge, predict how much it will cost to produce your prototype, with a detailed as possible breakdown of expenses.
- Describe any additional resources you will need to complete your design, even if they are available to you at no cost and where you will acquire them from. For example, software packages or libraries, online learning resources, testing equipment, etc.

## Project Justification

- If there is motivation for your proposal outside of being required to do so, please describe it in this section (e.g. learn a particular skill, investigate something new, for fun, career preparation, etc)
- You must justify your design. Even though everyone's project may differ, they all should be approximately the same in the required amount of effort. Thus, clearly explain why you feel your project is appropriately scoped (**not too easy, but also not too complicated**)

## Schedule

- In this section, break your project up into tasks and significant milestones, and describe them.
- Include a timeline of when you will complete the necessary tasks or achieve your milestones.
  - Approximately halfway through the project (~3 weeks from now) , you will have to submit a milestone update for a grade. Everyone must include this milestone. Whether or not you want to include additional ones is up to you.
  - The project demonstration and report will be due near the very end of finals week. You should aim to finish your project right before the start of finals week, but know that it can spillover into that week if need be.
  - Don't forget to include the time needed to acquire items from vendors (e.g. ordering electronics has a typical turnaround time of 1 week, PCB's ~ 10 days, 3D prints 2-3 days, etc. etc. etc. The onus is on you to consider these factors in completing your design.
- Describe, in detail, what you plan to show for your final demonstration. In addition to demonstrating the final product, think of any intermediate results or outcomes from subsystems that can be shown.

## Potential roadblocks, comments, questions, alternatives or concerns

- In this final section, include any additional comments that you want to make regarding your design, or a consideration of potential roadblocks, concerns or questions that you may have. This is the initial proposal, so there very well maybe some unknowns.
- Think of worst-case scenarios and how you plan to respond should something go wrong
- Finally, you may include any general comments in this section that you want to make regarding your project that were not included elsewhere in the proposal.

## **Submission**

- Submit a PDF document that has all of the sections described above.