Senior Design I Proposal Part 2

**Genre:** Design Proposal, used to present a new design or an innovative approach to an existing design, with the following purposes:

1. Persuade a person or institution to approve your invention.
2. Illustrate why the new product is needed and demonstrate that the potential users will accept it.
3. Demonstrate your knowledge of the area.
4. Demonstrate that you know how to create a new product from scratch and that you have a plan to make the project real.

**Audience:** The proposal is intended for two audiences, on the one hand for a technical audience of engineers who understands the details of the design and on the other hand for top managers that can make decisions to go ahead with the project. Some chapters of the proposal are dedicated exclusively to the technical audience while the others serve both audiences. In this assignment, only Standard Considerations, Concept Development, and End Product Description are aimed at the technical audience.

**Due date:** Two weeks after the last topic is covered in class.

**Format details:** According to a modified IEEE style, this style should be strictly followed and can be found at:

<http://web.eng.fiu.edu/arellano/1002/Style/msw_usletter_format_nov12mod.doc>

Be sure to save some time for final edits, to eliminate errors and typos that could lead your audience to question your professionalism and the quality of your work.

Please find grading details and estimated page count in TABLE 1. A detailed rubric with grading criteria will be provided.

Every section starts on a new page; the only exception is when two complete sections fit in one page.

Any image, diagram, etc. that you copied from a different author must have an inline citation in the object’s captions.

Every block diagram, created by you or being reviewed, must be explained in full detail.

Always refer to tables and figures by their names and numbers, avoid expressions like the table below, rather use Table I.

From the style lecture, you learned the general section structure, which is copied below. The Introductory and Concluding paragraphs are worth 20% of the score of each section.

# Section Heading

**Introductory paragraph:**

Highlight the importance of the chapter. Here you explain why the section that you are writing is essential for any engineering project. Provide details of what you plan to do, the methods to be used, the data and information sources, etc.

**Body:**

In this part, you provide detailed explanations, figures, tables, etc.

Foremost, any figure, table, etc., that you use must be explained in the text. Use “In Figure 7,” rather than “the figure below.”

**Concluding paragraph:**

Here you explain what was learned or obtained from the section. Don’t use general terms; make it unique how your findings impact your project. Link to the next Section

Please don’t use headers for Introduction, body, and conclusion. Your writing style must resemble a book, not a Lab report. Avoid storytelling.

TABLE I. shows the topics covered with their weight along with possible deductions. Highlighted in yellow a topic of frequent errors and misunderstandings. Please use the definitions as presented in Need Specification.

1. Topics, Scores, and deductions

|  |  |  |
| --- | --- | --- |
| Section | Weight | Typical page count |
| Needs Feasibility Analysis |  |  |
| Feasibility Analysis | 15 | 4 |
| Risk Analysis | 10 | 3 |
| Globalization | 15 | 3 |
| Standards Consideration | 15 | 6 |
| End Product Description and Other DeliverablesEnd Product DescriptionFunctionsSpecificationsOther Deliverables | 15 | 6 |
| Plan of Action | 15 | 8 |
| Multidiciplinary Aspects | 5 | 2 |
| Personnel | 4 | 5 |
| Budget | 6 | 2 |
| Reason | Deduction |  |
| Heading Style, Single Occurrence | 4 |  |
| Heading Style, Multiple Occurrences | 7 |  |
| Not referencing Images, Single Occurrence | 4 |  |
| Not referencing Images, Multiple Occurrences | 7 |  |
| Assumptions Limitations errors | 1 Each |  |
| Not reviewed by mentor | 25% |  |
| Not presenting the required information | Case by Case |  |
| Page Numbers Style | 1 |  |
| Title Page | 1 |  |

Tables II and II provide details on the different sections of the assignment.

1. Feasibility Analysis, Risk Analysis and Globalization

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| --- |
| Feasibility Analysis |
| Opening, body, closing |
| Show and explain the different steps of the Feasibility Analysis including the tables for weighted scale and weight computation. |
| Use the information provided by the users on the survey and add a Marketing Feasibility item in your feasibility assessment table. |
|  |
| Risk Analysis |
| Opening, body, closing |
| Show and explain the different steps of the Risk Analysis |
| Write a concluding paragraph indicating your findings and how you will mitigate any risk by proactively determining the actions to take. |
|  |
| GLOBALIZATION |
| Opening, body, closing |
| Make sure to have a good opening paragraph. This should persuade the reader that your project will be successful. Similar to a sales argument. |
| Demonstrate Global Awareness about local, global, international, and intercultural issues that may affect a Successful Design. |
| Demonstrate that you are able to conduct a Global Perspective analysis leading to understand the needs of local, global, international, and intercultural markets. (your survey, your international contacts the diversity you find at FIU and internationally) |
| Demonstrate that you took actions towards Global Engagement by selecting international standards and fulfilling the needs of a diverse group of users of different cultures both nationally and internationally. |
| [Talk about the WTO (Standards Lecture and www.wto.org)](http://www.wto.org/) |
| Talk about the importance of eliminating the barriers to trade and how the correct selection of standards will allow your product to compete in the Global Market. |
| Explain how your team has used collaboration tools that allow the team members to collaborate even when they are travelling. |
| Establish contact with students and faculties from universities in other countries (at least two contacts) and find out about their perspective of your product in their countries, will it be accepted in their different cultures? Could it be successful? |

1. Sections XI, XVIII, XIX, XX, XXI, and XXII

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| --- |
| Standards Considerations |
| Opening, body, closing |
| Make sure that each standard you review has a Sub Section Heading and an entry in the Table of Contents. |
| You must end with a concluding paragraph that will list in bulleted style what standards you will comply with. |
| Select your standards carefully as the determination of the project success next semester will include an evaluation of your standards compliance. |
| Statement of compliance with standards |
|  |
| End Product Description and Other Deliverables |
| Opening, body, closing |
| Follow the guidelines indicated in the Concept-End Product lecture. |
| Indicate the functions and specifications for each block. These are input output specifications; they are not the need specifications. |
| Indicate your deliverables next semester |
|  |
| Plan of Action |
| Opening, body, closing |
| Follow the guidelines indicated in the SOW lecture. |
| Remember that what you need to do is to describe the tasks required to obtain your design and to assign to them the responsible team members and other resources. |
| Don’t forget to estimate the LAB space and Equipment cost |
| Use Openworkbench or similar software to prepare your Gantt Charts and PERT diagrams. You need to explain you conclusions about the obtained charts |
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| Multidisciplinary Aspects |
| The intention of this section is to demonstrate that you understand the importance of multidisciplinary teams and that your team is a multidisciplinary team. |
| Opening, body, closing |
| By means of a bulleted list, dedicate some space to indicate what makes each team member different from the others and how you complement each other. This section should be one page long. |
| Include in this section how you plan to manage leadership and what measures you plan to take in order to minimize the delay in activities caused by the break between semesters and the start of the next semester. |
| Personnel |
| Include half page resumes of the team member. Make sure that: |
| You include the multidisciplinary aspects you mentioned in the previous topic. |
| Avoid a common error which is that each student writes his/her resume in a different style and when they are put together in the proposal it gives the impression of a careless style. |
|  |
| Budget |
| Opening, body, closing |
| The Budget must come as a result from Openworkbench or the software you used and not as estimated obtained by intuition. |