An example of a thesis or dissertation

by

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A Dissertation Submitted in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the Department of Mad Science

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ABSTRACT

This document provides a template to help you write your thesis or dissertation at UVic. The most important part is the `uvicthesis` class, which does much of the work necessary to make your thesis conform to UVic's formatting requirements (as of 2012). As an added bonus, we've filled this template thesis with possibly useful advice, examples, and information about writing a thesis or dissertation.

Contents

List of Tables

List of Figures

ACKNOWLEDGEMENTS

I would like to thank:

the anonymous graduate advisor who made the original version of this template.

Donald Knuth, Leslie Lamport, and everybody else involved in the development of TEX and LATEX. Without them, our documents would all look a lot less pretty.

the members of Bread Club, for always being there with a baguette and crumby puns.

my parents, for supporting me through thick and thin.

my supervisors, Dr. Emmett Brown and Dr. Cuthbert Calculus, for their encouragement, patience, and advice.

the Evil League of Evil, for funding me and my graduate research with a Victor Frankenstein Graduate Scholarship.

DEDICATION

This thesis is dedicated to you, dear reader,
As you are dedicated to your thesis.

Chapter 1

Introduction

You're a graduate student preparing to write your thesis or dissertation. Where should you start? The goal of this document—along with its source and associated files—is to be a reasonable answer to that question.

To begin, download the source file `template.tex` and the class file `uvicthesis.cls`, making sure to put them in the same folder. The `uvicthesis` class does most of the work of making your thesis conform to UVic's style requirements (although you should always double-check, as the requirements may have changed since the class was written in 2012).

I assume you have some LaTeX implementation already installed on your machine. If you don't, install TeX Live (`http://www.tug.org/texlive/`) or your favourite TeX distribution.

If you're ready to start writing, open up `template.tex` in your LaTeX editor of choice, delete this content, and start writing!

Chapter 2

Getting started with LaTeX

2.1 Need an editor?

The cross-platform editor TeXworks is a good place to start playing around with LaTeX—and you may already have it, depending on your TeX distribution. However, there are plenty of other options to choose from. Here are just a few:

Editor	Platform	Website
TeXworks	cross-platform	`tug.org/texworks/`
TeXstudio	cross-platform	`texstudio.sourceforge.net`
LyX	cross-platform	`lyx.org`
TeXShop	Mac OS X	(part of MacTeX distribution)
TeXnicCenter	Windows	`texniccenter.org`
Kile	KDE	`kile.sourceforge.net`

Table 2.1: List of LaTeX editors

Since `.tex` is a plaintext format, you can also edit LaTeX documents with any text editor (it may just require a bit more effort to compile your source to a PDF). Several popular text editors offer extensions to make compilation easier, as well as enabling features like syntax highlighting and code folding. Table 2.2 lists some of these.

Editor	Platform	LaTeX extension	Website
emacs	cross-platform	AUCTeX	`gnu.org/software/emacs/`
vim	cross-platform	LaTeX-Suite	`vim.org`
Notepad++	Windows	(manual setup)	`notepad-plus-plus.org`
Eclipse	cross-platform	TeXlipse	`eclipse.org`

Table 2.2: List of other programs which can be used to edit LaTeX

2.2 Need help with LaTeX?

If you've never used LaTeX before, there are tons of places online for you to get help. The Wikibook on LaTeX (`http://en.wikibooks.org/wiki/LaTeX`) is an excellent resource for the beginner.

Even experts need help with LaTeX sometimes. If you're getting a weird error or can't figure out how to print some tricky document structure, you can submit a question to the TeX StackExchange site (`http://tex.stackexchange.com`) and get good answers from volunteer TeXperts—in many cases, the same people who wrote the package you're asking about.

For those who want to drop some money on a physical book, you can't go wrong with The LaTeX Companion [1].

Finally, it's worth noting that most LaTeX packages are really well documented. The Comprehensive TeX Archive Network (`http://www.ctan.org`) has information on thousands of packages; if you are using a recent TeX Live distributions, you can also use the `texdoc` command line tool to bring up the manual for any package you have installed.

2.3 Some essential packages

Here are some packages which may be useful to use in your thesis.

2.3.1 `amsmath`, `amsmath`, `amsthm`

These are general packages that a lot of people call in every LaTeX document they make. The first two give access to some essential macros, including `\mathbb` for blackboard bold letters (like $\mathbb{R}$ and $\mathbb{Z}$) and the `align` environment for things like this:

$$\begin{aligned} 1+2+\cdots+n+(n+1) &= (1+2+\cdots+n)+(n+1) \\ &= \frac{n(n+1)}{2}+n+1 \\ &= \frac{n(n+1)+2(n+1)}{2} \\ &= \frac{(n+1)(n+2)}{2} \end{aligned}$$

The `amsthm` package gives you a few more options for making theorem-like environments, and provides a prewrapped `proof` environment.

2.3.2 `graphicx`, `tikz`

These packages are for including graphics in your document. With `graphicx` you can include an image file in your thesis using something like

```
\includegraphics[scale=0.5]{kitten.png}
```

The TikZ package is a more complicated way of producing figures from a LaTeX source. For example, the graph below was produced with just a few lines of code. If you are a graph theorist, there is even a tool—TikZiT (`http://tikzit.sourceforge.net`)—for you to easily generate the TikZ code to make excellent figures for your thesis.

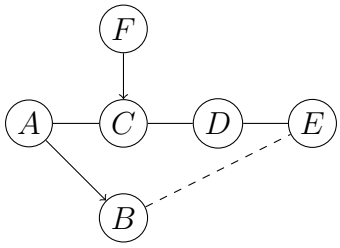

Figure 2.1: A graph drawn in TikZ

2.3.3 `booktabs`, `longtable`, `tabu`

These three packages together make it easy to make beautiful tables. The most important part of `booktabs`—apart from the documentation, which contains an extended rant (worth reading) about good table presentation—are the `\toprule`, `\midrule`, and `\bottomrule` macros. These are to be used instead of `\hrule` to improve the spacing around horizontal rules in tables.

The `longtable` package allows you to make tables which span more than one page.

Finally, the `tabu` package does a better job of easily making tables than the `tabular` environment given by LaTeX. The column attributes of the `tabu` environment can be of the form `X[coeff,align,type]`; the resulting table will stretch to fill up the text width so that the column widths are in the ratio given by the values of `coeff`. Adding $ or $$ makes the column default to math mode.

Chapter 3

Organizing your thesis

Although this template is all in one file, it may be a good idea to separate your thesis into several files. You can do this by "including" each separate chapter file:

```
\include{chapters/tissue_acquisition}
\include{chapters/incubation_chamber_setup}
\include{chapters/lightning_storm_induction}
\include{chapters/damage_mitigation}
```

How you structure your writing may be different depending on your discipline—possibly even on your subfield. Fortunately, UVic publishes all theses and dissertations written by its grad students. Reading other dissertations can help you get an idea for what to do.

Appendix A

Other data

An appendix is a good place to put the source code for any tools you developed for your research. A popular package to use for this is `listings`. I haven't personally used it, but it might be worth looking into.

Bibliography

[1] Frank Mittelbach and Michel Goossens. *The LaTeX Compation.* Addison-Wesley, 2004.