Assignment: Final Design Report

Introduction
The last step in our Design Process is Finalizing, in which we present our entire project in its final form and discuss the impacts and future of the project. This report will require you to update and improve every one of the major assignments you have turned in throughout the semester.

The goal of this stage is to complete your improved wind turbine (Level 2). The Final Design Report will begin with the Research Paper and the Project Plan. It will include any improvements and updates you need for both of those and the Design Progress Report. It will also include some new sections (described below).

Resources
Before you begin, you must review these resources:
1. EGR 110 Finalizing – https://sites.up.edu/egr110/design/step4/
2. EGR 110 Communication – https://sites.up.edu/egr110/skills/communication/

What to Do
1. Prepare a Design Report discussing the progress to date of your wind turbine project
2. You will need the following parts in your report:
   a. Title Page
   b. Introduction
   c. Background Information
      i. Problem
      ii. Impact
      iii. Solution
   d. Problem Definition
      i. Design Considerations
      ii. Functions and Systems
      iii. Design Criteria
      iv. Resources and Planning
   e. Development
      i. Concepts and Iterations
      ii. Final Design for Level 1
      iii. Proposed Changes for Level 2
   f. Final Design
      i. Concepts, Iterations, and Final Design
      ii. Impacts
      iii. Future Plans
   g. Conclusion
   h. References
   i. Appendices

How to Do It
The report should be formatted with headings according to the sections listed. The report should be single-spaced typed in 12-point font with 1" margins. Headings should be left-justified and clearly identifiable. The total length of the report is shown below include page numbers on all pages except the title page.
- 8-page limit (maximum)
- 10-page limit (maximum)
  - The title page, tables, figures, the list of references, and appendices do not count against the limit.
The writing should be professional, complete, concise, and grammatically correct. The team is strongly encouraged to make an appointment with the Writing Center prior to submitting the report.

**Details on Some Parts**

Final Design: Concepts, Iterations, and Final Design – This section is new to this report. Your team should describe, in as much detail as possible, the concepts you have developed to bring your Level 2 Improvements to reality.

Final Design: Impacts – This section is new to this report. Refer to the big picture goals you established in your Background Research and Design Considerations section. How will Wind Energy have an impact? This is your last chance to emphasize the importance of your project. This would be a great place to mention the environmental and ethical impacts that you learned based on Lab 5.

Final Design: Future Plans – If you were to continue this project, what would you do? You can briefly (1-2 paragraphs) describe some ideas for continuous improvement of your wind turbine.

**Other Requirements:**

Figures & Tables – Each report should have a minimum of one figure and one table with appropriate captions.

Appendices
- Describe each team member’s contributions to the report and project
- Optional other appendices for supplementary information

**Evaluation**

Here are some questions to ask yourself before you submit your paper:
1. Am I using figures and tables to help my descriptions? Have I labeled any figures or tables with captions and called them out in the text?
2. Do I have page numbers?
3. Do I have headings and sub-headings for each section and sub-section?
4. Do I have an APA-style bibliography with APA-style in-text citations?
5. Are my sentences clear, concise, and concrete? Do they form paragraphs that cover one topic each? Do the sentences and paragraphs flow from one idea to the next?

Here is an example rubric that may be used to evaluate your paper:

<table>
<thead>
<tr>
<th>Writing</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spelling and Grammar</td>
<td>5 = excellent, complete, with no errors</td>
</tr>
<tr>
<td>Flow and Cohesiveness</td>
<td>4 = great, thorough, few errors</td>
</tr>
<tr>
<td>Depth and Focus</td>
<td>3 = adequate, detailed, some errors</td>
</tr>
<tr>
<td>Sources and Citations</td>
<td>2 = mediocre, vague, many errors</td>
</tr>
<tr>
<td>Formatting</td>
<td>1 = unacceptable, incomplete, blatant errors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content Descriptions</th>
<th></th>
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<tbody>
<tr>
<td>Background Research</td>
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<tr>
<td>Problem Definition</td>
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<td>Development</td>
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<td>Appendices</td>
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