Hovercraft Design Team

Engineering Report: {put topic here}

Your Name

Date

course #

Dr. XXXX

Armstrong Atlantic State University
SUMMARY

An engineering report must describe a design and an evaluation of it. The design may be a detail design or a conceptual design. The evaluation may involve CAE analysis, paper calculations, or testing. The evaluation may be of the performance of the design, of its structural soundness, of its motion, of its feasibility, etc. The report could also compare two or more different designs. The report must support some conclusions or decisions that were made.

You should begin your report by summarizing it. The summary should have 1-2 sentences, “This report discusses...” and then 1-2 sentences about which design(s) you are analyzing, 1-2 sentences about the situation or boundary conditions of the analysis, 1-2 sentences about how the analysis was performed, and 1-2 sentences giving your conclusion(s).

INTRODUCTION

The introduction of your report goes here. The introduction should be 1 paragraph starting with “The analysis described in this report was performed in order to...” The introduction should then have another paragraph, giving background/history to support why you are doing the analysis.

Make sure to mention any previous reports if they are relevant. Also mention useful references such as manuals, textbooks, articles, and web pages. These MUST be referenced using a superscript number and listed in the References section. Sometimes there is more than one reference.

DESIGN DESCRIPTION

This should be 1-2 paragraphs explaining the design that will be analyzed. Include relevant drawings/figures. All relevant dimensions, materials, and part names/numbers must be indicated. All drawings should be clear, neat, and understandable. Use engineering paper for conceptual designs. When showing figures, you must refer to them in the text and give a proper caption. (See Figure 1.) It is ABSOLUTELY REQUIRED that you reference any figures you include that are not ones you created.
Figure 1. This is the way to do a caption.¹

ANALYSIS DESCRIPTION

This section explains how the analysis/experiment is set up and performed. The design must be shown within the test setup or with all boundary conditions (loads and restraints). All assumptions must be stated, all calculations must be typed or on engineering paper. Also, if you are analyzing test results, you should show the design of the test set-up and a photograph of the test procedure.

ANALYSIS RESULTS

The presentation and discussion of the results should be separate from the analysis description. Data should be presented in tables or figures. (See Table 1.) If CAD outputs are included, they must clearly indicate which property is being shown and what are the maximum and minimum values. All units must be specified throughout the entire report. Any problems, limitations, or recommended future changes should also be discussed in this section.

Table 1. Results of … Analysis or Testing

<table>
<thead>
<tr>
<th>Setup</th>
<th>Results X (mm)</th>
<th>Results Y (mm)</th>
<th>Results Z (mm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial run</td>
<td>…</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSIONS

1-2 sentences. “The analysis shows that…”

REFERENCES