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TITLE OF THESIS IN ALL CAPITAL LETTERS

By

Blizzard T. Husky

A THESIS

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

In **Degree Program**

MICHIGAN TECHNOLOGICAL UNIVERSITY

2023

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

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Graduate School Note: The Table of Contents above is automatically generated by applying paragraph styles to the headings in this sample document. Note that the Table of Contents is not included as an item in the Table of Contents. Please see the specific example sections that follow to use the styles created for this template. The table is updated by clicking on it and selecting “update”.

Page numbering is set by using “section breaks”. Do not change the section breaks in this template. Delete this note.

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This section is 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.

To utilize the automatic numbering features of Word which will automatically build the list (see below), insert captions using the “Insert Caption” tool on the “References” tab.



You are not required to label your appendices as A, B, C, etc. You may choose to continue them as additional chapters in your document.

If appendices A, B, C, are used, a separate label must be used for these figures. Use Find/Replace to replace the filler label with the label “Figure.” See [this tutorial](#) for assistance:

As a result, this list of figures is composed of two lists – one for the main body, and one for the appendices. Manually delete the carriage return between the lists prior to preparing your final PDF.

If you only want part of the caption in your list, you have two options:

1. Manually delete extra information in the caption that isn’t needed in the list. After manually editing the list, only update the page numbers in the table to maintain your text changes.
2. Use a [style separator](#) to delineate where you want to end the caption description. See Figure 1.2 for an example in this document.

Delete this note.

List of Tables

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This section is 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.

To utilize the automatic numbering features of Word which will automatically build the list (see below), insert captions using the “Insert Caption” tool on the “References” tab.



You are not required to label your appendices as A, B, C, etc. You may choose to continue them as additional chapters in your document.

If appendices A, B, C, are used, a separate label must be used for these figures. Use Find/Replace to replace the filler label with the label “Table.” See [this tutorial](#) for assistance:

As a result, this list of tables is composed of two lists – one for the main body, and one for the appendices. Manually delete the carriage return between the lists prior to preparing your final PDF.

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1. Manually delete extra information in the caption that isn’t needed in the list. After manually editing the list, only update the page numbers in the table to maintain your text changes.
2. Use a [style separator](#) to delineate where you want to end the caption description. See Figure 1.2 for an example in this document.

Delete this note.

Author Contribution Statement

This section was previously named the preface.

An author contribution statement is required 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 thesis is required if published material, such as a journal article, is republished in its entirety as a chapter in the document. Published materials include those already in print, accepted for publication, in review, or planned for submission in the near future.

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

Acknowledgements

This section is optional.

This page is used to thank individuals, groups, or organizations for their support. If you are required to acknowledge the support of a sponsor, this is generally an appropriate place to do so.

Definitions

This section is optional.

Include a list of definitions here, if desired.

List of Abbreviations

This section is optional.

Include a list of abbreviations here, if desired.

Abstract

This section is required. Do not delete the section break on this page. It follows this blue text on a separate line.

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 your Digital Commons record. Publication with ProQuest is required for theses. Thesis abstracts should be less than 150 words in order to ensure that they are not truncated by automated search engines. Under no circumstances may an abstract be longer than two pages (double-spaced) or one page (single-spaced).

Graduate School Note: to add additional sections to the preliminary pages of the document, consult a style guide for appropriate location. Headings in this section must use the style “Heading 6” to be properly included in the table of contents. Note that the abstract must be the last section in the preliminary materials, and the table of contents must follow the approval page (or dedication page, if present). This section is required. Do not delete the section break on this page.

1 Main body (Heading 2)

The main body of the document is included here. The organization of this section is at the discretion of the committee.

Use Heading 2 for chapter headings. A page break will automatically be inserted before each new chapter. Use Headings 3-5 for sections within each chapter. Use “Normal” text for paragraphs in the document. To [edit the appearance of styles](#) in this document, see our blog for a tutorial.

To insert landscape pages into your document and properly format the page numbers, please see this [tutorial on landscape page numbers](#), and check to ensure that the numbers are not in the margins.

1.1 Heading 3 Subsection

Apply the style “GS Table Caption” to each table caption and center tables. Centering tables and captions will help with your margins. Word puts padding around the text in each cell so that borders don’t touch the text. Tables that are flush left will have table borders in the margin space and will require revision.

Table 0.1. Sample table. Description of styles used in this document.

Heading Label	Function of Heading	Present in Table of Contents?
Heading 1	Title of document. Only used once	No
Heading 2	Main chapter heading	Yes
Heading 3-5	Sub-sections of chapters	Yes
Heading 6	Main sections in preliminary pages (List of Figures, Acknowledgements, etc.)	Yes
Heading 7	Main appendix heading (Appendix A)	Yes
Headings 8-9	Sub-sections of appendices (A.1, etc.)	Yes
GS Administrative Home	Used on approval page to right align administrative home	No
GS Approval Line	Used to properly align names listed on approval page	No
GS Table Caption	Used for table captions – centers the caption on page	No
GS Table Cell	Plain text for table	No
GS Tale Header	Bold text for table header	No
Title Page Text	Centers text on title page	No
Title Page Text – section	Centers text on title page and places large space after to separate sections	No
Normal	Used for body text; 12 pt spacing after each paragraph	No

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1.1.1 Accessibility Notes

Please read this entire section to learn about accessibility. For readability, only the opening paragraph is highlighted.

This Word document is formatted so that it will create an accessible PDF with minimal corrections. It is very important to consistently use the Headings as described in Table 0.1. Michigan Tech has a good website describing many of the [accessibility requirements for documents](#). Alt text, descriptive hyperlinks, and table formatting can help all people equally access your work. A dissertation, thesis, or report differs from a traditional document in that sections like the list of tables, main content chapters, and appendices all appear at the same outline level in a table of contents, but have unique formatting as in this document.

When you convert your document from Word to PDF, these differences will require special mapping of the headings to bookmark levels if you create bookmarks. See Table 0.2 for a description. If you are using Word on a PC, you can access the bookmarks preferences from the Acrobat tab. See our [blog tutorial on bookmarks](#) for more information. If you do not have access to the full version of Acrobat, you will need to alter the bookmarks manually using your software's procedure.

Table 0.2. Mapping of headings to bookmarks for PDF conversion.

Heading Label	Bookmark Level
Heading 1	1
Heading 2	2
Heading 3	3
Heading 4	4
Heading 5	5
Heading 6	2
Heading 7	2
Heading 8	3
Heading 9	4

See Figure 1.1 on page 3 for a screenshot of how the bookmarks preferences should look when the proper levels and bookmarks are set. Note that in this document, the table of contents styles have already been defined to appear correctly.

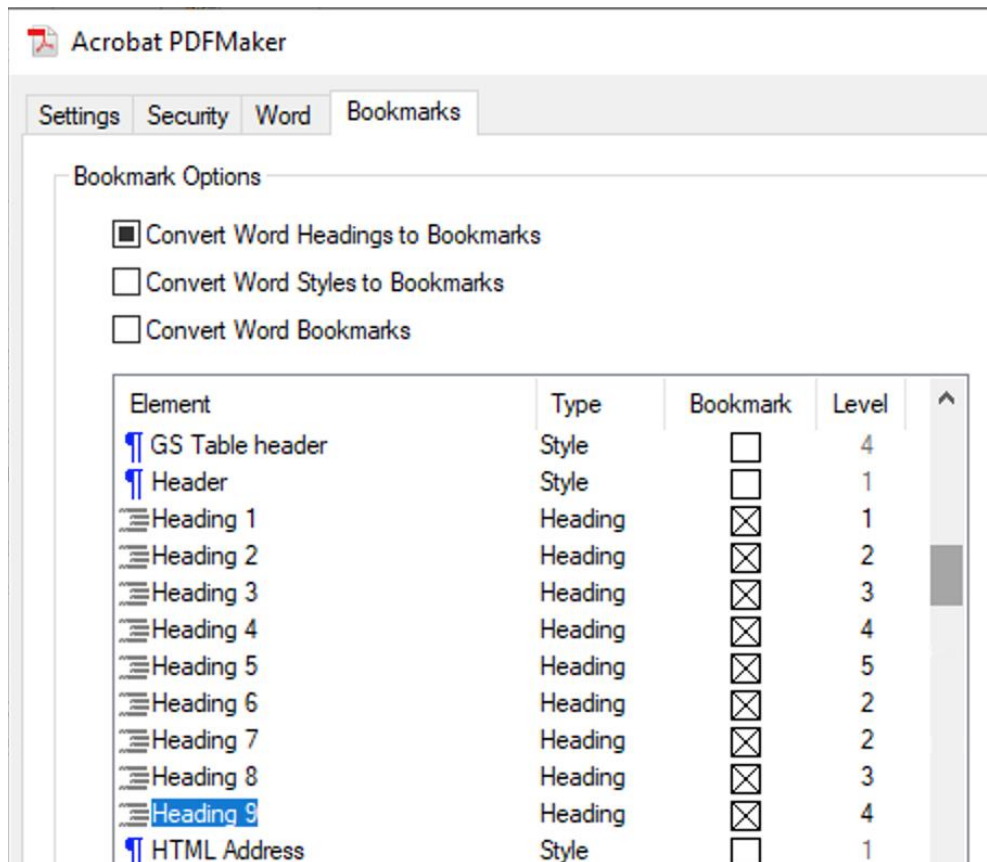


Figure 1.1. Screenshot of how to assign levels to bookmarks in Acrobat using the headings present in this document.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum commodo mi non eros imperdiet rhoncus. Donec dignissim vehicula ipsum, at imperdiet libero feugiat at. Nunc purus nulla, suscipit vestibulum faucibus vitae, pharetra non tellus. Cras eu arcu at sapien posuere eleifend. Etiam vitae ligula tempor, blandit neque quis, tincidunt ligula.



Figure 1.2. Native copper from Keweenaw County. Image source: https://en.wikipedia.org/wiki/Copper_Country. See B for full attribution and copyright licensing information. Note that when you use Word’s automatic cross-reference command to an Appendix, select “Heading Number (no context)” for best results.

2 Additional Chapter

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2.1 Heading 2 Subsection

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3 Final Chapter

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4 Reference List

This section is required. Use a style appropriate for your field. You may also choose to place references at the end of each chapter. You may use an alternative name for this section such as Works Cited or Bibliography.

A Title of Appendix

Appendices are optional. It is optional to use letters to number your appendices (for example: Appendix A). Use the Heading 7 style to define each new appendix as needed if using A, B, C, etc... Headings 8 and 9 can be used for subsections within an appendix. A page break will automatically be inserted before each new appendix.

Alternatively, you could choose to continue with the numbering of chapters in your document by continuing to use the Heading 1 style for new chapters. Using Heading 1 is simpler for new appendices. If you use Heading 1, you should not also name the appendices A, B, C. For example, it is not recommended to name an appendix: “6. Appendix A. Thermochemical Data.” Instead, give the chapter a descriptive name: “6. Thermochemical Data.”

A.1 Heading 8 subsection

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Figure A.1. Map of the copper country region (light shading). Image source: https://en.wikipedia.org/wiki/Copper_Country. See B for full attribution and copyright licensing information.

A.1.1 Heading 9 subsection

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Figure A.2. Miners with lunch pails at the Tamarack mineshaft. Image source: https://en.wikipedia.org/wiki/Copper_Country. See B for full attribution and copyright licensing information.

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Table A.1. Important dates in the history of the Graduate School at Michigan Tech.

Date	Event
1885	Michigan Mining School is established
1927	First masters' degree are awarded
1934	First PhDs are earned
1950	The Board of Control approved the creation of the Graduate School
1960	First dean of the Graduate School was appointed
2005	First female dean of the Graduate School, Jacqueline Huntoon, was appointed
2009	Graduate enrollment exceeds 1000 students for the first time

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B Copyright documentation

You must provide documentation for all copyrighted material that you include in your document. Below is an example of how this can be accomplished. See Section 5.3 of the *Guide* for more information.

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Figure 1.2: “Michigan Copper Country” by Phizzy at the English language Wikipedia. Licensed under CC BY-SA 3.0 via Wikimedia Commons - <https://commons.wikimedia.org/wiki/File:MichiganCopperCountry.svg#/media/File:MichiganCopperCountry.svg>. Accessed July 2015.

Figure A.1: “Tamarack Miners Copper Country MI sepia” by Adolph F. Isler (1848-1912); dust cleaned up by Howcheng. - Keweenaw National Historical Park archives, Jack Foster Collection. Downloaded from <http://www.fhwa.dot.gov/byways/photos/61352>. Licensed under Public Domain via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:TamarackMiners_CopperCountryMI_sepia.jpg#/media/File:TamarackMiners_CopperCountryMI_sepia.jpg. Accessed July 2015.

Figure A.2: “Copper-24459” by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0. Licensed under CC BY-SA 3.0 via Wikimedia Commons - <https://commons.wikimedia.org/wiki/File:Copper-24459.jpg#/media/File:Copper-24459.jpg>. Accessed July 2015.