

# How to Write a Great Thesis

Some notes and hints on preparing your G.H. Cook Honors Thesis

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**Guidelines for:** How to prepare and organize your data  
How to assemble the materials and put together your “story”  
How to approach and “survive” the writing and editing process

## Key Steps in the preparation of your Thesis:

- Collect your data and draft short statements of key findings
- **Storyboard your results:** organize Figures and Tables in a logical sequence
- First write your Methods, Introduction and Results, then write your Discussion and Abstract
- Stay focused and **seek criticism from your advisor and your peers**
- Refine the language (grammar, spelling, clarity of logic)
- Edit and revise until “perfect”: Write – Edit – Rewrite, Repeat
- Think about what you want to say - **Tell a story!**

The main sections of your Thesis will typically be: **Title, Abstract, Materials and methods, Results, Discussion, and References.** Think about what “belongs” in each of these sections and how the information should be presented.

**Title:** Should be concise, but thought-provoking, catchy and attention-grabbing

**Abstract:** *Write this section last after the most important conclusions of your study are known.*

- Possibly the most important section
- May be the only section most people read
- Title and abstract of published papers are used for keyword searching
- Be sure to include key phrases/terms from the main text that describe your topic/question
- Be concise, but thought-provoking, catchy and attention-grabbing

**Introduction:** *Begin writing this early in your project, but refine as you go along.*

- Introduce the research area and explain why it is of interest and importance
- Present relevant knowledge and cite published literature
- Note important background issues and/or methodological developments
- Place your work in the context of previous work
- Describe the (important) gaps in knowledge and explain how your work will fill them
- Hypothesize, and explain how you will test the hypothesis
- Clearly state the aims of your work

## **Four sections of the Introduction – a template:**

1. Describe the broad area of your study and why it is important
  - explain the big picture within which your study is relevant
  - provide background information and cite the relevant literature
2. Describe the important knowledge gaps in your area of study
  - what are the interesting/important questions that have not yet been answered?

- what information is needed to develop new tools, treatments or practices in your area of study?
- 3. Describe what others have found that may partially address the questions in 2.
  - cite previous studies that have addressed these questions
  - describe any methodological limitations and/or new approaches to answering these questions
- 4. Describe how your study will fill the identified knowledge gap
  - present your hypothesis or design goals
  - briefly explain what you did to test your hypothesis or complete your design

**Materials and Methods:** *Start writing this section as soon as you begin working on your project. Add new information and revise every time you work on your project.*

- Describe experimental or design approach
- Describe all methods and equipment used
- Mention the names and address (state, country) of the manufacturers of large or specialized equipment
- Cite previously published methods where appropriate
- Describe statistical analyses used

**Results:** *Use this section to layout a logical narrative structure of your findings. Note that your narrative structure may not correspond chronologically to when each observation was made!*

- Create a **storyboard of your results or design** including a **sequence of figures** with expected or actual results and **figure captions** explaining what is illustrated.
- Think carefully about presenting your results in tables or figures and what types of figures best show what you found. Always use the same symbols to represent the same properties in different figures.
- Compose information-packed figure captions. *Figure captions should have enough information so that the figure and caption can be understood without reading the accompanying text.*
- Describe your results clearly and assume that readers are not familiar with your types of observations
- Include standard errors or significant differences, where appropriate
- Describe statistical analysis and replication
- Describe observations critically, objectively and dispassionately
- Draw connections between what you found and the aims of the study
- Avoid jargon and slang

**Discussion:** *Use this section to explain what your findings mean. Follow a logical narrative structure: A leads to B, B leads to C.*

- Explain what your results mean in relation to the question you set out to address and the aims of your study
- Do your results fill a gap in our knowledge?
- Do your results provide evidence supporting, or rejecting your hypothesis?
- Mention caveats – critically assess your results and explain their potential pitfalls and biases
- Compare your results with those that were previously published
- What are the implications of your results and conclusions to the big picture within which your study is relevant?
- Highlight the novelty of your findings