

Department of Mathematical Sciences
University of Montana
Instructions for Using L^AT_EX Dissertation/Thesis Template

1 Obtaining and Using the Template Files

1.1 Obtaining the Files

The template, `umt_thesis_template.zip`, may be downloaded from the mathematics department web page (see the graduate handbook for the current web address).

1.2 L^AT_EX

The remainder of these instructions assume a basic knowledge of L^AT_EX and BibTeX. If you do not have at least that, then you should first learn how to use these programs. Many examples and general instructions can be found online.

2 Files Included

The following files are included in the template:

- `REAMDE.pdf`
 - This file; it's just instructions for using the other files.
- `dissertation.pdf`
 - This is the example dissertation/thesis pdf file with no information in it. Look at this before making any changes to the L^AT_EX files. You should be able to compile `dissertation.tex` out of the box and reproduce `dissertation.pdf` exactly. (Of course to get the Bibliography page at the end you have run BibTeX.)
- `dissertation.tex`
 - This is the primary L^AT_EX file. Note that this is the only file that is ever compiled, and it must be compiled with PDFLaTeX rather than the traditional L^AT_EX. This file must be

edited mildly...you will have to add “include” lines for your chapters and delete the list of figures and list of tables if you do not have figures or tables. More generally, this file contains a few instructions in the file in the form of comments (L^AT_EX comments are any line beginning with the % character). Please read the instructions there as they are not very long and can answer many questions right away.

- **dissertation.bib**

- This is the BibTeX database for your references. Put all references in this file. If you are not familiar with BibTeX, there are many references online.

- **header.tex**

- This file holds the main header information, including packages used and spacing. **THIS FILE SHOULD NOT BE ALTERED!**¹

- **my_header.tex**

- This is a header file where you may put your include packages and user-defined L^AT_EX commands/macros.

- **titlepage.tex**

- This file is just the title page. Note that the format of the title page is determined by the graduate school. You should only make the obvious changes to this file.

- **abstract.tex**

- This file is the abstract page. You are required to have an abstract page, and the format is determined by the graduate school. The only changes here should be in content and not in format.

- **acknowledgements.tex**

- The acknowledgements page. This you can do however you would like, but it should not be single spaced (whereas the abstract page **MUST** be). Do not include this file in **dissertation.tex** if you do not want an acknowledgements page.

- **notations.tex**

- Notations page, do not include this file in **dissertation.tex** if you do not want a notations page.

¹The only time that this file should be altered is if you require a package that conflicts with one of the packages included here. That should basically never happen, but it is theoretically possible.

- `chapter1.tex`

- This is the file that contains the first chapter. This is the only file whose name I recommend you change. Give your chapters meaningful names, then you can change the order at will without screwing stuff up. Note that all additional chapters should be in files just like this one and be included in the appropriate order in `disertation.tex`.

3 Miscellaneous Notes

3.1 PDFLaTeX

There is a reason that this should be compiled with PDFLaTeX rather than regular L^AT_EX. The problem is that *dvipdf* doesn't do a very good job of translating the dvi file created by L^AT_EX to a pdf. This can screw up the margins. Normally one wouldn't notice this, but, when the margins have to be so precise, it is noticeable. If a L^AT_EX file is compiled with PDFLaTeX and the geometry package (which is already in the header file), the margins come out much more exactly.

3.2 Images

Since this template should be compiled with PDFLaTeX, all figures must in jpg or png format. They may also be in pdf format, but I strongly recommend against that. If you want high-quality images, use png, as jpg will degrade the quality of your images. Rather than using the command *epsfig* for including images, you should use the command *includegraphics* (the correct packages for using this command are already included in *header.tex*).

3.3 Bibliography

Of course you must include a bibliography in any dissertation/thesis. I strongly recommend using BibTeX and keeping all of your references in `disertation.bib` (rather than including them at the bottom of the document as bibitems). This will make your references much cleaner. Also you can use whatever bibliography format you would like; the graduate school says to use whatever is appropriate for your discipline. I would recommend using either *plain* or *alpha*. For more information on BibTeX, see

<http://www-sigproc.eng.cam.ac.uk/oldsite/publications/publications-howto.html>
or just google "BibTeX."

3.4 Margins

If you measure with a ruler, you will note that the margins are not *exactly* what the graduate school requires. Instead they are little larger (i.e. the text fits into a slightly smaller region). The graduate

school is ok with this, and it is not worth the time and energy to make it exact. This also gives you a little bit of leeway to run over on the sides (a *very little* bit). Keep in mind that all images and equations must fit inside the prescribed margins. In order to check this, compile the document with *draft* as a parameter to the documentclass (i.e. uncomment the word *draft* immediately after 11pt at the top of the document). Any place you run over the margin, the document will show a black rectangle when compiled in draft mode. If you have no rectangles, then you are good to go.

3.5 Font and Spacing

The graduate school says that you must use a *readable* font, then they recommend 10 or 12 point. Well, 10 point is a little small and 12 is a little large. The reason they say 10 or 12 is that Microsoft Word does not deal well with 11 point fonts. L^AT_EX, however, does very well with it, and it is the most readable and reasonable size to use. You may adjust this at your leisure, but I recommend sticking with 11 pt. On a related note, the graduate school does not regulate spacing on the main text of the dissertation; they just say that it must be readable. Thus either double or 1.5 spacing is the best. There is a place to adjust this in the file `dissertation.tex`.

3.6 L^AT_EX References

If you have questions about L^AT_EX, the best place to look is online. Almost any question that you come up with is already answered on the web, so search there first. If the question is *really* technical, then look in Knuth's book (or any other very large reference book). BibTeX and its formats can also be learned on the web.