

## **A Brief Guideline for the Organization and Content of Theses**

It is not the intent of this summary to replace the Guidelines for the Preparation of Theses and Dissertations -- the student should always consult the Graduate College Guidelines for answers to specific questions, format, etc. (It is strongly recommended that the student read and be thoroughly familiar with the Graduate College Guidelines before starting to write the thesis; failure to do so may contribute to much grief later in time.) This summary is intended to supplement the Guidelines with respect to organization and content of your thesis - particularly with respect to theses undertaken in the Department of Biological Sciences at BGSU.

### Abstract

This is the first section of your thesis and should not exceed 1 typed page; the abstract should be a single paragraph. The first one or two sentences should introduce the study, followed by a statement of the purpose of the study. The main portion of the abstract follows as a summary of your major results and conclusions. The closing one or two sentences should be devoted to the significance of your findings. (Do not cite any references in your abstract - nor include undefined abbreviations).

### Introduction

This is the second section of your thesis. The purpose of this section is to present a review of the pertinent literature. Include only material that will give a background to your study and that will be useful in "setting the stage" for the remainder of your thesis. The authors of these materials should be specifically cited in the Introduction, their findings as published materials may be written in the present tense or a combination of past and present tenses (so and so found or reported that blah blah blah is or are ...); the body of writing in the Introduction should be in your own words (don't plagiarize - if necessary use quotes - but don't use them excessively).

The introduction should culminate with the purpose or objective of the thesis research and include statements as to why the study was undertaken and what specific problems or hypotheses are being investigated or tested. This part of the introduction may be set off as a separate subsection and may be written in present or past tense. (Do not give specific methods or tests to be used in this section). It is understood by all involved (student, committee members, etc.) that the student has read every article cited in this section and all other sections of the thesis, and has truthfully provided the findings of the cited investigators.

### Materials and Methods

This is the third section of your thesis, the most easy section to write, and is written in past tense. Included in this section are supplies and instruments used (where purchased including company name, city, state; model numbers; etc.), organisms (genus and species, how raised, etc.), and experimental methods (given in sufficient detail that the reader can duplicate your experiments). It is also important to include in this section, if appropriate, how your data were analyzed, e.g., statistical tests used, level of confidence and significance, etc.

### Results

This is the fourth, and perhaps most important, section of your thesis. In this section you present your research data and findings (not conclusions). This section is written in past tense. It is entirely appropriate (in fact desirable) that you start this section with one or two sentences as a re-introduction, explaining what your study was about and why you undertook it. Your research data and findings should be summarized in Tables

and Figures (the same data should not be used to construct both a Table and a Figure, i.e., no duplication). Each Table and Figure should be on a separate page (plus a separate distinct facing page for each figure legend) from the body of your writing; Tables and Figures should have brief titles (to be listed in front of thesis in your List of Tables/List of Figures), and sufficient detail in their legends so as to "stand alone" without reference to the body of writing in the Results section. The body of writing in the Results section should describe the data (major findings and trends) summarized in the Figures and Tables. It is not acceptable to have an entire Results section that reads "We did this, this and this and the results of these experiments are summarized in Tables 1-6 and Figures 1-8." Remember, your thesis is a formal document in which you demonstrate some level of mastery with respect to experimental design, data analyses and summarization, and writing ability -- if you do not have a minimum of 100 to 300 words in the body of your Results section for each Table or Figure, you are probably not saying enough about your own findings. The text of the Results section should tell a story about the numbers in the tables and figures.

### Discussion

This is the last major section of your thesis and probably the most difficult to write. In this section you compare and contrast your research findings with those reported by others in the literature (you do not simply repeat your Results section here). How do your data differ from or confirm what's reported in the literature? What has your research added to the literature? Can some of your data be interpreted in more than one way? Do any of your data suggest that earlier findings by others should be reinterpreted? What conclusions can you draw from your study per se and in comparison to other studies. (It's in this section of your thesis that you most clearly demonstrate to the reader that you have mastered the literature in your research area and that you clearly understand the significance of your own research and how it "fits in" with that body of knowledge -- a weak Discussion produces a weak thesis). As a general rule, each paragraph of discussion should contain at least one reference to a figure or table in the Results section and at least one citation of the related literature.

### References

Make sure all references cited in your earlier sections are present here and that there are no inclusions not cited in the text. The references can be arranged alphabetically or numerically - but be consistent. Although some variations exist as to how the references themselves are written (no two journals are entirely alike), every reference in this section of your thesis should be a full citation including: 1) all author's names (no *et al.*'s here, editors as well if an edited book); 2) full title of article (and book as well if article is in a book); 3) full journal title (you may abbreviate this if you use acceptable abbreviations as per several published manuals or journal guidelines - make sure the Graduate College knows your source of guidelines if you abbreviate here); 4) year and volume of publication; 5) complete page numbers of article or book chapter (beginning and end); and 6) books and journal titles must be underlined or italicized unless above guidelines permit otherwise. Check all references at least twice to be sure of spellings of authors' names, and correctness of journal volume, date, and pages. Such errors are among the most common of those found in biomedical literature.

### The Final Product

Bowling Green State University considers your thesis to be a publication. The final product is hardbound and becomes a permanent addition to the Science Library. As such, it is imperative that your thesis in its final form be error free both in terms of substantive errors (grammatical, syntactical, spelling, etc.) and cosmetic errors (pagination, margins, indentations, spacings, etc.). Failure to remove even minor errors in your thesis may result in your failure to graduate at your scheduled time.