**Design I - Final Design Document Table of Contents**

1. **Executive Summary**

This should be a brief summary of your project. Limit this to 3 pages. Reading these three pages should give someone an idea of your problem, your customers and your current solution. The final cost of your project should be mentioned here as well.

1. **Users Need/ Functional Attributes**

This document needs to be the final set of users’ needs agreed upon by you and your customers. Every user need must be included. Every need must have a test.

1. **Engineering Specifications**

Your complete list of engineering specifications should be included. This needs to be as complete of a list as you have. This document defines what you will be building to over the coming semester. It should be extensive. Every spec must have a test.

1. **Acceptance Test Plan**

Provide a series of test cases that are the final end-to-end testing of your project. Each of these tests needs to map to your requirements. Every test should specify which requirements it is testing for. These tests should be the high level, final tests you do on your completed project, not necessarily the tests you do on components and subsystems. Every test must point back to a specification.

1. **Initial Design**

Present your current design. The design needs to be fairly fleshed out. Engineering drawings and schematics are a positive. Any circuits should have block diagrams, any mechanical parts should have CAD drawings and any software should have flow charts.

1. **Risk Assessment**

Go through your proposed design and identify the different levels of risk associated with each element. Look at the overall risk of the project as well. Remember, this is the risk of you not completing the project, not risk of injury or harm. Things that cause high risk are schedule, technical complexity, single source parts….

1. **Risk Management Plan**

For all elements of High or Very High risk, discuss how you plan on mitigating these risks, and what your plan is in the event of failure.

1. **Work Plan/Schedule**

Your schedule must be included here. All of the tasks you will be doing, the time you will be doing them and who will be doing each task must be laid out. A Gant chart is desired for this information.

1. **Budget**

Present your complete budget for the project. This should include both the material costs as well as personnel costs. A 20% contingency as a line item is also recommended.

1. **Assessment of Context**

Suppose your project was picked up and made into a commercial success by industry, educational institutions, or another organization. Write a half-page explaining the possible global impact, a half-page explaining the possible economic impact for the company, a half-paragraph on the environmental impact, if any, of the product, and a half-page on the effect upon society or a subset of society by the product. If there is no environmental impact explain why. Then write a paragraph tying these all together.

1. **References**

Any references you have need to be included here.