
Title of the Report

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Submitted as a final report for the course Course Name (ME XXX)

April 8, 2015

Abstract. This is an abstract, which should be a succinct, clear description of the main results of the report. Don't hold anything back here; give it all away. But make it short.

1 Introduction

See the L^AT_EX tutorial below in [Appendix B](#). You should delete [Appendix B](#) and the following filler text when using the template.

Here's [Michael Jordan](#).

Oh, and he's here too: [Michael Jordan](#).

The suggested structure of the document is given. In some sections I suggest content. This and all filler text should obviously be deleted at some point.

2 Design Concept

2.1 Problem Statement

Answer questions like "what is the problem you are solving with this design?"

2.2 Description of the Design Concept

2.2.1 Features

2.2.2 Requirements

2.2.3 Concept Drawings

2.3 Description of How the Design Will Solve the Problem

Answer questions like "how will your design solve the problem?"

3 Analysis

This section should include analysis of critical components in the design. The analysis complements the design, and so there is really no linear path through the analysis and design process. However, this section should be focused on the analytical side.

3.1 Critical Locations in the Device

Identify and describe the critical locations in the device.

3.2 Load Analysis

It is often useful to do the load analysis for each member when considering the device as a whole. For stress analysis, it makes sense to isolate each device.

In the subsections that follow, analyze each member of the device

3.3 Member

4 Design

This section should present the final design. Describe in detail how the device meets the design requirements from above. It should also have all the features, as well. Here's a bunch of filler text.

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References

K. Ciesielski. *Set Theory for the Working Mathematician*. London Mathematical Society Student Texts. Cambridge University Press, 1997. ISBN 9780521594653.

Derek Rowell and David N. Wormley. *System Dynamics: An Introduction*. Prentice Hall, 1997.

A Drawings

Detailed drawings of each part and assembly.

B \LaTeX Tutorial

B.1 Citing a Source

I'm going to teach you how to use \LaTeX a little bit. Like how to cite a source, insert a graphic, and build tables. Follow along in the `report.tex` file.

Let's cite a source. The source must be already saved as a BibTeX file (`.bib`) in the same directory as the `.tex` document. I have already created a sample `report.bib` file. (If you want to add and remove sources to this file, you may use a reference manager like BibDesk on a Mac or JabRef on a PC.)

The next step is to cite the source, inline (Rowell and Wormley, 1997). And I can easily cite another reference (Ciesielski, 1997).

B.2 Equations

$$x = 1 \tag{1}$$

$$\int_0^t x_{22} \sin x dx = \begin{bmatrix} 1 & 0 & 8 \\ 0 & x^7 & \\ 7 & & \end{bmatrix} \tag{2}$$

$$x = \alpha \left(\left(\frac{2}{3} \right) + \frac{5}{6} \right) \tag{3}$$

$\frac{\partial x}{\partial y}$ and this works too

$$\begin{aligned} x &= 2y & (\text{where } x > 2) \\ y &= 4x + 8 \end{aligned}$$

Later, you could refer to the equation [Equation 2](#). Or you could do it multiple times: [Equation 2](#).

B.3 Figures

It is easy enough to add a figure. In the subdirectory `figures`, I placed a file `data.pdf`. If we want to include it in the document, we use the following commands.

We can easily reference the figure with its label, like [Figure 1](#).

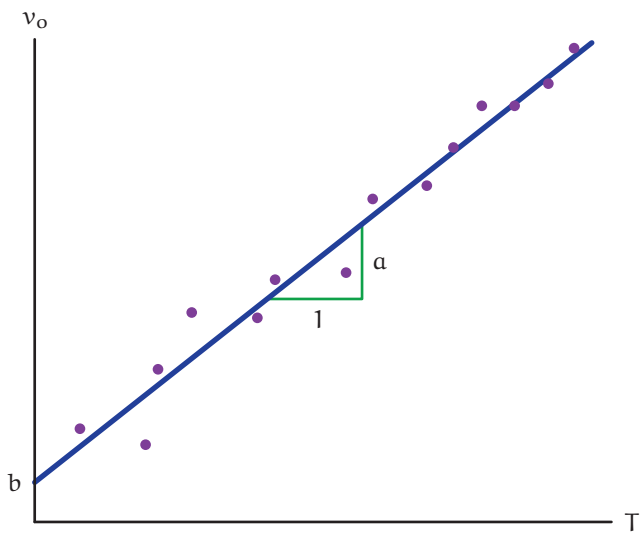


Figure 1: here’s a caption.

1	2	3
4	5	6
7	8	9

Table 1: a table caption.

B.4 Tables

Tables can be a pain in *L^AT_EX*. Here’s a simple table.

Notice (as in [Table 1](#)) that these things don’t go where they’re entered. Most of the time it’s preferable to have a figure or table “float” such that it is at the top or bottom of a column.