

## **Guidelines for preparation of theses and dissertations**

Neither the University Graduate Catalog nor the Office of Research and Graduate Education provide strict dictates for the structure of theses and dissertations. Students and faculty should check with individual graduate programs to determine if they have specific requirements. The following is a guideline of suggested styles and some details for preparing for final submission to the Electronic Thesis and Dissertation database (ETD).

The most common formats for a dissertation or thesis will follow one of 2 styles:

Style 1: (more common for theses)

Literature Review  
Materials and Methods  
Results  
Discussion  
Conclusion  
References

Style 2: (more common for dissertations)

Literature Review  
Paper 1  
Paper 2  
Etc  
Conclusions

### **Literature Review**

The purpose of the literature review is to both demonstrate that the student has read a breadth of literature relevant to the dissertation topic and to introduce the topic, the pertinent background, and most importantly to present the gaps in our current knowledge that lead to the hypothesis that was tested as part of the thesis or dissertation research. There are no strong guidelines for length of the literature review and the student should discuss expectations with both his/her advisor and advisory committee.

The literature review should not just catalog facts and previous studies but rather should be an in depth critique of these. Avoiding referring to specific authors in the sentence structure is the best way to keep the writing focused on the knowledge to be presented rather than just listing relevant studies. Likewise, in writing the literature review, the student should already have read the relevant literature and should write from their knowledge base and then go back and

reference the material appropriately. This technique also helps to guard against inadvertent plagiarism of material from individual papers and reports.

Figures in this section should be to illustrate general concepts. Use of figures from specific papers representing data from that paper should be avoided. A cartoon or figure illustrating the hypothesis to be tested or the model for the work to follow can be very useful to add clarity to the document.

References for this section should reflect the original report for that piece of knowledge and not be a secondary review. If style 2 is being used, the references for this section should appear at the end of this chapter as opposed to at the end of the final document.

### **Materials and Methods**

If using style 1, the second chapter is the experimental details for the subsequent sections. This should be written in sufficient detail to allow a reader to repeat the experiments. In general, this section should be in more detail than one would find in a publication so it can be a resource for subsequent researchers to repeat or extend the findings in the thesis or dissertation. If style 2 is used, materials and methods are included in each separate chapter. If more detail is required on a specific technique, this can be added to an appendix.

### **Results and Discussion**

In style 1, the presentation of the results and subsequent discussion would follow the format of a manuscript. Figures and table appear close to where they are cited in the document. All figures and tables should have legends.

### **Papers as chapters**

When the work of the thesis or dissertation has been published or is being prepared for submission, it is allowable to simply insert the completed or published paper as a separate chapter. It need not be rewritten. If there are multiple authors, the student should indicate what his/her contribution was to the paper. In general, the student should be a first author on these papers or have contributed significantly to the development of the hypothesis and the execution of the experiments. Papers in which the student has contributed only a single figure, should be avoided.

### **Conclusion**

This section provides a final summary of the work and is particularly important when style 2 is used. This section need not be long but should integrate the various chapters and provide future directions for the work.

## **References**

The style for citations is up to the program, discipline, and/or advisor. In general, a style that includes all authors and titles of the papers is most useful for later reference.

## **Acknowledgements (optional)**

A section at the beginning of the document to acknowledge the help of others in completing the work is a nice tradition but not required. This section can be personal but should remain professional.

## **Appendix (optional)**

Some advisors like the student to summarize unpublished or orphan results in the appendix. This is optional and is generally for the convenience of the laboratory as well as documenting the work done by the student.

Special notes for depositing with ETD

1. If the student is reprinting papers that are already published, he/she needs to get permission from the journal to do so. Some journals have explicit statements to this effect on the website near the Guide to Authors. For other journals, this will require a letter to the editor of the journal. Permission to reprint is nearly always provided but may take some time to receive. Do not wait until the last minute to secure this information. Evidence of permission can be included in an appendix.
2. Follow the directions on the ETD site precisely. The formatting for the title pages is very specific and the inclusion of the student's CV is required.
3. Copyright. The ETD directions provide information on copyrighting the document. The following is designed to add some clarity to these directions. In general, any unique writing is protected by common law copyright of that work. Publications included in the work are already copyrighted and the copyright is owned by the journal. For most students, this will be sufficient protection. If some of the work is unpublished and will not be published, the student may in consultation with his/her advisor choose to secure additional copyright protection and will need to pay the associated fee for this copyright. If the work is a chapter that will be submitted in the near future, the student may choose to embargo the thesis or dissertation until the work can be published or a patent obtained. An embargo delays the release of the dissertation for view by others for a selected period of time.