

Thesis & Dissertation Specifications

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OVERVIEW

This manual establishes guidelines for masters' theses and doctoral dissertations at Missouri University of Science and Technology. The final copy, which is deposited in the Curtis Laws Wilson Library (Missouri S&T Library), becomes a permanent and official record in the Missouri S&T Library, where other scholars and researchers will have access to it as a research document.

The Missouri S&T Graduate Faculty has established criteria for uniformity in the physical format of theses and dissertations, which have been compiled here for your use. Your department and your advisor will guide in the content, format, and style of your manuscript and may specify certain aspects of style such as footnote style and placement. Only one standard or style manual should be followed for a single thesis or dissertation unless using the publication option. Specific questions not covered in this manual should be directed to the graduate studies specialists in the Office of Graduate Studies. You may also refer to *A Manual for Writers of Research Papers, Theses, and Dissertations*, 8th ed., by Kate L. Turabian, which is available at the reference desk of the Missouri S&T Library.

In accordance with policy established by the Graduate Faculty, it is the responsibility of the advisory committee to see that theses/dissertations are edited for spelling, grammar, organization, stylistic consistency, completeness, and agreement between the Table of Contents and the contents. The Office of Graduate Studies is responsible for maintaining specifications necessary for the submission and for maintaining the standards of the university. The Missouri S&T Library is responsible for the microfilming, binding, and storing of theses and dissertations.

WRITING THE THESIS/DISSERTATION

The completion of your graduate thesis/dissertation represents the culmination of a graduate degree program. It will be the peak of your achievements at the university, and it will reflect your research methodology, knowledge of the subject, and your insights as a scholar. A dissertation is required for all doctoral programs. For masters' programs, a thesis is optional in some departments. The work must be written on a subject approved by your graduate advisory committee, and it must include the results of original and significant investigation. The writing must be your own original work and should contribute to the growing body of knowledge of your field of research.

You should narrow the focus of your study so that your writing does not extend beyond the objectives of your original theme. At the same time, your thesis/dissertation should be more detailed (and perhaps longer) than most journal articles because you will have been forced to review in detail all data and literature in your area, thus becoming an expert in your field.

PUBLICATION OPTION

The publication option is allowed when at least one or more product of the thesis/dissertation is prepared with the objective of publication in a manner consistent with the peer-reviewed process within the discipline.

The section portion of each thesis/dissertation should include an introduction, a conclusion, and, if applicable, references, which are separate from the content of the product prepared with the objective of publication. In the event that any product prepared with the objective of publication is retracted, the section portion of each thesis/dissertation should be able to stand alone and give the reader an overview of the student's research.

COPYRIGHT

A copyright is an intangible right granted to you as the author of your thesis or dissertation. You have the sole and exclusive privilege of making copies of, publishing, or selling your thesis or dissertation. Currently, this protection lasts for your lifetime plus an additional 70 years. These exclusive privileges belong to you unless you have transferred them to someone else via a written agreement or your work is a "work-for-hire."

Copyright protection automatically exists from the time you place your thesis or dissertation in fixed form. A fixed form can be a digital file such as a word processing document, PDF file, or a printed page. There is no requirement to publish or register your thesis or dissertation to obtain protection under copyright law. The copyright of any work immediately becomes the property of the author who created the work, unless it is a "work-for-hire" as stated above or ownership has been assigned by written agreement.

Submission of your approved thesis or dissertation results in the publication of the document by Curtis Laws Wilson Library. As such, you grant Missouri S&T a limited, non-exclusive, royalty-free license to reproduce your thesis or dissertation, in whole or in part, in electronic form to be posted in Scholars' Mine, our institutional repository, and made available to the general public at no charge. This does not mean that the university owns the copyright to your work (you do), but the university has the right to reproduce and distribute your work. The university requires this to support the dissemination of intellectual thought and discovery.

Regardless of whether or not you register copyright for your thesis or dissertation, you should include a copyright notice in your thesis or dissertation. Including the notice helps to establish that you are the owner of the work. It also protects you, as the copyright holder, from anyone claiming innocent infringement or unintentional violation of copyright.

Using Copyrighted Materials

Any materials belonging to someone else that are used in your thesis or dissertation, beyond brief excerpts, may be used only with the written permission of the copyright owner. Publishers of books and journals hold the copyright for all materials they publish. Therefore, even if you are the sole or one of several authors of material in a published book or journal, you must obtain written permission from the copyright holder if you are including this material in your document. The use of reproductions or excerpts of other media, such as music, graphic images, or computer software, will also require permissions.

Your letter to the copyright holder needs to clearly state that you seek written permission to preserve (on microfilm and digitally) and publish (in print and digital form) your thesis or dissertation through ProQuest and that ProQuest may sell, on demand, for scholarly purposes, single copies of your work, which includes the copyright holder's material. Your letter must also seek written permission for the document to be submitted in electronic format to Curtis Laws Wilson Library, where it will be placed in our institutional repository, Scholars' Mine, and made available at no charge to the general public via the internet.

You are responsible for securing all necessary permissions and paying any permission fees in advance of using copyrighted materials in your work. It is recommended that copies of the written permission you receive be placed in the appendix of your thesis or dissertation.

Using Your Own Previously Published Material

Some academic programs at Missouri S&T permit you to include articles or other materials that you have previously published, that have been accepted (or submitted, in press, or under review) for publication, or that have been otherwise presented to the public within the body of your thesis or dissertation. This is referred to as the "publication option." In all such instances, the following guidelines apply:

- > If the material is co-authored, your thesis or dissertation advisor must approve its inclusion in your thesis or dissertation.
- > If the material is copyrighted (if you are the sole author but the copyright is held by the publisher), you must fulfill the conditions specified above on using copyrighted materials. If you are unsure of the copyright status, you should review the copyright transfer agreement you signed with the publisher and consult with the scholarly communications librarian. The material, if included in the body of your text, must conform to all formatting guidelines.

Registering Copyright

You can register your copyright with the U.S. Copyright Office at the Library of Congress. As mentioned above, copyright registration is not a condition for copyright protection. However, there are advantages to registration if you have a claim of infringement of your copyright. You can register at any time within the life of the copyright, but there are advantages to filing for registration within three months of publication. For more information on registration, consult the website of the U.S. Copyright Office or contact the scholarly communications librarian.

There are two main ways for you to register your copyright:

- > You may request ProQuest to file the application for you when you submit your thesis or dissertation. ProQuest charges a fee for this service. The service includes preparing an application in your name, submitting your application fee, depositing the required copy or copies of the manuscript, and mailing you the completed certificate of registration from the Library of Congress.
- > Alternately, you can register your copyright directly at the U.S. Copyright website. There is also a copyright fee for filing copyright directly with the U.S. Copyright Office.

PLAGIARISM

Plagiarism is reproducing another author's words or ideas without giving proper credit to the source. Even if done unintentionally, plagiarism is treated by the university as a serious offense of academic dishonesty. If any information in your paper (regardless of length) is taken from another source, it must be quoted or rewritten in your own words and accompanied by a citation. Any content that is taken word-for-word from another source must be put in quotations to show that it did not originate from you. If you are not following the publication option for your thesis or dissertation but are still using words or ideas from a paper that you have previously published, you should still cite your published paper and include the source in your list of references. Facts that are common knowledge do not need to be cited.

To help prevent plagiarism problems, the Office of Graduate Studies recommends that students upload their document to iThenticate before submitting the final copy. iThenticate compares documents to those published on the internet and generates a similarity report. The content in the document that appears elsewhere on the internet is highlighted, making it easy for students to see if they have properly quoted, paraphrased, summarized, and cited those sections. Documents uploaded to iThenticate are kept private and are not accessible by other accounts, making it safe to use for theses and dissertations. Students can set up a free iThenticate account by contacting Educational Technology, Global Learning Department.

TITLE PAGE

When selecting the title, keep in mind that many computer retrieval systems use the words in the title (and sometimes a few other descriptive words) to locate documents. The thesis/dissertation will be a valuable source for other scholars only if it can be located easily. The title should be a meaningful description of the subject of the T/D. Formulae, symbols, superscripts, Greek letters, and so forth are not accessible in some search systems. Be sure to use word substitutes.

ABSTRACT

The abstract must not exceed one page. It should be a concise, clear statement of the important points that have been brought out in the thesis/dissertation. It should summarize the problems dealt with by the research, the methods employed, and the major findings. As a summary of the entire thesis/dissertation, the abstract should be organized to correlate with the thesis/dissertation outline. The abstract should be self-contained as it is often cited alone in secondary publications; therefore, it must be intelligible without reference to the document itself.

ACKNOWLEDGMENTS

The acknowledgments must not exceed one page. It is customary to acknowledge graduate fellowships, grants, travel funds, and any special help you may have received outside your committee (from adjunct professors, library staff, or others) that led to the completion of your research.

SUBDIVISION OF MAIN BODY

The material that forms the body of the technical thesis/dissertation must contain as a minimum the following major sections (other headings for these divisions may be chosen, but the topical matter should be similar; be consistent when choosing, placing, and naming subheadings):

- > Introduction: State the problem, show the importance of the subject, and give the reasons for its selection
- > Review of Literature: Cite previous work in the field and/or allied fields
- > Results and Discussion: Describe and discuss the actual work; include experimental procedures and results, field work and results, criteria, and evidence. Subdivisions with appropriate headings can be used as needed. Clarity is often enhanced by separating the presentation of the method, the results, and the discussion of the results
- > Conclusions: Each conclusion should be a simple declarative statement of fact drawn from the results but without discussion

APPENDICES

Appendices, if included, should contain material that is peripheral, but relevant, to the main text of the thesis/dissertation. Examples include survey instruments, additional data, computer printouts, details of a procedure or analysis, or a relevant paper you have written.

REFERENCES/BIBLIOGRAPHY

It is very important to give credit when using or presenting the words, work, and ideas of others. Care should be taken that references are cited appropriately in the thesis/dissertation.

A bibliography is considered to represent a comprehensive search of the pertinent literature. Other citation lists, incorporating only directly cited sources, are known as “references.” A reference in the text to a citation in the bibliography may be made by stating the name of the author and the year of publication, by using consecutive superior numbers, or by using superior numbers or symbols that correspond to footnoted citations at the bottom of the same page containing the reference. There are thus three types of lists which are acceptable for a bibliography: 1) an unnumbered alphabetical list; 2) a numbered list in which the numbered citations correspond to the sequence of references in the text; and

3) a footnoted list at the bottom of the page containing the references (the footnotes may be consecutive or new on each page). If a reference is made to a specific piece of information or a specific statement of an author, or if a quotation is made, the page from which it is taken must be indicated, preferably at the location of the text citation, rather than in the full citation appearing in the bibliography or reference list.

The citations in the bibliography should be listed in one consecutive series. For all other bibliographic forms and rules, refer to those that are accepted by the refereed journals in the candidate's discipline. The main objective is accuracy, clarity, brevity, and uniformity.

VITA

The vita should be written in past tense and contain the full legal name, a reasonably complete biographical sketch, and degree statements/academic background of the candidate. The vita must not exceed one page.

FINAL SUBMISSION

After the format checking process is complete and the form “Thesis/Dissertation Approval and Report on Final Examination” has been received by the Office of Graduate Studies, instructions will be provided to the student regarding final submission.

Missouri S&T only accepts electronic thesis/dissertation submission for those that do not have an indefinite hold. When preparing your PDF, be sure to do the following:

- > Embed all fonts
- > Remove any password protection on the PDF
- > Ensure that security settings allow printing
- > Format as an individual, single document

Theses/dissertations that have an indefinite hold must be submitted as a hard copy to the Office of Graduate Studies. The final copy must be printed on white paper with a watermark, a minimum of 25% rag or cotton content, and at least 16 lb weight, and printed on one side only. A PDF of the thesis/dissertation with embedded fonts on a CD or non-returnable USB drive, pages 4 and 5 of the UMI/ProQuest Agreement, and a signed Scholars' Mine License must also be included with the paper copy.

ADDITIONAL INFORMATION

The following subsections contain additional information on materials that are not commonly used in thesis/dissertation writing.

Maps and Plates

Maps and line illustrations should be designed for reduction so that they will fit the mandatory margins of an 8.5 x 11 in. page. For print copies, when larger sizes are needed and their inclusion can be justified, they can be folded and inserted in a pocket placed inside the book cover of the bound thesis or dissertation. Such oversized maps or line illustrations are designated as plates. Map scales should be those normally used by state and federal map agencies. In the English system of measurement, these scales are commonly at 1/12000, 1/24000, 1/48000, 1/62500, or their multiples. With the metric system (Systeme International), the common scales are in even thousands and then powers of ten, such as 1000, 5000, 10000, 50000, 100000, etc. All maps and line illustrations must have a clearly defined title block, which includes as a minimum: the title, locations or area mapped, author or source, a bar scale, and north and magnetic north direction. At the bottom of the title block, the following must appear: author of the thesis/dissertation, map from 20XX thesis/dissertation, name of department, S&T, and reference to the organization or agency from which the topographic or planimetric basemap was reproduced. For soil, rock, or strata definitions, geologic map symbols and/or appropriate letter symbols must be presented in the map's legend and clearly indicated in the appropriate areas on the map. Area patterns and specific locational symbols should be used rather than colors to differentiate soil, rock, or geologic units because of the high cost of publication and reproduction of colored maps.

Supplementary Materials

If supplementary materials—such as audio, video, and spreadsheets—are part of your dissertation or thesis, you can submit them as supplementary files during the online submission process. Upload them as part of the submission process and provide a description of each supplementary file or files in the abstract of your graduate work. Do not embed media files in your PDF.

FORMATTING REQUIREMENTS

The following sections provide information on formatting your thesis/dissertation. Consistency within the thesis/dissertation is key. Refer to the Office of Graduate Studies website for examples and additional information.

GENERAL REQUIREMENTS

Language

- > Must be written in English
- > British English and other dialects of English are acceptable, but American English style conventions (such as spelling and punctuation) are recommended

Page Size and Specifications

- > Page size must be “letter” size in U.S. standards, 8.5 x 11 in.
- > Requirements for maps and plates exceeding the standard “letter” page size can be found in the Document Preparation section

Margins

- > Left margin must be 1.5 in. on all pages
- > Top, right, and bottom margins must be 1 in. on all pages
- > Tables, figures, etc., should not exceed margins

Pagination

- > Page numbers must be placed 0.75 in. down from the top of the page and aligned on the right margin
- > Preliminary pages must be numbered with lowercase Roman numerals (e.g., i, ii, iii)
- > Beginning at the main body, pages must be numbered with Arabic numerals (e.g., 1, 2, 3)
- > The following pages must not have a visible page number:
 - Front/back flyleaves (optional)
 - Title page

 - Copyright/blank page

- First page of main body (Introduction page)
- Appendix title pages

Line Spacing and Text

- > Text must be double spaced except for the following (must be single spaced within):
 - All headings in the Table of Contents that exceed one line
 - Figure/Table titles that exceed one line throughout the entire document
 - Main/1st level/2nd level headings in the main body that exceed one line
 - Reference entries that exceed one line
 - Text must be left aligned or fully justified consistently throughout the document
- > All paragraphs must be indented 0.5 in.
- > Font Requirements:
 - Font requirements apply to all text, including page numbers, figure/table titles, equations, appendices, and bibliography/references
 - Font size must be 12 pt. throughout the entire document
- > Typefaces:
 - To ensure readability and compliance with ProQuest/UMI guidelines, acceptable typefaces are limited to Arial, Century, Courier New, Garamond, Georgia, Lucida Bright, Microsoft Sans Serif, Tahoma, Times New Roman, Trebuchet MS, and Verdana
 - Web fonts that allow for easier screen readability are Arial, Courier New, Georgia, Times New Roman, Trebuchet MS, and Verdana

Headings

- > Main/1st level headings (e.g., ABSTRACT, ACKNOWLEDGMENTS, 1., 2.)
 - All caps, bold, and centered at the top of a new page each time
 - Must have an extra blank line below, which must be consistent throughout the document
- > 2nd level subheadings (e.g., 1.1., 2.3.)
 - All caps, bold, and aligned on the left margin
 - Must have an extra blank line before
 - Paragraph must begin below the heading
- > 3rd level subheadings (e.g., 1.1.2., 2.3.4.)
 - Bold, indented 0.5 in., and end with a period
 - The first letter of each major word must be capitalized
 - Paragraph must begin immediately following the heading on the same line
- > 4th level subheadings (e.g., 1.1.2.4., 2.3.2.1.)
 - Bold, indented 0.5 in., and end with a period

- The first letter of the first word only (as well as proper nouns and acronyms) must be capitalized
- Paragraph must begin immediately following the heading on the same line
- > Subheadings beyond 4th level should be avoided, and bullet points used instead

Publication Option Headings

- > The word “PAPER” must appear as a main heading at the top of the first page of Paper I only
- > Paper titles must be numbered with uppercase Roman numerals (e.g., I, II, III)
 - All caps, bold and centered at the top of a new page each time
- > Main/1st level headings (e.g., ABSTRACT, ACKNOWLEDGMENTS, 1., 2.)
 - All caps and bold (does not need to start at the top of a new page)
 - Must have an extra blank line below, which must be consistent throughout the document
- > 2nd level subheadings and beyond must be formatted as listed above
- > The word “SECTION” must appear as a main heading at the top of the page where the section writing resumes, following the last paper

REQUIREMENTS BY PAGE

The following sections are listed in the order that the pages must appear in the document.

Flyleaves are optional, but if included, both front and back must be used.

Title Page

- > Counted as page one (i)
- > No visible page number
- > All text must be centered vertically and horizontally within the required margins
- > Text should be spaced evenly
- > Bold font should not be used
- > Title must be in all caps; if title exceeds more than one line, it must be double spaced
- > Student’s full legal name must be in all caps
- > Correct degree program must be listed
- > The year listed must be the year that the degree is awarded
- > Committee member names must be spelled correctly and match the most current approved program of study on file (Advisor/Co-advisor must be labeled appropriately)

Blank or Copyright Page

- > Counted as page two (ii)
- > No visible page number
- > Text should sit at bottom 1 in. margin, centered horizontally within the required margins
- > Use © or Copyright, but not both
- > The year listed must be the year that the degree is awarded
- > Must include full legal name

Publication Thesis/Dissertation Option Page (if Applicable)

- > Counted as page three (iii)
- > First page with visible page number
- > Limited to one page

Abstract

- > If using publication option, counted as page four (iv)
- > If no publication option, counted as page three (iii) and first page with visible page number
- > Limited to one page

Acknowledgments

- > The only page that first person is typically used
- > Limited to one page

Table of Contents

- > No bold or italics
- > The word “Page” must be at the right margin above the column of page numbers
- > Page numbers must be aligned at the right margin
- > Text must not encroach page number area; there must be a clear delineation of page numbers
- > “TABLE OF CONTENTS” must not be included in the Table of Contents
- > The word “SECTION” (no dot leaders or page numbers) must be listed below the front matter headings (left aligned)
- > If publication option, the word “PAPER” (no dot leaders or page numbers) must be listed above the first paper title (left aligned)
- > Headings must be tiered appropriately (each level should be indented below the previous level)
- > Headings that exceed one line must be single spaced within, and all lines of text must be aligned
- > Headings must be identical in wording to those in main body of the document, including punctuation and capitalization

- > Subsections must have at least two headings (e.g., 1.1. and 1.2.)

List of Illustrations and List of Tables (LI/LT)

- > The word “Figure/Table” must either appear above the numbers or in front of each number, but not both
- > The word “Page” must be at the right margin above the column of page numbers
- > Page numbers must be aligned at the right margin
- > Text must not encroach page number area; there must be a clear delineation of page numbers
- > Figures/tables must be numbered based on the section in which they appear (e.g., the first figure/table in Section 1 is 1.1. and the second figure/table in Section 2 is 2.2.)
 - If publication option,
 - > Figures/tables should be numbered 1., 2., 3., etc.
 - > “SECTION,” “PAPER I,” “PAPER II,” etc., must be listed above each specific set of figures/tables (left aligned)
- > Titles that exceed one line must be single spaced within, and all lines of text must be aligned
- > Titles must be identical in wording to those in the main body of the document, including punctuation and capitalization, up to the first period. Extra information does not need to be included in the LI/LT
- > Figures/tables that appear in the appendices should not be listed in the LI/LT

Nomenclature

- > Must include column headings
- > No dot leaders or page numbers

Main Body

- > First page is counted as page one (1)
- > No visible page number on this page
- > No widows or orphans (a page must not end or begin with one line of a paragraph by itself; there must always be at least two lines together)
- > Content should fill the page as close to the bottom 1 in. margin as possible
- > If a page consists of text only, there must be at least three lines
- > Equation numbering should be done sequentially and formatted consistently
- > If publication option,
 - “PAPER” must appear as a main heading at the top of the first page of Paper I only
 - “SECTION” must appear as a main heading at the top of the page where the section writing resumes, following the last paper
- > Figures and Tables

- Figure titles must be placed below the figures
- Table titles must be placed above the tables
- Figure/table titles that exceed one line must be single spaced
- Figures/tables must be mentioned by number in text
- Figures/tables must be numbered based on the section in which they appear (e.g., the first figure/table in Section 1 is 1.1. and the second figure/table in Section 2 is 2.2.)
 - > If publication option, figures/tables should be numbered 1., 2., 3., etc.
- Figures/tables and titles must be formatted consistently, including placement, capitalization, and punctuation
- Spacing above and below all figures/tables must be consistent (preferably 3–4 blank single-spaced lines)
- Avoid splitting one figure/table between two or more pages
 - > If a figure/table must be split between two or more pages, the figure/table number and title must be included on all pages. The titles on all subsequent pages must include “(cont.)” at the end. The page number where the figure/table first appears is used in the List of Illustrations/Tables
- Landscape layout
 - > Margins and page number placement must be consistent with the rest of the document as the pages will be rotated to portrait layout if printed

Appendices

- > For one appendix, the title must be listed below the heading “APPENDIX” with text following on the same page
- > For multiple appendices, each appendix must have a title page
 - Appendices must be designated with a main heading of “APPENDIX A,” “APPENDIX B,” etc.
 - Each title page must include the main heading with the appendix title double spaced below
 - The title page(s) must not include a visible page number, and the text must be all caps and centered vertically on the page

References/Bibliography

- > References can be formatted with hanging indent or as a numbered list
- > References that exceed one line must be single spaced within and double spaced between each
- > A reference should never be split between two pages
- > Authors’ names should be formatted consistently

Vita

- > Date of birth is optional

- > Student's full legal name must be included
- > Entire vita must be written in past tense
- > Past and current degree statements must be included (also in past tense)
- > Limited to one page