Demystifying Your Thesis

Instructions on how to report “it”
It starts with a Thesis Statement
What is a Thesis Statement?

• a statement made as a premise to be maintained or proved.
  – declares what you believe.
  – It is what you intend to prove/show compelling evidence in support of.

• The thesis is written with two goals in mind;
  1. Thorough exploration is possible, and
  2. It can be defended.
All your work happens and...
You Write a Thesis Document

• A thesis document
  – Is a cogent description of
    • Your thesis statement and research contributions
    • What the literature says about your thesis topic
    • Describes your artifacts
    • How you measured them
    • Summary and future work

• The document is a tool
  – Used by you to defend your thesis statement
  – Used by your examination committee to attack your thesis
  – Used by humanity as a record of new knowledge
Thesis Documents have Rules

• These can be found at

• Rules for everything that goes in your doc.

• Most important rule
  – “Theses and dissertations that do not conform to these regulations will not be accepted by the School of Graduate Studies or by the National Library for microfilming.”
Some facts

• The regulations speak mostly of items you don’t really care about.

• Your thesis document is an embodiment of what you did.
  – Make it a good read.

• Most professors know little to nothing about the actual process of putting together a thesis.
  – They will not admit this

• The following guidelines are for a “normal” thesis.

• The cruelest moments occur at final inspections by the Program Administrator.
Content that is your thesis document

- Front Matter
- Chapter 1 - Introduction
- Chapter 2 - Literature Review
- Chapter 3 – Your Artifact(s)
- Chapter 4 - Experiments and Analysis
- Chapter 5 - Summary, Future Work
- Back Matter
Front Matter

- Title page
- Author's declaration
- Abstract
- Acknowledgements
- Dedication (if included)
- Table of Contents
- List of Tables
- List of Plates
- List of Figures
- List of Illustrations
- List of Appendices
Back Matter

• Appendices
• Endnotes/Reference List/Bibliography
• Glossary
• Index
Chapter 1- Introduction

• Provide your thesis statement
  – Usually in the first paragraph
• Provide a brief introduction to the field of your thesis statement
  – Set the stage relative to your thesis statement
• Explicitly states your “Research Contributions”
• States how the rest of the document is organized (recommended)
  – Foreshadow anything that the reader should be aware of in your document
What is a “Research Contribution”? 

• Research 
  – systematic investigation concerning a subject in order to establish significant new knowledge.

• Contribution 
  – Items given by an actor to others.

• Research Contribution 
  – The actor’s significant new knowledge given to humanity 
  – We shall refer to Research Contributions as “it”
Research Contribution
Metaphors for “it”
Chapter 2 - Literature Review and Necessary Background

• Discuss what everyone else has done that is related to your thesis statement

• Cite all pertinent literature
  – Reader can go here if they need something
  – Lean toward peer-reviewed, academically available publications
    • Publications should be “new” unless they are seminal works

• Cite all work that the reader will need to know about in order to determine the merits of your work.
  – Show what is critical in this chapter
    • If it is important but big, put it in an appendix

• The literature review is where you disclose to the reader the “academic tools” you will use to make your case.

• This chapter describes the context and tools “before it” was made
Chapter 3 - What you did-your artifacts

• Tell them what you thought up
  – Theories, algorithms, tests
• Tell them what you built
  – Materials, methods, procedures, programs
• Put all the necessary big stuff in appendices
  – Program code, example data
• Disclose what you used from others
  – Tell them to look in chapter 2 for details
• Make sure you explain how it all hangs together
  – Assume the reader knows nothing about what you did
    • Not a bad assumption
• This chapter is about how it “should” work
Chapter 4 - Experiments, Results and Analysis

• What did you do with all your tools?
  – Describe the experiments in detail

• What results did you get?
  – Here is where the data goes

• What do the results mean?
  – Here is where you use the data to support your thesis claims about research contributions

• Tie it all back to your thesis statement?
  – How do your results support your thesis statement and your research contributions?
  – Make sure you disclose what worked and what didn’t

• This chapter is all about how it “did” work.
Chapter 5 - Summary and Future Work

- Tell the reader what you did in the form of a summary
- Restate your thesis statement
- Tell the reader how your results support your research contributions
- Tell the reader potentially fruitful areas where your work can be extended because your work will now be another tool for others to use.
- This chapter is all about bragging and how it “could” work
Do not get Discouraged!
Useful Tips

• Have a native-English speaker read your thesis to see if it makes sense

• Write in this order if possible
  – Chapter 2 + bib, 4, 3, 5, 1, everything else

• Do not keep handing in a slightly different version to your supervisor

• Do not time it so you defend in the summer or really really near the end of term

• A picture is worth a thousand words