

[THESIS TITLE]

by

[YOUR FULL NAME]

Submitted in partial fulfillment of the requirements for the degree of  
[Name of Degree]

[Department]

CASE WESTERN RESERVE UNIVERSITY

[Graduation Month, Year]

**CASE WESTERN RESERVE UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

We hereby approve the thesis/dissertation of  
**[Your Full Name]**  
candidate for the degree of **[Name of Degree]**<sup>1</sup>.

Committee Chair  
**[Chair Name]**

Committee Member  
**[Committee Member #1]**

Committee Member  
**[Committee Member #2]**

Committee Member  
**[Committee Member #3]**

Date of Defense  
**[Date of Defense]**

---

<sup>1</sup>We also certify that written approval has been obtained for any proprietary material contained therein.

## DEDICATION

[Add a dedication page here. If you do not wish to add any to your thesis, you may simply remove this block of text from the document along with the begin and end statements.]

## TABLE OF CONTENTS

List of Tables . . . . .	v
List of Figures . . . . .	vi
Preface . . . . .	vii
Acknowledgements . . . . .	viii
Abstract . . . . .	x
Chapter I: Introduction . . . . .	1
1.1 This is a Section . . . . .	1
1.1.1 This is a Subsection . . . . .	2
1.2 This is Another Section . . . . .	3
Chapter II: This is the Second Chapter . . . . .	5
Chapter III: This is the Third Chapter . . . . .	6
Chapter IV: This is the Fourth Chapter . . . . .	7
Chapter V: This is the Fifth Chapter . . . . .	8
Chapter VI: This is the Sixth Chapter . . . . .	9
Chapter VII: This is the Seventh Chapter . . . . .	10
Chapter VIII: This is the Eighth Chapter . . . . .	11
Appendix A: Questionnaire . . . . .	12
Bibliography . . . . .	13

## LIST OF TABLES

<i>Number</i>	<i>Page</i>
1.1 This is a table. . . . .	2

## LIST OF FIGURES

*Number**Page*

## PREFACE

[You may provide a preface if you wish, it is entirely optional. If you do not wish to provide a preface, simply delete the entire preface block, including the begin and end statements.]

## ACKNOWLEDGEMENTS

[Add an acknowledgements page here. If you do not wish to add any to your thesis, you may simply remove this block of text from the document along with the begin and end statements.]





[Thesis Title]

Abstract

by

[YOUR FULL NAME]

[Include the text of the abstract here. Dissertation abstracts must not exceed 350 words. Thesis abstracts should be limited to 150 words. There must be one overall abstract for the entire work, even if the ETD consists of separate articles. Individual abstracts can be included in addition to, but not instead of the main abstract.]

# *Chapter 1*

## INTRODUCTION

Start off all chapters with `chapter`. `\extrachapter` will give you an unnumbered chapter that's added to the Table of Contents. Labeling is also good practice. That way you can reference sections and chapters from anywhere. For instance, I can reference Sec. 1.1 from here.

Here's an example of a citation [1]. Here's another [2]. These will appear in the big bibliography at the end of the thesis.

If you're new to  $\text{\LaTeX}$  and would like to begin by learning the basics, please see our free online course available at:

<https://www.overleaf.com/latex/learn/free-online-introduction-to-latex-part-1>

You can define terms and/or symbols in a glossary as you talk about key terms in your thesis. So what's a galaxy? These can also include acronyms, such as Low Earth Orbit, which is abbreviated as LEO. You should always define acronyms at the point of first use in the text, in addition to including them in the glossary.

### **1.1 This is a Section**

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget

risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Check this out! I can reference a figure number in the text of the document by referring to Fig. ??.

### 1.1.1 This is a Subsection

Area	Count
North	100
South	200
East	80
West	140

Table 1.1: This is a table.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

I can add another glossary entry wherever I like, and I can make it capitalized by using the macro command with a capital letter like this: Asteroid. The quadratic formula is given in Eq. (1.1).

$$x = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A} \quad (1.1)$$

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

## 1.2 This is Another Section

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc.

Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

*Chapter 2*

## THIS IS THE SECOND CHAPTER

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetur a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetur. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

*Chapter 3*

## THIS IS THE THIRD CHAPTER

See? I can reference the first chapter from all the way down here. I think the first chapter was Chapter 1.



*Chapter 4*

THIS IS THE FOURTH CHAPTER

*Chapter 5*

THIS IS THE FIFTH CHAPTER

*Chapter 6*

THIS IS THE SIXTH CHAPTER

*Chapter 7*

THIS IS THE SEVENTH CHAPTER

*Chapter 8*

THIS IS THE EIGHTH CHAPTER

*Appendix A*

## QUESTIONNAIRE

## BIBLIOGRAPHY

- [1] Mark Goresky and Robert MacPherson. “On the topology of complex algebraic maps”. In: *Algebraic Geometry Proceedings, La Rábida, Lecture Notes in Mathematics*. 961. 1981. DOI: 10.1007/BFb0071272.
- [2] Adam Parusiński and Piotr Pragacz. “Characteristic classes of hypersurfaces and characteristic cycles”. preprint. Jan. 1998.