

# A Quick Guide for Modifying your Thesis or Dissertaion in L<sup>A</sup>T<sub>E</sub>X

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## 1 Installing L<sup>A</sup>T<sub>E</sub>X

The list of programs for creating tex files is by no means exhaustive, and only lists the more popular ones. The items below are links to the homepages of each program.

- Windows
  1. MiKTeX
- Mac
  1. MacTeX
- Cross-platform
  1. TeXLive

**Ubuntu** To install L<sup>A</sup>T<sub>E</sub>X on Ubuntu you have to get it from a repository. To do this, open a Terminal, and type the commands below to install the minimum number of libraries. Note that you may be prompted for your password.

```
sudo apt-get install texlive-latex-base texlive-latex-base-doc texlive-base
```

To install everything possible L<sup>A</sup>T<sub>E</sub>X related, please type the command below.

```
sudo apt-get install texlive-*
```

**Note** If you have a Linux or Unix distro other than Ubuntu, the installation instructions will likely be similar, but not identical, to the Ubuntu instructions. Please consult Google for L<sup>A</sup>T<sub>E</sub>X installations for your distro or use one of the cross-platform utilities.

## 2 Modifying Files

### 2.1 Obtaining a Template

Washington University in St. Louis provides a template for a Master's Thesis or a Ph.D. Dissertation that is available through Engineering Student Services. The remainder of this guide assumes that you have downloaded the zip file of the template.

The first step is to extract the contents of the zip file into a directory on your computer. Please make sure that all of the tex and cls files are in the same folder, otherwise the remaining instructions will not work.

**Thesis or Dissertation?** The template is written for a Master's Thesis. If you are doing a Ph.D or D.Sc., please change the first line in thesis-main.tex to one of the following:

```
\documentclass[phdthesis,12pt]{wuthesis}  
\documentclass[dsctheis,12pt]{wuthesis}
```

## 2.2 Special Sections and Personal Information

Your thesis contains several unique sections that need to be treated differently, such as the abstract or copyright page. Each of these is handled in a different tex file. Some information, such as authors, need to be defined in a particular file. Below is a list of what section and information can be found in which file:

- thesis-front
  - Acknowledgements page
  - Dedication page
  - Copyright page
  - Abstract
  - Table of Contents
  - List of Figures
  - List of Tables
  - Preface
- thesis-back
  - Generates your vita
  - Short title page
- vita
  - Date of birth
  - Place of birth
  - List of degrees
  - Professional Societies
  - List of Publications
- thesis-main
  - Author Name
  - Examination Committee Members
  - Title
  - Short Title
  - Supervisor Name
  - Department
  - Field
  - Month and Year
  - Dedication

## 2.3 Changing Content

Each portion of the thesis is written in its own tex file. Please open the appropriate tex file, and add, modify, or delete content as necessary. For example, to add text to Chapter 2, open thesis-chapter2.tex and add the appropriate text. Please note that you are modifying L<sup>A</sup>T<sub>E</sub>X source code, therefore be mindful of formatting tags. Since this how-to does not detail the full functionality of every tag you may encounter, please refer to any of the guides listed in section 4 if you have questions about tags.

**Adding Sections** You will likely need to add a new chapter or appendix to your thesis. To do this, create a new tex file and name it thesis-[new-chapter-name].tex. (It is assumed that you will replace the [new-chapter-name] with the name of the new chapter) You then need to include this new file in thesis-main.tex. Note that L<sup>A</sup>T<sub>E</sub>X includes files in order that they appear.

For example, if you want to add a fourth chapter, you would create a “thesis-chapter4.tex” in the same folder. Then, in thesis-main.tex you would include chapter 4 after including chapter 3:

```
\include{thesis-chapter3}  
\include{thesis-chapter4}
```

## 3 Creating PDFs

Creating PDFs from tex files requires that you send through the L<sup>A</sup>T<sub>E</sub>X conversion process. Different utilities call this something different, but the procedure is usually the same. Most L<sup>A</sup>T<sub>E</sub>X editors have a button somewhere the will be the build, typeset, or convert button. In MacTex, for example, the button is in the upper left of your window and looks like a big green play button.

**GUI Build** To build the complete PDF, save all of the files that you modified, open thesis-main.tex, and hit the build button. If you did not introduce any errors, then after a moment this should generate thesis-main.pdf in the same folder as thesis-main.tex, and display a preview of the PDF. Please note that the build process has to be started from thesis-main.tex as it is the only file containing the proper tags for creating a document.

**Command Line Build** If you are using Ubuntu (or some other Linux/Unix distro) and are compiling via command line, note that a Makefile has been included for your convenience. Please type “make” or “make all” on the command line to generate the PDF.

**Note on References** Occasionally L<sup>A</sup>T<sub>E</sub>X needs to do a few passes over your document to resolve references, especially if you are using BibTeX for your bibliography. If you notice that your references are not resolving correctly, you may need to rerun the generation process multiple times until everything is resolved.

## 4 Additional Resources

There are a lot of great guides online on how to use L<sup>A</sup>T<sub>E</sub>X. Below is a list of links to the more popular ones:

- L<sup>A</sup>T<sub>E</sub>X Wikibook
- L<sup>A</sup>T<sub>E</sub>X Project
- T<sub>E</sub>X User Group website
- University of Cambridge L<sup>A</sup>T<sub>E</sub>X tutorial
- L<sup>A</sup>T<sub>E</sub>X Primer by David R. Wilkins, Trinity College
- BibTeX