Documentation for the Thesis and Dissertation LaTeX Template

Tammy Stitz*, Trevor Watkins†, and Sally Evans‡

1   Introduction

In 2008, this template was originally created by two graduate students in the Electrical and Computer Engineering Department and it is based on Standford's template with modifications.

There have been many changes since that time. The template will produce a properly formatted thesis or dissertation in most cases; however, there are always issues related to specific theses and dissertations that might need additional LaTeX markup.

The authority on how to format your thesis or disseration can be found on the Resources webpage on the University Dissertation and Thesis Services (UDTS) website.

Visit the Resources page on the UDTS website.

The first file that you will edit is

- GMU-Diss_template.tex for dissertations
- GMU-MS_template.tex for theses

2   Configuring the Main Template File

This template uses the report class. Please don't change anything that will change the formatting, such as margins, page numbers, and section text color. It is best not to change the font size because other parameters depend on it.

---

*Engineering Librarian
†Teaching and Outreach Librarian
‡Coordinator, University Libraries Dissertation and Thesis Services

Report class and the package, gmuETD, provides the style needed for your dissertation or thesis.

There are two optional arguments that you can use with gmuETD:

1. references

2. nosecnum

If you prefer to have the label References instead of Bibliography, use the optional argument, references. The default for numbering is chapters, sections, and subsections. If you want to have no numbers, use the optional argument, nosecnum.

Be sure to clear all of your auxiliary files before running pdflatex.

2.1 Packages

Packages are used in the template files. As of 2025, the following packages are listed in the template:

Package	Description
graphicx	imported graphics
amsmath	mathematics
amsfonts	mathematics
amssymb	mathematics
amsthm	mathematics
ulem	underling
setspace	line spacing
array	List of Abbreviations
longtable	List of Abbreviations
	List of Equations

You can add other packages. If you receive an error, the new package might conflict with one of the other packages.

2.2 Preliminary Pages

The preliminary pages that are required are the signature sheet, title page, table of contents, and the abstract. A list of tables will appear automatically when the table environment is used in the document. A list of figures will appear when the figure environment is used as well. Some departments use a list of abbreviations or a list of equations. Those will be discussed later.

The preliminary pages that are optional include the dedication and acknowledgments pages. Officially, the copyright page is optional, but it is easier to leave it in the template. Appendices are not required, but you can have appendices if you need them.

The preliminary pages are formatted for you and there is little that you can change and still have the proper format.

2.2.1 Entering the Title

The title of your thesis or dissertation appears on the signature, title, and abstract pages. There are two commands that must be used because the title is two lines on the signature page and one line on the title and abstract page.

When entering the title, be sure to capitalize important words in the title. Some of the titles will appear in all capital letters, but the package will do that for you. The commands are as follows:

\title{This is a title\\that is two lines}
\onelinetitle{This is the same title on one line}

The \\ in the title command forces the title on two lines. As an example, I will enter information about a thesis that was not from George Mason University. It is just to illustrate how it would look as a George Mason University thesis.

Entering the title using the two commands as

\title{Convergence of the Singular Value Based\\Model Order Reduction Algorithm}

3

onelinetitle{Convergence of the Singular Value Based Model Order Reduction Algorithm}

will result in the following output.

The signature page title would be

> CONVERGENCE OF THE SINGULAR VALUE BASED
> MODEL ORDER REDUCTION ALGORITHM

The title page title would be

> Convergence of the Singular Value Based Model Order Reduction
> Algorithm

The abstract page title would be

> CONVERGENCE OF THE SINGULAR VALUE BASED MODEL
> ORDER REDUCTION ALGORITHM

2.2.2 Author and Related Commands

Enter your name using the author command. The credential and doctype can be corrected if they are not correct. Specify your degree using the degree command. The command doctype appears on the signature, title, and abstract pages. The credential appears after the author's name on the abstract page. If the command for credential is commented out, no credential will appear. By entering

> **author**{Tammy A. Stitz}
> **degree**{Masters of Science}
> **credential**{MS}
> **doctype**{Thesis}

the output on the signature page would be

CONVERGENCE OF THE SINGULAR VALUE BASED
MODEL ORDER REDUCTION ALGORITHM

by

Tammy A. Stitz
A Thesis
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Master of Science

The output on the title page would be

Convergence of the Singular Value Based Model Order Reduction
Algorithm

A Thesis in partial fulfillment of the requirements for the degree of
Master of Science at George Mason University

by

Tammy A. Stitz

The output on the abstract page would be

Abstract

CONVERGENCE OF THE SINGULAR VALUE BASED MODEL
ORDER REDUCTION ALGORITHM

Tammy A. Stitz, MS

2.2.3 Advisor Department vs. Discipline

Sometimes students get confused about the difference between the advisor's department and the discipline.

The advisor's department will appear on the title page using the command, **\deptadvisor**{} and the discipline will appear on the signature page using the command, **\discipline**{}.

If you have a co-advisor, uncomment the code in the main template file to enter their department.

I will continue with the same example.

If the discipline is Electrical Engineering, the output on the signature page would be

CONVERGENCE OF THE SINGULAR VALUE BASED
MODEL ORDER REDUCTION ALGORITHM

by

Tammy A. Stitz
A Thesis
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Master of Science
Electrical Engineering

I will show an example using **\deptadvisor**{Department of Electrical Engineering} in the next section.

2.2.4 Other Degrees, Graduation Year, and Graduation semester

The other degrees that you have earned will appear on the title page. If you are doing a dissertation, You have an option to list three previous degrees. If you fill out the commands for all three degrees, the order is

1. third degree,

2. second degree, then

3. first degree.

For a thesis, only the first degree commands are present, but you could list a second and third degree if needed by adding the markup code. Example text for the commands are listed below.

> **\firstdeg**{Bachelor of Science}
> **\firstdegschool**{The University of Akron}

\firstdegyear{1995}

\seconddeg{Masters of Science}

\seconddegschool{The University of Akron}

\seconddegyear{2003}

\thirddeg{Masters of Library and Information Science}

\thirddegschool{Kent State University}

\thirddegyear{2005}

The commands for the graduate year and semester are straight forward:

\degreeyear{Year} and

\degreesemester{X Semester}, where you change X to Fall, Spring, or Summer.

To finish the title page with the example, I would enter

\firstdeg{Bachelor of Science}

\firstdegschool{The University of Akron}

\firstdegyear{1995}

\degreeyear{2003}

\degreesemester{Fall Semester}

I will talk about

\advisorname{Dr. J. Alexis De Abreu–Garcia}

when I talk about the signature page.

The output for the title page becomes:

Convergence of the Singular Value Based Model Order Reduction Algorithm

A Thesis in partial fulfillment of the requirements for the degree of Master of Science at George Mason University

by

Tammy A. Stitz
Bachelor of Science
University of Akron, 1995

Director: Dr. J. Alexis De Abreu-Garcia
Department of Electrical Engineering

Fall Semester 2003
George Mason University
Fairfax, VA

2.2.5 People on the Signature Page

The signature page varies much among departments regarding who is on this page and how the entry is written. Due to this fact, there are many commands that you can use to get the correct look for your department.

7

Sometimes the text next to the line needs to be more than one line. Use the command, \addsigline instead of \\ to get the correct spacing.

Here is the order that commands appear on the signature page.

- advisor
- co-advisor (if exists)
- firstmember
- secondmember
- thirdmember (if exists)
- fourthmember (if exists)
- fifthmember (if exists)
- sixthmember (if exists)
- nexttolast
- lastsignature

It doesn't matter what the name of the command is. You can use these in any way that you need. There are examples of signature pages in Microsoft Word on the UDTS website. Continuing with our example, I would enter the commands

\advisorname{Dr. J. Alexis De Abreu–Garcia}

\firstmember{Dr. Robert Veillette, Committee Member}

\secondmember{Dr. Tom Hartly, Committee Member}

\nexttolast{Dr. J. Alexis De Abreu–Garcia, Department Head}

\lastsignature{Dr. George Haritos, Dean}

Sometimes the title page will spill onto the next page. You can configure some space to make it appear on one page again. These commands are listed and the default values are shown.

\renewcommand{\intercommspace}{0.20in}

\renewcommand{\topTitleSkip}{0.5892in}

\renewcommand{\midTitleSkip}{0.5in}

\renewcommand{\lblTitleSkip}{16pt}

The intercommspace command is the space between the signature lines. The vertical space before the text is controlled by the topTitleSkip command.

The vertical space before the label, Committee, is controlled by the midTitleSkip command and the vertical space after the label, Committee, is lblTitleSkip command.

2.2.6   Optional Pages

As stated earlier, the dedication and acknowledgment pages are optional. If you don't want to use them, just comment out \dedicationpage and \acknowledgementspage, respectively. Be sure to delete or comment out the accompanying text (e.g., I would like to thank ...)

Appendix

If you do not have appendices, comment out the appendix commands. There are three commands.

appendix
appendixeqnumbering
include{Appendix}

Table of Abbreviations

If you need a Table of Abbreviations, uncomment the abbrevpage command and the longtable environment. Add a row for each abbreviation. The command, **abbrevpage** sets the title of the list. The command **symbLine**{full name}{abbreviation} has two arguments: full name and abbreviation or symbol. Each line will have this command and \\ after the command (when it isn't the last row). An example is as follows.

abbrevpage{List of Abbreviations and Symbols}
begin{longtable}{p{**textwidth**}}
symbLine{volts}{V}\\
symbLine{millamps}{mA}\\
symbLine{ohms}{$**Omega**$}
end{longtable}

The output of the table will look similar to the following.

List of Abbreviations and Symbols

volts V

milliamps . . . . mA

ohms . . . . Ω

List of Equations

If you need a Table of Equations, uncomment the listofequations command and the longtable environment. The equation must be numbered to use this table. Add a row for each equation.

The command **eqDesc**{label of equation}{Description of the Equation} has two arguments. For the label of the equation, you will enter the label as you would enter it using the ref command (e.g., **ref**{eqlam}). In the second argument, you enter a description of the equation. It will appear exactly as you enter it.

The command will generate the equation number and page number for you. Each line will have the eqDesc command and \\ after it (when it isn't the last row). An example is as follows.

\listofequations

begin{longtable}{>{**raggedleft**\arraybackslash}p{0.6in}p{5.2in}}

Equation&**hfill** Page\\

eqDesc{eqlam}{Description of Equation}\\

end{longtable}

The output of the table will look similar to the following.

List of Equations

Equation		Page
1.1	Pythagorean theorem	10

2.2.7 Abstract

The text of the abstract is entered in the main template document. Enter the abstract after \abstractpage. There is a placeholder, 'Enter abstract text.'

2.2.8 Chapters

The chapters are separate files. By default, there is chapterOne.tex, chapterTwo.tex, chapterThree, chapterFour, chapterFive, and chapterSix. Include the files needed using the include command (e.g., **include**{chapterOne}). Delete or add include commands as needed.

2.2.9 Bibliography

BibTEX is used by default. The bibliography is created by using the **bibliographystyle**{} and **bibliography**{gmuETD} commands. For example, you could use IEEE Citation style by using

> **bibliographystyle**{ieeetran}
> **bibliography**{gmuETD}

Chapter Bibliographies

If you are writing your document and need your reference lists at the end of each chapter, use chapterbib, multibib, or biblatex. To use biblatex, please refer to biblatex on the Comprehensive TeX Archive Network (CTAN). There is code you can uncomment in the main template file for chapterbib or multibib. If you want a bibliography at the end as well as chapter bibliographies, use multibib. More details are discussed in Section 3.

2.2.10 Biography

The biography appears last and it is entered into the main template file. Your biography discusses your background, education, and professional experience.

3   Chapter files

The first line in the chapter file should be **chapter**[title]{title}. The optional argument is the title as it will appear in the table of contents. The required argument is how the title will appear on the first line of the chapter. These should be the same.

The rest of the chapter is written after this line. No need for the document environment. No need to add packages. When it is included in the main template file, it uses the definitions and packages in the preamble of that document.

3.1 Chapterbib for Chapter Bibliographies

When using chapterbib, you will use the citation commands you would normally use. Also, you must add a bibliographystyle and bibliography command at the end of each chapter. There is code that you can uncomment.

3.1.1 Running Chapterbib

When using chapterbib, you generate a PDF a little differently. Be sure to **not** run bibtex on the main template file or it won't work.

    pdflatex GMU–DISS_template

    bibtex chapterOne

    bibtex chapterTwo

    bibtex chapterThree

    bibtex chapterFour

    bibtex chapterFive

    bibtex chapterSix

    pdflatex GMU–DISS_template

    pdflatex GMU–DISS_template

There are batch files for Windows if you want to use them to generate a PDF this way. Remember, you cannot have an end of document bibliography when you use chapterbib.

3.2 Multibib for Chapter Bibliographies

When using multibib for chapter references, you must use chap*Number* at the end of the citation commands that you use.

Let's say you are using natbib to configure your citations. You would use **citepchapOne**{} for a reference in parenthesis in chapterOne.tex. Also, you might need to add commands to **@mb@citenamelist**. By default, the cite, citep, citet, citealp, and citealt commands can be used.

For example, I want to use the natbib command citeyear, but it is not part of **@mb@citenamelist**. I could add it by using renewcommand in the preamble of the main template document.

> **makeatletter**
> **renewcommand**{**@mb@citenamelist**}{cite,citep,citet,citealp,citealt,citeyear}
> **makeatother**

3.2.1   Generating Chapter Reference and End of Document References

If you want citations to appear in both bibliographies, it is easiest to add a nocite command after each reference.

Consider this example for Chapter 1. A citation for Chapter 1 is **citechapOne**{thiskey}**nocite**{thiskey}. The command

- **citechapOne**{thiskey} adds a reference to ChapterOne (e.g., **bibliographychapOne**{gmuETD}) and

- **nocite**{thiskey} adds a reference to the end of the document (e.g., **bibliography**{gmuETD}).

3.2.2   Running Multibib

You run a little different when using multibib too. It is the opposite of chapterbib because you must run bibtex on the main template file; otherwise, it won't work.

> **pdflatex** GMU−DISS_template
> **bibtex** GMU−DISS_template
> **bibtex** chapterOne
> **bibtex** chapterTwo
> **bibtex** chapterThree
> **bibtex** chapterFour
> **bibtex** chapterFive

      bibtex chapterSix

      pdflatex GMU−DISS_template

      pdflatex GMU−DISS_template

There are batch files for Windows to generate a PDF for multibib as well.

4 Manuscript Style Document

A manuscript style document is when your chapters are previously published articles. Each chapter has an abstract, introduction, and bibliography. The chapter can have appendices and a conclusion. The files, chapterThree.tex and chapterFour.tex, contain an example.

You won't enter the abstract and appendices as you do in your main template document. They are entered as sections.

      section{Abstract}

      section{Appendix ...}

You will nearly always have a bibliography at the end of each of these chapters.