McKelvey Dissertation and Thesis Template

How to Use This Template

This document contains the guidelines for the proper formatting of dissertations and theses for doctoral and master's degree-seeking students within McKelvey School of Engineering at Washington University in St. Louis. The document is formatted using the same guidelines it describes. Consequently, by making an extra copy of this document, you can use it as a template in which you can replace the original text with your own while still retaining the general formatting.

It is a good idea to read through this document carefully before you save it as a template and begin. Please remember that all doctoral and master's students are ultimately responsible for meeting the McKelvey School of Engineering formatting guidelines. If there is a particular issue that is not found in this template or the Dissertation/Thesis Guide, your committee or discipline should decide how it will be addressed.

Committee Members: for theses, see the Master's Thesis Guide for committee requirements. For dissertations, refer to the Doctoral Dissertation Guide.

Be certain to use your own full name (as recorded in <u>WebSTAC</u>) where appropriate. Make sure you use the month and year your degree is officially to be earned on the title page, and abstract page.

Once completed, you will need to submit your document as a PDF electronically, as per the **Doctoral Dissertation Guide** and **Master's Thesis Guide**, which also can be found on the <u>McKelvey School of Engineering website</u>. Do not submit your dissertation or thesis until you have successfully defended. If you would like feedback on the formatting of your document beforehand (which is highly recommended for those with defense dates close to the submission deadline), you can request a review by emailing your document to the <u>McKelvey Registrar</u>.

This template can be downloaded as a Microsoft Word document from the <u>Thesis and Dissertation</u> page of the McKelvey School of Engineering website.

WASHINGTON UNIVERSITY IN ST. LOUIS

McKelvey School of Engineering Department of Biomedical Engineering

Dissertation Examination Committee:
Katherine Davidsen, Chair
Michael Randolf, Co-Chair
Richard Lewis
Hillary O'Connell
Jack Taylor

Insert the Title for Your Dissertation or Thesis Right Here
Use This Second Line if Needed
by
Paige Turner

A dissertation presented to the McKelvey School of Engineering of Washington University in partial fulfillment of the requirements for the degree of Doctor of Philosophy

> August 2022 St. Louis, Missouri



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Figure 2.1: Left Justified Figure1
Figure 2.2: Centered Figure
If one or more figures are used in the document, there must be a list of all figures and it must be included in the table of contents. The list should be spaced at 1.15. Begin each listing on a new line.
Remember to update your page numbers accordingly.

List of Tables

Table 1.1: Required and Optional Thesis Components (NOTE: If you have a multi-lined table label/title, then the 2nd and all additional lines should align with the first line, just like this one; also, be sure that no words display to the far right-hand side where the page numbers for your tables display, just as shown in this example.)

If one or more tables are used in the document, there must be a list of all tables and it must be included in the table of contents. The list should be spaced at 1.15. Begin each listing on a new line.

Remember to update your page numbers accordingly.

Acknowledgments

An acknowledgments page must be included in your final dissertation or thesis. If you wish to

include a special dedication you can either use it to close the acknowledgments page or place it

on the page that immediately follows. The acknowledgments page should be listed in the table of

contents. Place it after the final list used in the document, and before any dedication, abstract, or

epigraph that is included.

It is appropriate to acknowledge sources of academic and financial support; some fellowships

and grants require acknowledgment. Put all acknowledgements on this page. The date on this

page should reflect the month and year the degree is to be officially earned, and should be one of

the following months: December, May, or August.

We offer special thanks to the Washington University School of Engineering for allowing us to

use their dissertation and thesis template as a starting point for the development of this

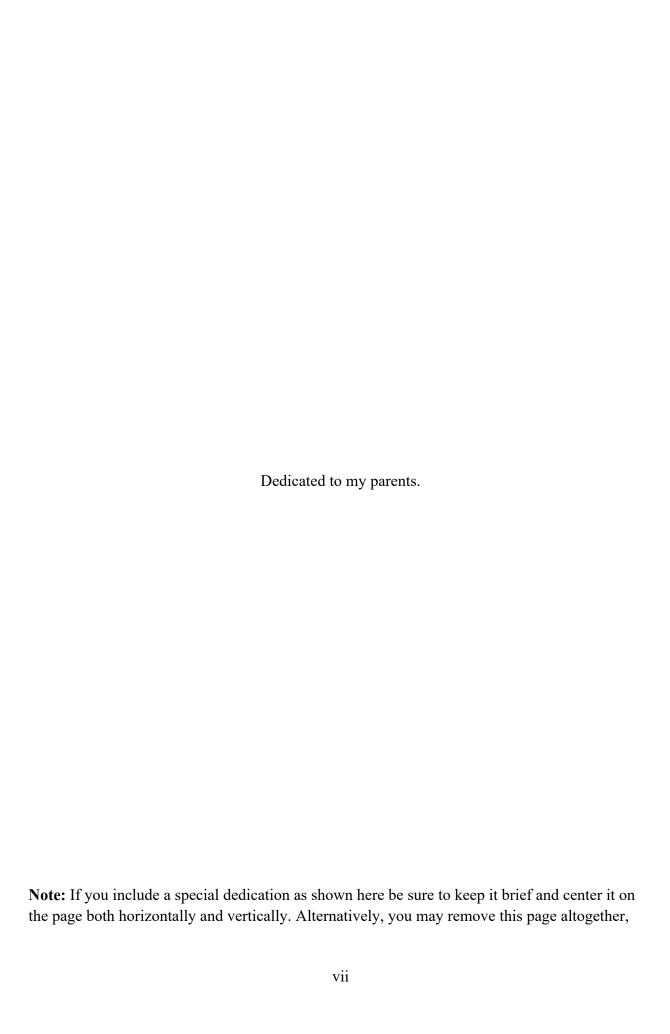
document.

Paige Turner

Washington University in St. Louis

August 2022

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and a special dedication can be placed as the final paragraph of your acknowledgments page. Do not include the dedication page in your table of contents.

ABSTRACT OF THE DISSERTATION

Insert the Title for Your Dissertation or Thesis Right Here

Use This Second Line if Needed

by

Paige Turner

Doctor of Philosophy in Mechanical Engineering

Washington University in St. Louis, 2022

Professor Katherine Davidsen, Chair

Professor Michael Randolf, Co-Chair

After removing these comments, begin typing the body of your abstract here, double-spaced. Your font should be 12-point (which is the text of this sample paragraph). No part of the abstract should be bolded. If this is for your master's degree, be sure to change all occurrences of the word "dissertation" to display as "thesis," and change "Doctor of Philosophy" or "Doctor of Science" to "Master of Science." In the abstract heading above, make sure you use the year your degree is to be officially earned. Be sure to use your full name as it is recorded in WebSTAC, your dissertation or thesis advisor's full name(s) wherever appropriate, and the correct title of your degree whenever referencing it. Please note that an abstract is required for all dissertation submissions in ProQuest and master's thesis submissions in Open Scholarship.

Chapter 1: Parts of the Dissertation

This chapter describes the components of a dissertation or thesis. You may not have to include all components described here, but you must follow the prescribed order for the components you do include. On page two, Table 1.1 lists the required and optional components in the order that they should appear. Your manuscript should include three main parts: the front matter, the body, and the back matter. Each of these parts is described below.

1.1 Front Matter

The front matter includes all material that appears before the beginning of the body of the text.

Number all front matter pages (except the title page and the optional copyright page) with lowercase roman numerals, starting with ii, centered just above the bottom margin. Each of the following sections should begin on a new page.

1.1.1 Title Page

Format the title page so that it is centered vertically and horizontally on the page with equal amounts of white space from top and bottom margins. Include a 1-inch margin on all sides. Use a 12-point regular font. If you are writing a thesis, substitute the word "thesis" wherever the word "dissertation" appears in this document. Arrange members alphabetically by last name, after the chair/co-chair. The date on the title page should reflect the month and year the degree is to be officially earned, and should be one of the following months: December, May, or August. Do not include a page number on the title page. See Appendix for further details. In most cases your dissertation title should be in "Title Case" unless a specific format is required by your discipline. Be certain to use your own full name (as recorded in WebSTAC).

Table 1.1 The following items may be included in your dissertation or thesis, in the order in which they are listed. Any optional components, if used, <u>must</u> be included in the table of contents, unless noted below.

	Thesis			
Major Part	Component	Required	Optional	Page Numbering
Front Matter	Title page	√		counted, not numbered
	Copyright page		√	neither counted, nor numbered
	Table of Contents*	√		begins on a page numbered ii
	List of Figures		√	[lowercase Roman numerals continue]
	List of Illustrations		√	[lowercase Roman numerals continue]
	List of Tables		✓	[lowercase Roman numerals continue]
	List of Abbreviations		√	[lowercase Roman numerals continue]
	Acknowledgments	√		[lowercase Roman numerals continue]
	Dedication*		√	[lowercase Roman numerals continue]
	Abstract page	√		[lowercase Roman numerals continue]
	Preface		✓	[lowercase Roman numerals continue]
Body	Epigraph*		√	begins on a page numbered 1
	Chapters	√		[Arabic numerals begin or continue]
Back Matter	References**	√		[Arabic numerals continue]
	Appendices		√	[Arabic numerals continue]

^{*} Do not include in the table of contents.

^{**} There are two options for the placement of references; they can be listed at the end of each chapter, or at the end of the document.

1.1.2 Copyright Page

It is always suggested that upon completion of the text, the student add the copyright symbol © with the year and the student's name on one line, on a page following the title page. Format your copyright page exactly as it is shown in this template.

Example:

© 2022, Paige Turner

Once you create a work, it is automatically protected by U.S. copyright law with you as the author. You do not need to register the copyright with the U.S. Copyright Office, though doing so provides certain advantages. More information about copyright registration can be found at http://libguides.wustl.edu/copyright/registration.

1.1.3 Table of Contents

The words "Table of Contents" must appear in chapter title style at the top of the page. It must include the page numbers of all front and back matter elements, unless otherwise specified. The table of contents must include the page numbers of all chapters and sections of your dissertation or thesis. In addition, it may include the page numbers of all subsections. Chapter titles may be typed in plain or bold font. All titles and headings must be followed by a page number.

The table of contents in this template is set up in Microsoft Word. Using the heading formats provided and the "Update Table" feature you can update page numbers and headings automatically with just a few clicks of your mouse.

To update, click References on the top tab, then click Update Table after which you can choose to "Update page numbers only" or "Update entire table." When you choose to update the entire

table you will need to replace the words "ABSTRACT OF THE DISSERTATION/THESIS" with the word "Abstract" in your table of contents.

More information on how to create and update a table of contents can be found by searching the Help link in Microsoft Word.

Make certain that any long titles align nicely with the body of text. Multi-lined chapter titles or section titles should break at a logical point and align in a manner allowing the titles to be read clearly, without confusion. Sometimes this will mean forcing a line break at a logical point and relies on your own good judgment.

1.1.4 List of Figures

If one or more figures are used in the document, there must be a list of all figures. The list should be spaced at 1.15. Begin each listing on a new line. Format the list of figures the same way the table of contents is formatted, but put the words "List of Figures" in the heading.

1.1.5 List of Tables

If one or more tables are used in the document, there must be a list of all tables. The list should be spaced at 1.15. Begin each listing on a new line. Format the list of tables the same way the table of contents is formatted, but put the words "List of Tables" in the heading.

1.1.6 List of Abbreviations

Include a list of abbreviations only if you use abbreviations that are not common in your field.

Arrange the list alphabetically. Type the words "List of Abbreviations" in chapter title style at the top of your list.

1.1.7 Acknowledgments

An acknowledgments section must be included. Use it to thank those who supported your research through contributions of time, money, or other resources. Some grants require an acknowledgment. Type the word "Acknowledgments" in chapter title style at the top of your page. If the acknowledgments fill more than one page, put the heading only on the first page.

1.1.8 Dedication

The dedication page is optional. If you decide to include a separate dedication page, make it short and center it on the page, both horizontally and vertically. Do not include it in your table of contents. See page vii for more detailed information.

1.1.9 Abstract Page

An abstract page is required in the dissertation or thesis. Format the abstract page precisely as shown in the front matter of this document. Include your degree, not department.

1.1.10 Preface

A preface is optional. If you include a preface, use it to explain the motivation behind your work. Format the preface the same way the acknowledgments section is formatted, but use the word "Preface" in the heading.

1.2 Body of the Dissertation or Thesis

The body of the dissertation or thesis should be divided into chapters, sections, and subsections as required by your discipline, and should be numbered as in this template. Divisions smaller than subsections may be used, but they should not be labeled with numbers (see 2.5.1 for more information).

1.3 Back Matter

The back matter includes all material that appears after the body of the text.

1.3.1 References

There are two options for the placement of references/bibliography/works cited; they can be listed at the end of each chapter or at the end of the document. How you format it should follow the usual convention of your discipline and be acceptable to your committee. Type the word "References" in either the section heading or chapter title format at the top of a new page. Single space your citations and skip a line between each one. Regardless of where you choose to place your references, they must be listed in the table of contents. If placed at the end of your document, this section should follow the conclusion of the text.

1.3.2 Appendices

Appendices may be used for including reference material that is too lengthy or inappropriate for the dissertation or thesis body. If one appendix is included, an appendix title is optional. If more than one appendix is included, each one should be titled and lettered. In general, appendices should be formatted like chapters. However, they may be single-spaced and/or include photocopied or scanned materials. If these are used, you must add page numbers at the bottom, putting those page numbers in square brackets to indicate that they are not part of the original document. This is the final section of the dissertation or thesis.

Chapter 2: Dissertation or Thesis Format

The following guidelines offer you some degree of flexibility in formatting your thesis or dissertation. Whichever options you choose to use, you must use them consistently throughout the document.

2.1 Margins

Your printed output must reflect physically measurable top, bottom, left, and right margins of 1 inch. Some systems' settings produce varying results when printing to different printers, so be sure to measure your output. Remember, nothing, not even page numbers, should print in the margins.

2.2 Page Numbers

All pages numbers should be placed on the center of each page immediately above the bottom margin. Number all pages in your document except for the title page and the optional copyright page which might follow the title page. Number the "front matter" pages (i.e., the pages that come prior to the main body of text, prior to chapter 1) with lowercase roman numerals, starting with ii (remember, the title page is counted but not numbered, and the copyright page is neither counted nor numbered). The body of the dissertation or thesis should be numbered with Arabic numerals starting with 1 and should begin on the epigraph page (optional), the introduction, if one is used, or on the first page of the first chapter. Options are summarized in Table 1.1 on page two.

2.3 Text

This template uses a 12-point, Times New Roman font throughout and is recommended for your dissertation or thesis. However, should you choose to use a different font, you should match the font size as close as possible. Use double-spacing for body text. Use either left justification with a ragged right edge or full justification.

2.4 Chapter Titles

Begin each chapter on a new page. You may start the chapter title below the top margin or you may leave some space and start the chapter title up to 3 inches from the top edge of the page.

The font size for chapter titles should be no larger than 24. There are two options for formatting the chapter title:

- a. Type the word "Chapter" followed by the chapter number, skip a line, and type the chapter title on the following line; or
- b. Type the chapter number followed by the chapter title, all on the same line.

2.5 Section Headings & Numbering

Headings may be typed above or on the same line as the sections they label. Type the chapter number and section number before the section title. The font size for section headings should be no larger than 18.

2.5.1 Subsection Headings & Numbering

This should follow the usual convention of your discipline and be acceptable to your committee; if your discipline calls for them they must be in included in the table of contents. Type the chapter number, section number and subsection number before the subsection title. The font size for subsection headings should be no larger than 14.

Headings for Divisions Smaller than Subsections

Do not number headings for divisions smaller than subsections. These are not included in the table of contents. Headings may be typed above or on the same line as the sections they label. Divisions smaller than subsections should be the same font size as the body text.

2.6 Figures and Tables

There are two options for numbering your figures and tables; choose one and be consistent in its use throughout your document. In either case, the name and description of the figure or table should be single-spaced and can be a smaller font size.

- a. Maintain a separate numbering sequence for your list of figures and list of tables. Label figures with the word "Figure" and tables with the word "Table"; or
- b. Label both figures and tables with the word "Figure" and maintain one numbering sequence.

Place figures and tables as close to their reference in the text as possible. Do not let figures or tables spill out into the margins.

- a. Place the figure number and title below each figure (or table labeled as a figure).
- b. Place the table number and title above each table labeled as a table.



Figure 2.1 You can left justify your figure.



Figure 2.2 You can center your figure.

2.7 Lists

You may include lettered, numbered, or bulleted lists in your document. Use consistent punctuation and capitalization throughout each list. Lists may be indented.

2.8 Footnotes and Endnotes

You may use footnotes or endnotes for brief notes that are not appropriate for the body of the text. Use either footnotes or endnotes consistently throughout your dissertation or thesis.

Endnotes are positioned at the end of each chapter. Single-space within each footnote or endnote. Footnotes should be numbered consecutively within a chapter; numbers should restart with each new chapter. Endnotes should be numbered consecutively through the entire body of your dissertation or thesis.

¹ The use of endnotes and footnotes should follow the usual convention of your discipline and be acceptable to your committee.

2.9 Quotations

You must use quotation marks and parenthetical references to indicate words that are not your own. Put quotation marks around short quotes. Put long quotes in separate single-spaced paragraphs, indented up to 1 inch from the left margin (these are called block quotations). Kate Turabian, editor of official publications and dissertation secretary at the University of Chicago for over 25 years, distinguishes short and long quotes as follows:

Short, direct prose quotations should be incorporated into the text of the paper and enclosed in double quotation marks: "One small step for man; one giant leap for mankind." But in general a prose quotation of two or more sentences which at the same time runs to four or more lines of text in a paper should be set off from the text and indented in its entirety...[8]

2.10 Equations

Equation numbering and formatting should follow the usual convention of your discipline and be acceptable to your committee.

Equations may be set in-line with the text or numbered and placed in separate paragraphs. Use the same numbering style for equations as you would for figures and tables. Here is an example of an equation set in-line with a paragraph: $E = mc^2$. Here is an example equation placed in a separate paragraph:

$$E = mc^2 \tag{1.1}$$

References

- 1. There are no references/bibliography/works cited for this template, but this is where they could be placed if there were.
- 2. Or you can place them at the end of each chapter.
- 3. How you format it should follow the usual convention of your discipline and be acceptable to your committee.
- 4. See section 1.3.1 for more information.

Appendix

What to Call your Degree Program on your Title Page

Title page

The second line and third lines on the page should name the school and your *administrative unit*. See below for the formatting of the school and each unit:

McKelvey School of Engineering Department of Biomedical Engineering
McKelvey School of Engineering Department of Computer Science & Engineering
McKelvey School of Engineering Department of Electrical & Systems Engineering
McKelvey School of Engineering Department of Energy, Environmental & Chemical Engineering
McKelvey School of Engineering Department of Mechanical Engineering & Materials Science
McKelvey School of Engineering Division of Computational & Data Sciences

McKelvey School of Engineering
The Institute of Materials Science & Engineering