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# TITLE OF DISSERTATION IN ALL CAPITAL LETTERS

By

Blizzard T. Husky

A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

In Degree Program

MICHIGAN TECHNOLOGICAL UNIVERSITY

2024

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###### List of Figures

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Screenshot of the "Insert Caption" command in Microsoft Word. This command can be found on the References tab.

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2. Use a [style separator](https://smawins.com/news/microsoft-word-run-on-headings-and-more-using-the-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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Delete this note.

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* A document includes previously published materials, or
* A document includes materials developed collaboratively.

A single author contribution statement at the beginning of the dissertation 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 dissertation 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 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

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Include a list of definitions here, if desired.

###### List of Abbreviations

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**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.

## 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](http://blogs.mtu.edu/gradschool/2010/11/23/edit-a-style/) 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](http://guides.lib.umich.edu/c.php?g=283073&p=1886009), and check to ensure that the numbers are not in the margins.

### 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 1.1. 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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#### 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 1.1. Michigan Tech has a good website describing many of the [accessibility requirements for documents](https://www.mtu.edu/accessibility/training/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 1.2 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](https://blogs.mtu.edu/gradschool/2012/06/04/create-bookmarks-using-word-and-adobe-acrobat/) 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 1.2. 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.

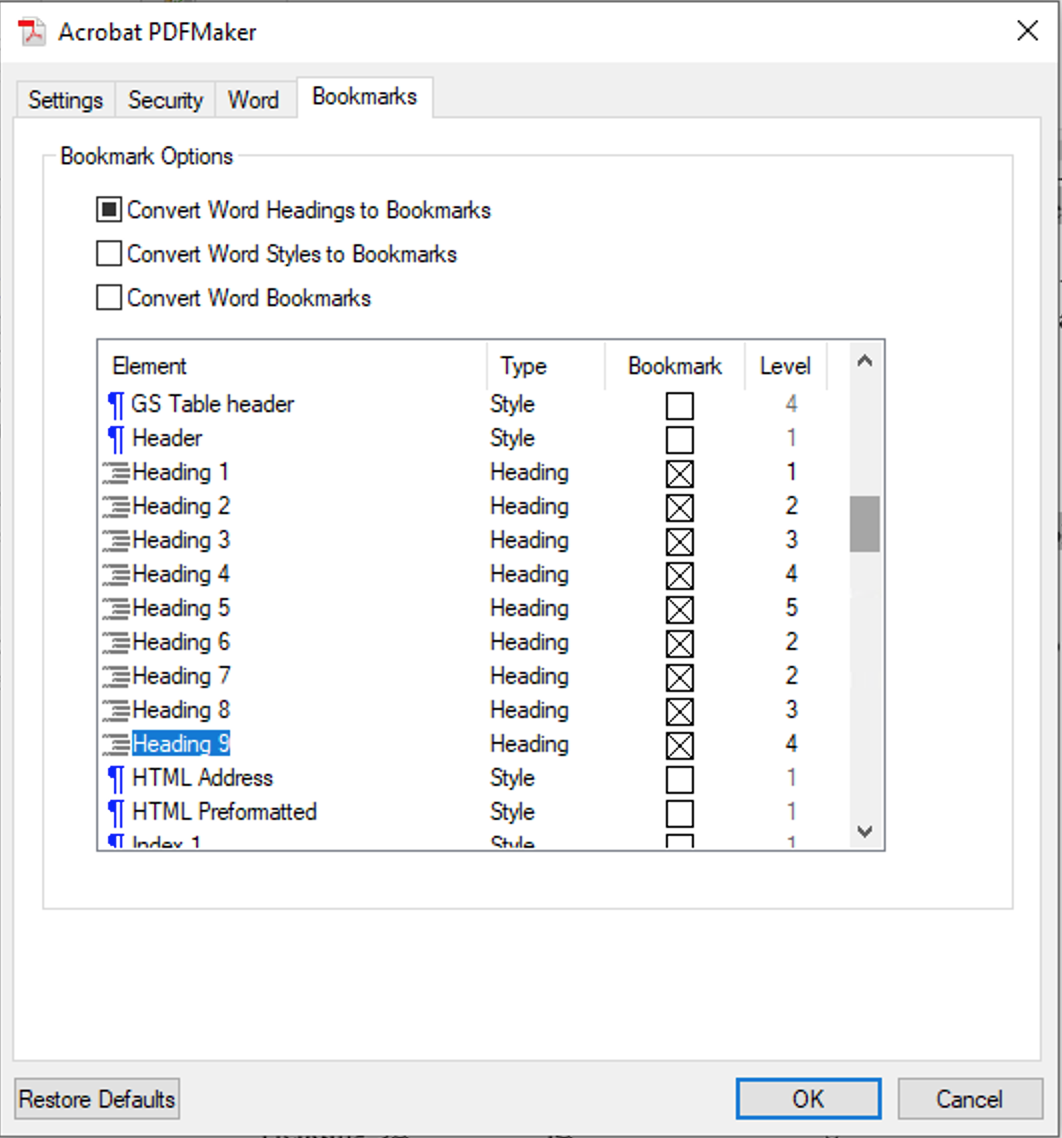


Figure 1.1. Screenshot of how to assign levels to bookmarks in Acrobat using the headings present in this document.

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Figure 1.2. Native copper from Keweenaw County.

Image source: https://en.wikipedia.org/wiki/Copper\_Country. See Appendix 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.

## Additional Chapter

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### Heading 2 Subsection

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## Final Chapter

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## 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.

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.”

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 Appendix B for full attribution and copyright licensing information.

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 Appendix 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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Figure 1.1: “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.