|  |  |
| --- | --- |
| Department of Mechanical EngineeringUniversity of Washington | Stevens Way, Box 352600Seattle, WA 98195 USA206-54305090 |

Your Team Name Here

|  |  |
| --- | --- |
| First Author Name | Second Author Name (and so on) |
| First Author email address | Second Author email address |

**<Technology> Design Proposal– Due date**

Here is a suggested format for a ME 495 Proposal. Since the team projects all are different, feel free to modify the organization of this format to meet your project requirements. Note however that all sections listed here are required and that the page limit for this report is 4 pages, not including any appendices and not including the bibliography.

**Introduction**

Introduce the product or process to be designed. Identify the customer(s) and provide a problem-statement.

**Product research**

Summarize product research results.

Provide a description of previous/ related design projects or comparable products, and other sources. Describe relevant codes, standards, and patent classes. Note any important features or recommendations made that might impact how things will proceed. Most importantly, describe things that make your proposal unique. Be sure to cite referenced work within the text.

**Management plan and task assignments**

Provide a brief description of your management plan and specify team member tasks. Include a Gantt chart for your management plan. For task assignments, you should identify team members who will lead the development of documentation for the midterm and final reports and those who will develop content within each report section. Also, a team leader should be identified.

**Bibliography**

* Books, articles, reports, data sheets, etc., cited in the report should be formatted according to the APA.

|  |  |
| --- | --- |
| Department of Mechanical EngineeringUniversity of Washington | Stevens Way, Box 352600Seattle, WA 98195 USA206-54305090 |

Your Team Name Here

|  |  |
| --- | --- |
| First Author Name | Second Author Name (and so on) |
| First Author email address | Second Author email address |

**<Technology> Design Report – Due Date**

Here is a suggested format for ME 495 midterm and final reports. Since the team projects all are different, feel free to modify the organization of this format to meet your project requirements. However, note that some sections are required for the midterm report (\*), some are required for the final report (\*), that the limit for the body of the report is 25 pages, and that there is no page limit on appendices.

**Executive Summary \***

**Introduction \*\***

* Introduce the product or process designed. Provide a problem statement, identify the customer(s), and describe how the project was managed.
* Describe previous work, comparable products, and relevant codes, standards, and patent classes.
* Present and analyze the design requirements, including relevant codes, standards, and patents.
* Provide a brief description of selected design (~1 paragraph, include image(s) if available). Describe inferior concepts and why they were rejected. Describe any outstanding issues and the types of analyses/ tests to be performed.

**Detailed design description and analyses \***

* **Description** Provide a detailed description of the final design, including how each design requirement is met.
* **Analyses** Describe the results of analyses that support the design (refer to the appendices with the details of each type of analysis).

**Prototypes**

* **Purpose** Describe the purpose of the construction of prototypes and describe how they relate to the design analyses.
* **Implementation** Describe how prototypes were constructed including any iterations that occurred.
* **Testing** Describe testing procedures. Present testing results and compare them to related design analyses.

**Cost and Engineering Economics \***

* Provide and describe a profit model for your design (e.g., as described in Section 17.9 of Dieter and Schmidt’s Engineering Design textbook).

**Broader considerations and impacts \***

* **Risk and liability**
* Provide a description of risk and liability for your design.
* **Ethical issues**
* Provide a description of ethical issues for your design. Consider using the ASME or NCEES codes of ethics to frame your description.
* **Impact on society and the environment**
* Provide a description of the impact of your design on society and the environment. Consider using Chapter 10 of Dieter and Schmidt’s Engineering Design textbook as a guide.

**Conclusions and recommendations for continued development \***

* **Final Configuration Strengths**
* **Recommendations for Continued Development**

**Bibliography \*\***

* Books, articles, reports, data sheets, etc., cited in the report should be formatted according to the APA.

**Appendices \***

* **Design concepts\*\***
* Present the process used to develop your design. Include a House of Quality, Function Structure(s), and Morphological Chart (s).
* Justify the selection of your final design.
* **Analyses \***
* Present analyses (Mechanical, Chemical, Biological, Electrical, Hardware, Software, Integration, Materials selection, Modularity, Design for Assembly/ Manufacturing, Failure analyses, etc.) as applicable.
* **Drawings\***
* Provide mechanical, electrical (components and connections), etc. drawings as applicable.
* Provide software descriptions (flow charts, hierarchical diagrams, etc.) as applicable.
* **Code\***
* Provide code (e.g., MATLAB analysis and design, C-Code, etc.) as applicable.
* **Major components list \***
* List all components including any manufacturer/ model numbers and their cost