GUIDE TO PREPARING A DISSERTATION, THESIS, OR REPORT
AT MICHIGAN TECHNOLOGICAL UNIVERSITY

By

The Graduate School

MICHIGAN TECHNOLOGICAL UNIVERSITY

2021

Modified fall 2021 to update procedures

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1. Overview

This edition of the *Guide to Preparing a Dissertation, Thesis or Report at Michigan Technological University* (referred to as the *Guide* throughout the remainder of this document) is revised from the 2015 version. Some important changes are:

- URLs throughout have been updated to current links.

- URLs throughout have been made screen-reader friendly to ensure accessibility for the document.

- The formatting section (Section 2.2 page 3) has been updated to reflect that the Graduate School now has a Word template for dissertations, theses, and reports. Students are encouraged to use the template for easier formatting of these documents. A LaTeX template is also available.

- Minor updates for clarity based on student questions have been incorporated throughout the document.

- In spring 2019, this document was revised to meet accessibility requirements. No changes were made to the content.

- In spring 2021, this document was revised to reflect that schools' names have changed to colleges. No changes were made to the content or requirements.

- In fall 2021, this document was revised to reflect that the submission of the Approval of a Dissertation, Thesis, or Report form is no longer used and to clarify the required formatting for documents.

2. Graduate School Online Resources

2.1. Degree completion and deadlines

The Graduate School maintains a number of helpful resources for degree completion on our web page and on MyMichiganTech. A summary of those pages is below.

Step-by-step instructions for completing a degree are found online on the Degree Completion Timeline web pages. See our:

- Timeline to complete a doctoral degree

- Timeline to complete a master's degree with a thesis

- Timeline to complete a master's degree with a report

Deadlines for upcoming semesters are found online for scheduling defenses, holding defenses, and submitting documents.

Students can log into MyMichiganTech for a detailed and personalized summary of their degree progress to date. The Graduate School encourages students to regularly check MyMichiganTech to ensure timely completion of degree items and to verify their student records. Resources available on the "Current students" tab include the:

- **Student checklist:** a personalized list of items that are needed now (marked with an open checkbox), informational (marked with a shaded open checkbox), or that are overdue (marked with an exclamation mark).

- **Degree completion timeline:** a personalized list of every item needed to complete each degree along with which items are complete or incomplete.

- **Dissertation, Thesis, or Report status:** a summary of a student's status of these documents

2.2. Formatting Resources

The Graduate School maintains Word templates for dissertations, theses, and reports. Students are encouraged to use these templates to ensure that the formatting requirements are met and to make document preparation easier. A LaTeX template is also available, as well as a number of step-by-step tutorials to aid in document preparation. These resources are summarized online:

- [Formatting resources for dissertations and theses](#)

- [Formatting resources for reports](#)

The Graduate School web site also contains [resources for using EndNote](#), a bibliographic management software.

The Graduate School regularly schedules seminars and workshops to assist with formatting and submission requirements. The Graduate School's web site has [videos and handouts from previous seminars and a schedule for upcoming events](#).

2.3. Writing Resources

2.3.1. Turnitin

Students are encouraged to use Turnitin to evaluate their documents for plagiarism. Instructions on how to access Turnitin can be found on the "Graduate Candidates" course on Canvas and on the formatting pages referenced in Section 2.2 above. For more information about academic and research integrity, refer to Section 5 on page 18.

2.3.2. Michigan Tech Writing Center

The Michigan Tech Writing Center is also available to assist students with writing as well as preparing oral, poster, or other presentations. Please see the [Michigan Tech Writing Center website](#) for more information about their services.

3. Formatting guidelines

Graduate School formatting requirements are described in this section. The formatting required for dissertations and theses ensures acceptance of documents by ProQuest and allows student to professionally bind these documents if desired.

Students completing a report are not required to adhere to the requirements in this section, although following them is encouraged.

All students are strongly encouraged to use the available templates to aid in formatting their documents. See Section 2.2 on page 3.

3.1. Typefaces

The typefaces and sizes listed in Table 3.1 are recommended for the main body of the text of a dissertation or thesis. Other typefaces are acceptable as long as they are legible. Type 1, Open Type, or True Type fonts should be used for the text of a document. All fonts are required to be embedded in the document.

Table 3.1.
Examples of some of the typefaces recommended for use in the main body of dissertations or theses. Helvetica, Times, or Geneva fonts are also recommended for Macintosh users.

Typeface (Shown at the minimum size)	Minimum Size for Body Text	Web Font	Minimum Size for Headings	Maximum Size for Headings
Arial	10 pt	Yes	12 pt	24 pt
Century	11 pt	No	13 pt	25 pt
Garamond	12 pt	No	14 pt	26 pt
Georgia	11 pt	Yes	13 pt	25 pt
Lucida Bright	10 pt	No	12 pt	24 pt
Microsoft Sans Serif	10 pt	No	12 pt	24 pt
Tahoma	10 pt	No	12 pt	24 pt
Times New Roman	12 pt	Yes	14 pt	26 pt
Trebuchet MS	10 pt	Yes	12 pt	24 pt
Verdana	10 pt	Yes	12 pt	24 pt

3.2. Margins

The binding edge margin of all pages is required to be between 1.5 and 1.6 inches. The margins of the remaining sides are required to be between 1.0 and 1.25 inches. The required margins apply to all components of the document, including page numbers, footnotes, and appendices. See Figure 3.1 for a sample page that includes a page number and footnotes.

3.3. Paper size

The main body is required to be formatted to print on 8.5 × 11 inch paper. Oversize maps or tables are allowed (see Section 3.9).

3.4. Page numbers

The title page, approval page, and dedication page (if included) are included in the page count; however, a page number must not be placed on these pages. This means that the table of contents will be numbered page iii (or 3) in a single-sided document that does not have a dedication page. All other non-blank pages are numbered and have numbers placed on them. Blank pages are included in the page count but do not have page numbers printed on them.

Figure 3.1. Sample page layout. The bold box shows a letter-sized page. Dashed lined shows the printable area of the page. All material must fit within the box with the dashed line.

Each page in a document should be assigned a unique and sequential number. In a traditional document, page numbers on pages preceding the main body of the document are printed using lower case Roman numerals (e.g., i, ii, iii, etc.). Arabic numerals (e.g., 1, 2, 3, etc.) are used for page numbers in the main body of the document and any subsequent materials (e.g., a reference list or appendix). It is allowable to use Arabic numerals for page numbers throughout the document.

Page numbers must be placed either at the center of the bottom of the page or in the upper corner of the page on the side opposite to the binding. Page numbers are required to fall within the printable area of the page (see Figure 3.1). Page numbers are required to appear in the same place throughout the document, even if the orientation of pages changes. Some software packages will automatically place page numbers within a header or footer. It is important to confirm that all page numbers fall within the document's printable area.
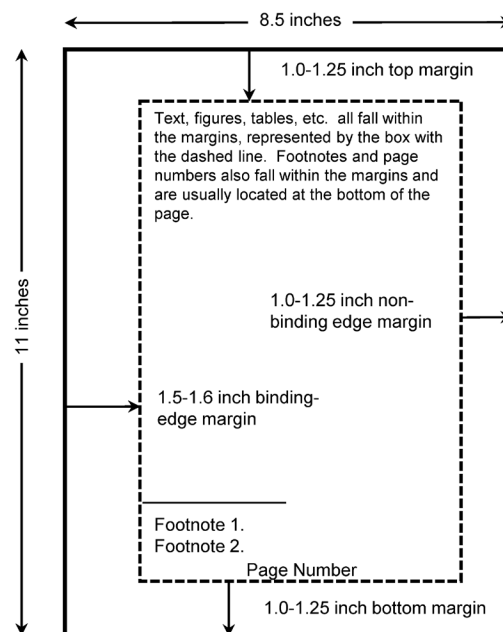
Table 3.2.
Sections for inclusion in a dissertation, thesis, or report listed in order of appearance.
See the relevant section of the *Guide* to determine if the section is required for a
dissertation, thesis, or report. Page numbering examples are for single sided documents.

Section	Page Number Type with Traditional Page Numbering	Page Numbering with Arabic page numbering	More details
Title Page[1]	None (this is page i)	None (this is page 1)	4.1, page 10
Approval Page[1]	None (this is page ii)	None (this is page 2)	4.2, page 11
Dedication[4]	None (this is page iii)	None (this is page 3)	4.3, page 13
Table of Contents[1]	iii, iv, v…	3, 4, 5…	4.4, page 13
List of Figures[4]	iii, iv, v…	3, 4, 5…	4.5, page 13
List of Tables[4]	iii, iv, v…	3, 4, 5…	4.6, page 13
Author Contribution Statement[3]	iii, iv, v…	3, 4, 5…	4.7, page 14
Acknowledgements[4]	iii, iv, v…	3, 4, 5…	4.8, page 14
Definitions[4]	iii, iv, v…	3, 4, 5…	4.9, page 14
List of Abbreviations[4]	iii, iv, v…	3, 4, 5…	4.10, page 14
Abstract[1]	iii, iv, v…	3, 4, 5…	4.11, page 14
Contents (Main Body)[1]	1, 2, 3…	3, 4, 5…	4.12, page 15
Reference List[2]	1, 2, 3…	3, 4, 5…	4.13, page 17
Appendices[4]	1, 2, 3…	3, 4, 5…	4.14, page 17

1. These sections are required for all dissertations, theses, and reports.
2. This section is required for dissertations and theses.
3. This section is required for some dissertations and theses. See Section 4.7, page 14 for more information.
4. Inclusion of this section is optional for all dissertations, theses, and reports.

3.5. Double-sided printing

Double-sided documents are allowed, however, for simplicity in formatting they are not recommended. Double-sided documents must adhere to the following requirements that relate to margins and page numbering. Also see Section 3.9 regarding the use of oversize pages or media in documents that are prepared for double-side printing.

- Margins: The binding edge margin is required to be 1.5 to 1.6 inches on all pages. For portrait pages in a double-sided document, the binding edge will be on the left hand side for odd pages, and on the right hand side for even pages. For landscape pages, the binding edge will be on the top for odd pages, and at the bottom for even pages.

- Page numbers: Page numbers placed at the bottom center of the page require no special treatment. If numbers are placed in the upper outside corner, they will appear in the upper right corner on odd pages, and the upper left corner on even pages.

- Blank pages: The title page, approval page, and dedication page (if present) are always printed as one-sided sheets. When a document is prepared for double-sided printing, the back of each of these sheets is required to be blank. One way to accomplish this is to insert blank "pages" that will correspond to the reverse side of each of these one-sided sheets. These blank pages do not have numbers printed on them, but they are included in the page count. In a double-sided document, the table of contents is the first page with a number on it; it will be page v (or 5) if no dedication is present, and page vii (or 7) if a dedication is present. Blank "pages" may also be inserted as desired to ensure that major sections (such as the start of a chapter) begin on odd-numbered pages. Blank "pages" are only allowed to occur on even-numbered sides of sheets of paper. Two or more blank "pages" in a row are not allowed.

3.6. Line spacing

Single-spacing, one and one-half line spacing, and double-spacing are allowed. Blank lines may be inserted before and/or after headings in the body of a document. If the first lines of paragraphs are not indented, blank lines should be inserted between each paragraph.

3.7. Figures

Figures should be formatted in a consistent way and the same type(s) and size(s) of fonts should be used in all figures if possible. Sans serif fonts such as Arial or Tahoma are generally preferred for figures. In all cases, any text used in a figure should be legible.

All images should be clear, readable, and reproducible. Images that look good on a computer screen may not be of sufficient resolution to print well. A minimum resolution of 300 ppi is typically recommended for printed materials. Screenshots have a significantly lower resolution, and should be used only when necessary.

Each figure should have a caption that identifies the figure number. Each figure should be assigned a unique, sequential number. In a traditional dissertation or thesis, figures are numbered using the chapter number followed by a period and the figure number (e.g., Figure 3.1). Figure captions should be located below each figure. The first sentence of a caption should be an overview of the figure. Subsequent sentences should include, as necessary, detailed information about the figure. Captions should be descriptive enough that the figure can be understood by someone who has not read the body text. If a figure

contains multiple parts, each part is generally identified with a letter that is placed within the figure. The caption for a figure with multiple parts typically contains a description of each part, which begins with the part's letter (usually italicized), followed by a comma.

3.8. Tables

Tables should be formatted in a consistent way. The size and font used for text in a table will generally be the same as that used in the main body of a document. Bold text may be used to denote headings in a table. A consistent style of borders should be used for all tables in the document if possible.

Each table should have a caption that identifies the table number. Each table should be assigned a unique, sequential number. In a traditional thesis or dissertation, tables are numbered using the chapter number, followed by a period and the table number (e.g., Table 3.1). Table captions should be located above each table. The first sentence of a caption should be a general description of the table. Captions should be brief. Discussion of the significance of the data presented in a table should be included in the body of the document.

3.9. Oversize pages or media

Students who wish to print documents with oversized materials or supplemental electronic files in a media pocket should contact the bindery of their choice to determine how to properly format their documents for binding. Note that there may be an extra charge to print documents that require oversize materials or pockets.

Oversize pages measuring 11 × 17 inches can be included within the body of the document so that the pages fold out from the binding edge. Simply incorporate these pages in the appropriate location, adhering to the margins as described in Section 3.2 on page 5. Page numbers must be placed so that when the page is folded out the number is at the bottom center of the page or non-binding upper corner of the page.

Supplemental files, such as video, sound, or data, can also be included with a submission. See Section 6.1 on page 22 for additional instructions on preparing the electronic submission.

3.10. Use of color

Color should only be used when necessary to enhance the presentation of the document. If you intend to have your document printed or professionally bound, color is generally more expensive to print, it does not reproduce equally well on different printers or computer monitors, and may be difficult for visually impaired readers to interpret. Some word processors use RGB color to present black text in a PDF file. See the Graduate

School blog for instructions on to [change color pages to black and white](#) to minimize printing costs if professional binding is required.

4. Sections and order

This portion of the *Guide* describes the required and recommended sections for a dissertation, thesis, or report. Required sections, as noted, must be included in the order indicated. When optional sections are included they should appear in the order recommended in this section of the *Guide*.

All students are strongly encouraged to use the available templates to aid in formatting their documents and presenting all required materials in the correct order and with the correct formatting. See Section 2.2 on page 3 for more information.

4.1. Title page (required for Dissertations, Theses, and Reports)

Sample title pages are shown in Appendix A. Templates are also available online; see Section 2.2 on page 3 for more information. The typeface, style and size of text should be the same as that used for the body text of the document. A page number must not be placed on this page, but the page is included in the page count. A title page is required to contain the following elements in the following order with the requirements as described:

- The title – shown in all capital letters. For example, "MY DISSERTATION", or "MY THESIS", or "MY REPORT", where My Dissertation (or My Thesis, or My Report) is the exact title of the document.

- The word "By"- without the quotations.

- The author's full name – shown in a mix of upper and lower case letters. For example, "Blizzard T. Husky", where Blizzard T. Husky is the name of the author.

- Type of document – shown in all capital letters. This will be one of the following: "A DISSERTATION", "A THESIS", or "A REPORT".

- The following statement – written exactly as shown here but without the quotations: "Submitted in partial fulfillment of the requirements for the degree of".

- Type of degree – shown in all capital letters. For example, "DOCTOR OF PHILOSOPHY", or "MASTER OF SCIENCE".

- The name of the degree program –shown using upper and lower case letters. The word "In" should precede the name of the degree program. Note that the name of the degree program will generally not be the same as the name of a department or school. A current list of all graduate degree programs is found on the Graduate School web site.

- The University name – shown in all capital letters, as shown here but written without the quotation marks: "MICHIGAN TECHNOLOGICAL UNIVERSITY".

- The year of completion of the final document placed between the University name and copyright notice. Note that this may not be the same year that the dissertation, thesis, or report was defended.

- A copyright notice – printed using a mix of upper and lower case letters and with the format: "©Year Owner's Name". For example: "©2021 Jane E. Doe" "Copyright" or "Copr." may be used instead of "©". Note that copyrights may be registered, for a fee, when documents are submitted to ProQuest.

4.2. Approval page (required for Dissertations, Theses, and Reports)

Sample approval pages are shown in Appendix A. Templates are also available online. See Section 2.2 on page 3 for more information. The style and size of font should be the same as that used for the body text of the document. A page number must not be placed on this page, but the page is included in the page count.

The following elements are required on an approval page in the following order with the formatting requirements as noted below:

- For a dissertation, the text: "This dissertation has been approved in partial fulfillment of the requirements for the Degree of DOCTOR OF PHILOSOPHY (note that the name of the degree is written in all capital letters) in *Degree Program* (where the appropriate name is entered and is written in a mix of upper and lower case letters and is not italicized)." Note that the name of the degree program will generally not be the same as the name of a department or college. A current list of all graduate degree programs is found on the Graduate School web site.

- For a thesis, the text: "This thesis has been approved in partial fulfillment of the requirements for the Degree of DEGREE TYPE (where the appropriate name of the degree, e.g., Master of Science, is inserted and is written in all capital letters) in *Degree Program*" (where the appropriate name is entered and is written in a

mix of upper and lower case letters and is not italicized). Note that the name of the degree program will generally not be the same as the name of a department or college. A current list of all graduate degree programs is found on the Graduate School web site.

- For a report, the text: "This report has been approved in partial fulfillment of the requirements for the Degree of *DEGREE TYPE* (where the appropriate name of the degree, e.g., Master of Science, is inserted and is written in all capital letters) in *Degree Program*" (where the appropriate name is entered and is written in a mix of upper and lower case letters and is not italicized). Note that the name of the degree program will generally not be the same as the name of a department or college. A current list of all graduate degree programs is found on the Graduate School web site.

- Name of the student's administrative home department or college in upper and lower case letters, preceded by the text "Department of" or "College of" as appropriate. A college name is used only when there are no departments within the college. Note that the name of the department or college will generally not be the same as the name of a degree program. A current listing of departments and colleges is found on the Michigan Tech web site. This line must be right aligned as shown on the template examples in Appendix A.

- Names of members of the Graduate Faculty who served as advisor (or co-advisors, if applicable) and as committee members and approved the dissertation, thesis, or report.

  o The top line is for the name of the advisor. When there is a single advisor, this line is required to be preceded by the words: "Dissertation Advisor:" (or "Thesis Advisor:" or "Report Advisor:" as appropriate). If there are two co-advisors, the name of the first co-advisor is given on the first line and the name of the second co-advisor is given on the second line. When there are two co-advisors, the name of each co-advisor is required to be preceded with the words "Dissertation Co-Advisor:" (or "Thesis Co-Advisor:" or "Report Co-Advisor:").

  o List each committee member on a separate line. The names are required to be preceded by the words: "Committee Member:". All Committee Members are required to be listed.

  o All names listed on this page are required to be italicized.

  o Note the colons and left edge of the names must be aligned.

- The last line is reserved for the title and name of the department chair or college dean of the unit which served as the student's academic home at the time they completed the degree. Only list the college dean when the college has no departments. The individual's **single** title (e.g., "Department Chair:", **or** "College Dean:") must precede the name of the individual. The name of the College Dean or Department Chair is required to be italicized.

4.3. Dedication (optional)

Dissertations, theses, or reports may be dedicated to an individual, several people, or a group. The word "dedication" is usually not needed on this page. Customarily, the dedication is short, such as, "To my parents." This page is not numbered if included, but is included in the page count.

4.4. Table of contents (required for Dissertations and Theses)

Each chapter or section heading, with the exception of the table of contents, should be listed in the table of contents. Additional subheadings may also be included. The table of contents should be formatted so that each level of heading is clearly distinguished and page numbers are easily found. Page numbers should align flush right and should be preceded by a leader of periods. One way to clearly identify section headings is to increase the indention of successively lower levels of subheadings. Formatting for a Table of Contents is illustrated in the table of contents for this *Guide*.

4.5. List of figures (optional)

If a list of figures is included, it should consist of a table that lists the figure number, the first line of the figure caption, and the page number on which the figure occurs. The formatting of the list of figures is similar to that of a table of contents, except that there are no subheadings.

4.6. List of tables (optional)

If a list of tables is included, it should consist of a table that lists the table number, the first line of the table caption, and the page number on which the table occurs. The formatting of the list of tables is similar to that of a list of figures.

4.7. Author Contribution Statement (required in certain instances for Dissertations and Theses)

An author contribution statement must be used in two situations:

- A document includes previously published materials, or

- A document includes materials developed collaboratively.

A single author contribution statement at the beginning of the dissertation or thesis must be present if published material, such as a journal article, is republished in its entirety as a chapter in the document. For the purposes of this *Guide,* published materials include those already in print, accepted for publication, in review, or planned for submission in the near future.

An author contribution statement must also be present if part of the dissertation or thesis was prepared collaboratively. For example, if a chapter of a dissertation was prepared jointly by the author of the dissertation and another student (who worked together on the research project and in the writing of the text of the chapter), the preface must clearly describe the contributions made by each individual.

4.8. Acknowledgements (optional)

This page is used to thank individuals, groups, or organizations for their support.

4.9. Definitions (optional)

If a list of definitions is included, it should be alphabetized. A definition list may include a key to foreign terms and phrases used in the document.

4.10. List of abbreviations (optional)

If a list of abbreviations is included, it should be alphabetized.

4.11. Abstract (required for Dissertations, Theses, and Reports)

An abstract is a concise summary of the document. It is not an introduction. It should clearly identify the topic and major findings of the research. The abstract in the document will be used for the ProQuest index and institutional repository (Digital Commons). Publication with ProQuest is required for dissertations and theses. ProQuest does not

accept reports. Dissertation abstracts should be less than 350 words and thesis and report abstracts should be less than 150 words in order to ensure that they are not truncated by automated search engines. It is required that an abstract be no longer than two pages (double-spaced) or one page (single-spaced).

4.12. Main body (required for Dissertations and Theses)

If the student's program has requirements for the content of a dissertation or thesis, those requirements should be used in place of the recommendations in this section.

A traditional document presents the research in the form of a single document (similar to a book). Dissertations and theses can also be presented as a collection of articles, some of which may have been published previously. Both formats are acceptable.

If material included in a dissertation, thesis, or report has been previously published, that prior publication must be cited in the dissertation, thesis, or report. Reproduction of any section of an article that is larger than allowed for by "fair use" policies requires appropriate copyright permission.

4.12.1. Common sections in a traditional document

4.12.1.1. Introduction

The introduction lays the foundation for the current research and places the work in context within the disciplinary field. It should be an analysis of the existing body of research that has a bearing on the current project. It should both review the literature and provide a critical analysis of it. It should outline some of the limitations of prior research and describe areas that are in need of further exploration. This section provides context for the goals of the current research project.

4.12.1.2. Goals and hypotheses

Following the introduction is usually a section outlining the goals or purpose of the current work and the hypotheses being tested or problems being addressed.

4.12.1.3. Methods

The methods section describes all of the methods used in the study. Methods may include activities such as modeling, conducting simulations, performing field work or experiments, implementing surveys, among many other techniques. If the description of one or more of the methods is lengthy, it is appropriate to include an overview in this section of the document and to include more details in an appendix.

4.12.1.4. Results (data and observations)

The results section presents all of the data obtained using the methods described in the methods section. A common mistake is to include a description of methods within the results section. This should be avoided in nearly all circumstances. If the data are extensive, a summary may be included in the main body of the document with additional information located in an appendix. Appendices may also be used to present data in different formats.

4.12.1.5. Discussion

In the discussion section, results are interpreted and are put in context with the current state of research in the discipline. The discussion section should clearly explain the meaning of the results and their implications, in particular as they relate to the hypothesis(es) tested. It is common to use citations to refer to the primary disciplinary literature in order to compare and contrast the results of the current project with results obtained and reported by other researchers. Sources of discrepancies, limitations, or errors in the current work and their implications should also be presented in the discussion section. New data should not be presented in this section.

4.12.1.6. Future work

This section highlights additional work that could be done at a later date to build upon the current research.

4.12.1.7. Conclusions

Conclusions summarize the main findings of the current research. This section reiterates the main findings and limitations of the research and may highlight some of the areas for future work.

4.12.2. Collection of articles

In this type of document each chapter is typically developed as a stand-alone section. If any chapter contains published material (such as a journal article) or was prepared collaboratively, an author contribution statement must be included in the dissertation or thesis to clarify the status and origin of the material. See Section 4.7 on page 14 for additional information. For the purposes of this *Guide,* published materials include those already in print, accepted for publication, in review, or planned for submission in the near future.

When the document consists of a collection of articles, an introductory chapter must be included that describes the connection between all other chapters. A dissertation or thesis is not simply a collection of articles; it is the presentation, synthesis, and analysis of an entire research project that was conducted over a period of time. It is most helpful when

the introductory chapter states the goals and hypotheses for the overall project and describes how each chapter relates to the overall goal.

Formatting of published items included in a thesis or dissertation must either:

- Conform to the guidelines to authors of the publishing organization, or

- Be consistent with the rest of the thesis or dissertation.

Photocopies or PDF versions of previously published papers will not be accepted.

A footnote must be placed on the first page of a chapter containing published material with the following information:

- "The material contained in this chapter was previously published in *OR* has been accepted for publication in *OR* has been submitted to the *OR* is in preparation for submission to *Title of Source of Publication*."

- If a source of publication has not yet been determined, edit the footnote as needed o reflect where it might be submitted. For example: The material contained in this chapter is in preparation for submission to a journal.

4.13. Reference List/Bibliography (required for Dissertations and Theses)

A reference list or bibliography presents all of the sources cited in the document. It may also include works consulted. The style used in the list of references should be consistent with the style used in a well-respected journal in the student's discipline. Either a single reference list for the entire document or separate reference lists at the end of each chapter must be included.

4.14. Appendices (optional)

Appendices are used to place lengthy and detailed material that supports the main body of work. Appendices should be formatted in the same way as the body of the dissertation, thesis, or report. Note that materials traditionally included in an appendix, such as code or data tables, may be included as digital files instead of, or in addition to, the PDF file. See Section 6 on page 22 for more information. Supplemental materials are not required to follow the formatting requirements of the dissertation, thesis, or report PDF file.

5. Academic integrity and responsible conduct for research

Dissertations, theses, and reports are expected to be completed with the highest level of integrity and must adhere to all University policies and the accepted standards of practice in the relevant disciplinary field.

5.1. Research misconduct

Michigan Tech addresses academic integrity and misconduct in research, scholarly, and creative endeavors (hereafter, "misconduct") in separate policies and procedures. The integrity of academic assignments is addressed by the Academic Integrity Policy (Senate Policy 109.1), while the integrity of research is addressed by the Misconduct in Research, Scholarly, and Creative Endeavors Policy (Senate Policy 204.1). A dissertation, thesis, or report is considered research, and allegations of misconduct are handled according to the misconduct procedures (Senate Procedures 204.1.1). Current Senate policies and procedures can be found online.

Misconduct includes, but is not limited to, fabrication, falsification, or plagiarism.

- Fabrication is making up data or results and recording or reporting them.

- Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented.

- Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit to the originator. Policies related to plagiarism also cover instances of self-plagiarism.

Misconduct does not include honest errors or differences in opinion.

5.2. Human and animal subjects and recombinant DNA

All research projects that involve human subjects, animal subjects, or recombinant DNA must be reviewed by the Office of Research Integrity and Compliance. Projects that are approved will receive an approval number from the Office of Research Integrity and Compliance that can be referred to in a dissertation, thesis, or report as evidence that approval was sought and granted.

5.3. Using copyrighted materials

Materials obtained from another source may be covered by a copyright. This section provides information pertaining to the use of copyrighted materials.

5.3.1. Determining if permission is needed

All material reused or obtained from another source must be properly cited. This includes previously published material that was originally created by the author of the dissertation, thesis, or report being submitted to Michigan Tech's Graduate School.

Permission is needed to republish any material, including that created by the author of the dissertation, thesis, or report being submitted to Michigan Tech's Graduate School, with the following exceptions:

- Material in the public domain. This includes material created by employees of the federal government. This may also include some materials produced in other countries or by other governments.

- Material for which the copyright has expired.

- Material that is covered under the "fair use" clause of copyright law, which allows for the reuse of some materials without permission.

- Text or figures substantially altered from their original source.

A full discussion of copyright law is beyond the scope of this *Guide*. Helpful copyright resources can be found on the Graduate School web site. ProQuest also maintains additional copyright resources on their web site. An excellent description of copyright and fair use in academia is maintained by Stanford University.

5.3.2. Obtaining permission to use copyrighted materials

If permission is required to use previously published materials, it must be given in writing by the holder of the copyright (typically a publisher). Obtaining permission to use previously published material can take a great deal of time. Sample permission letters are available from ProQuest.

If permission is not granted, the previously published material must not be used in its published form. In many cases text, figures, or tables can be substantially modified so that they can be used as long as they are properly cited.

5.3.3. Documenting permission to use copyrighted materials

In cases where copyrighted material is used in a dissertation, thesis, or report, it is expected that permission to use the material will be clearly documented. Many publishers explicitly describe the way that their permission to allow re-use of copyrighted material should be documented. Two ways this is typically done include the following:

- Include an acknowledgement of the permission granted by the holder of the copyright in the acknowledgement section of the dissertation, thesis, or report.

- Include a reference to the permission either in the text of the document, as a footnote, or in the caption of a figure or table.

In addition, students must submit documentation to the Graduate School that they have permission to use copyrighted materials in a dissertation, thesis, or report or documentation that materials are exempt from copyright restrictions. Evidence of permission to use material created by others or previously published can be documented in two ways:

1. It can be included in an appendix to the dissertation, thesis, or report. This is the preferred method because these materials will always be readily available to the author of the document in case they need access to the written evidence at some point in the future after they have completed their degree.
2. It can be digitally submitted to the Graduate School with the final dissertation, thesis, or report as supplemental files.

Please do not email copyright documentation to the Graduate School.

With either method, label each piece of evidence with the corresponding figure number, table number, or chapter so that the reader can easily match the evidence to the corresponding material in the dissertation or thesis.

5.4. Originality Certification

The Publishing agreement includes an originality statement that students must sign to certify they are submitting an original document. This agreement is incorporated into the digital submission process.

Plagiarism-detection software (e.g., turnitin.com) can be used to assist in ensuring that a document is free of plagiarism. See Section 2.3.1 (page 3) for more information about accessing Turnitin.

Several important facts should be kept in mind when using plagiarism-detection software.

- Plagiarism-detection software compares the text in a dissertation, thesis, or report to other sources that are available from the internet or from materials archived by the software provider.

- The software will alert the user to the presence of matching segments of text, even if the matching segment consists of a commonly used phrase that does not constitute plagiarized material.

- The software will not detect paraphrased material that is not cited or is improperly cited.

6. Electronic Document preparation and publication

6.1. Electronic document preparation

Dissertations, theses, and reports will be available electronically in the J. Robert Van Pelt and John and Ruanne Opie Library. Dissertations and theses will also be electronically available via the ProQuest Dissertations and Theses @ Michigan Technological University database (database access requires Michigan Tech ISO ID and password if off campus). ProQuest does not accept report submissions.

Dissertations, theses, and reports are required to be submitted to the Graduate School as a single .pdf file with all fonts embedded. Compression, password protection, or digital signatures are not allowed. Supplemental files that do not lend themselves to inclusion in a written document (such as music or video) may also be included but should be linked to text or described within the .pdf document. Supplemental files must conform to ProQuest specifications as detailed in their publishing agreement. Contact the Graduate School for one-on-one assistance if these requirements cannot be met to discuss alternatives. See the "Publishing Guides" area of ProQuest's web site for a complete listing of allowable file types.

The single .pdf file can be bookmarked and hyperlinked to aid navigation. It is recommended that, at a minimum, the table of contents contains hyperlinks to each section, and each item in the table of contents and the table of contents itself are listed as a bookmark. Figures and tables may be linked to the table of contents or to text within the main body of the document. See Section 2.2 on page 3 for a description of formatting resources to assist students in preparing a dissertation, thesis, or report.

To avoid possible cross-platform problems and difficulties in future archival processes, the names of all files should follow standard naming conventions and conform to the requirements of the submission sites. File types should be indicated at the end of a document's name using a period followed by letters.

When including supplemental files, it is recommended that files are named so that a computer will sort them in some logical manner. For example, each file name can begin with a 1- or 2-digit number to ensure they will sort logically: "01Smith.pdf", "02Music.wav", "03Movie.mov", etc.

6.2. Publication

All dissertations, theses, and reports are normally published and available after degrees are awarded for the semester. Students can request that their document be embargoed for a finite period of time when they submit their document to Digital Commons. An embargo prevents the full document from being made available for a certain period of

time. Embargoes are typically requested when students wish to publish their document as a book after graduation or when they have included proprietary material in their document. Students may also request that access to their electronic document be restricted to the Michigan Tech community when they submit their document to Digital Commons. Submissions to ProQuest will have only the title and abstract available during the embargo period. Contact the Graduate School via email to request different access.

Requests for embargoes are required to include a justification for the request and are required to be approved by the advisor. Graduate School staff will review requests for one year or less. The dean of the Graduate School will review requests for longer than one year. Approval for an embargo of more than one year is not automatic and is rarely granted. A detailed rationale must be provided for these requests.

Once an embargo or restriction is in place, students may request to have their embargo or restriction extended by emailing the Graduate School at least two weeks before the embargo or restriction expires.

If professional binding is desired, the document should not be submitted to a bindery until the embargo or restriction has expired.

7. References

University of Chicago Press Staff, editor. The Chicago manual of style. 16th ed. Chicago (IL): University of Chicago Press; 2010. Call Number: Z253 .U69 2010.

Council of Science Editors, Style Manual Committee. Scientific style and format: the CSE manual for authors, editors, and publishers. 7th ed. Reston (VA): The Council; 2006. Call Number: T11 .S386 2006.

Appendix A.   Sample title and approval pages

See Section 4.1 for a description of the title page and Section 4.2 for a description of the approval page. Examples are shown on the pages that follow. Templates are also available online to aid in preparing these pages. See Section 2.2 on page 3 for more information.

The samples included for a thesis can be modified for use with a report by substituting the word "REPORT" for the word "THESIS".

Sample Title Page for a Dissertation

INCREASING COMPUTATIONAL EFFICIENCY THROUGH NANOSCALE
COMPONENT MODIFICATIONS

By

Blizzard T. Husky

A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

In Computer Engineering

MICHIGAN TECHNOLOGICAL UNIVERSITY

2021

Sample Approval Page for a Dissertation

This dissertation has been approved in partial fulfillment of the requirements for the Degree of DOCTOR OF PHILOSOPHY in Computer Engineering.

Department of Electrical and Computer Engineering

Dissertation Advisor: *Type the name of the advisor here in italics. If there are co-advisors, replace the word "Advisor" with "Co-advisor".*

Dissertation Co-Advisor: *If there are co-advisors, type the name of the second co-advisor here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Department Chair/College Dean: *Type the name of the Department Chair or College Dean here in italics. Delete the title that doesn't apply to the named individual.*

IMPROVING PERFORMANCE OF DIESEL ENGINES UNDER LOW
TEMPERATURE CONDITIONS

By

Blizzard T. Husky

A THESIS

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

In Mechanical Engineering

MICHIGAN TECHNOLOGICAL UNIVERSITY

2021

Sample Approval Page for a Thesis

This thesis has been approved in partial fulfillment of the requirements for the Degree of MASTER OF SCIENCE in Mechanical Engineering.

Department of Mechanical Engineering – Engineering Mechanics

Thesis Advisor: *Type the name of the advisor here in italics. If there are co-advisors, replace the word "Advisor" with "Co-advisor".*

Thesis Co-Advisor: *If there are co-advisors, type the name of the second co-advisor here in italics.*

Committee Member: *Type the name of a Committee Member here in italics*

Committee Member: *Type the name of a Committee Member here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Committee Member: *Type the name of a Committee Member here in italics.*

Department Chair/College Dean: *Type the name of the Department Chair or College Dean here in italics. Delete the title that doesn't apply to the named individual.*