

Guide to the
Thesis
in
Zoology

Weber State University
Thesis in Zoology (Zool 4970)

INTRODUCTION

The Thesis in Zoology is a written report and oral presentation documenting original research conducted by a student under the guidance of a Zoology faculty advisor and a thesis committee. Research for a thesis will be of longer duration and greater depth than that undertaken for Problems in Zoology (Zool 4800). Successful completion of a thesis should demonstrate a student's ability to think creatively and to write clearly, and it should enhance the likelihood of acceptance into a graduate program, professional school, or some forms of immediate employment. A student can obtain valuable experience in planning, conducting, analyzing, and reporting research by undertaking a Zoology thesis.

Students desiring to do a thesis should explore potential topics in consultation with faculty members (see a list of faculty and their research interests on page 6). After a topic is chosen, the student will prepare a thesis proposal with the help of his/her faculty advisor. This proposal will be submitted to a thesis committee consisting of two or three Zoology faculty members or other qualified individuals. After approval, the student will meet with his/her faculty advisor as required while the research is conducted and the thesis is written.

At the end of the program the student will be expected to submit a final draft of the thesis to be read and evaluated by members of the thesis committee. Judgement of the acceptability of the thesis will be based on clarity and originality of thought, quality of the research effort, and presentation and interpretation of the research. Grammar, spelling, and style will also be considered in the evaluation. The student is expected to give an oral presentation about the research to the Zoology Club, AED, other appropriate group, or, preferably, at a professional meeting. The grade assigned will be based primarily on the research and written report with less weight placed on the oral presentation.

At least two full semesters should be allotted to conduct the research and write the thesis. This means that selection of the advisor, committee, and problem to be investigated, as well as any other preparation (such as obtaining supplies and arranging for equipment), should be completed no later than the junior year. Registration for thesis credit (Zool 4970) will occur in the final semester of the senior year. Students may, however, obtain credit in Zool 4800 (up to 4 credits of which can be applied to the Zoology major) while conducting thesis research in prior semesters. A committee-approved research proposal is a prerequisite for registration in Zool 4970.

OBLIGATIONS OF THE STUDENT

Contact appropriate faculty to begin discussion of thesis (see list of faculty and their research interests on page 6).

Fill out a Thesis in Zoology preregistration form with faculty advisor; obtain advisor's and committee members' signatures (see attached).

Develop the proposal in consultation with the faculty advisor and present it to the thesis committee.

Conduct the research.

Write the thesis (present copies of the final draft of the thesis to committee, advisor and department chair at least two weeks prior to the beginning of finals week during the semester you have registered for ZOOL 4970 credit).

Give oral presentation of the thesis to an appropriate audience.

OBLIGATIONS OF THE FACULTY ADVISOR

Assist the student with topic selection and proposal development.

Help the student assemble, and preside over, the thesis committee.

Help student complete Thesis in Zoology preregistration form.

Provide appropriate advice and assistance during the research and writing phases.

Review the thesis, assuring that content and style are correct, and that deadlines are met.

Oversee the final presentation of the thesis.

Evaluate the thesis project.

OBLIGATIONS OF THE THESIS COMMITTEE

-Provide advice on planning the research, proposal development, and conducting the research.

-Review and comment on the completed proposal.

-Review and evaluate the thesis.

SUGGESTED TIMETABLE FOR A THESIS

This is a suggested timetable for students interested in doing a Thesis in Zoology. It is highly recommended that students accomplish these steps no later than the stated semester.

Junior Year

1st semester - discuss ideas with appropriate faculty; select an advisor; identify a problem to investigate; assemble the thesis committee; fill out a Thesis in Zoology preregistration form.

2nd semester - develop thesis proposal in conjunction with faculty advisor and thesis committee; obtain final approval of the thesis proposal by the advisor and committee (must be done prior to registering for ZOO 4970 credit); arrange for equipment, supplies, space, etc. to conduct the study.

Senior Year

1st semester - conduct the research.

2nd semester - conclude the research; write the thesis; present the thesis orally; obtain final approval and acceptance of the thesis.

WHAT IS A THESIS PROPOSAL?

A thesis proposal is a research plan consisting of these sections:

Introduction - states the problem to be examined, gives a brief review of pertinent literature, states the objectives of the study and lists hypotheses to be tested.

Methods - describes all techniques, specimen handling, data analysis, etc. needed to meet the objectives.

Time budget - gives projected dates for completing the various phases of the thesis project.

Supplies and equipment - lists all major equipment and supplies needed to collect and analyze the data.

Literature Cited - shows literature referred to in written proposal.

MECHANICS AND STYLE

The thesis should follow standard protocol for scientific writing. It should be printed with letter or near-letter quality and double spaced on good quality bond paper with 1" margins. The style should conform to that of recent issues of a scientific journal in the appropriate area of zoology. Refer to the Council of Biological Editors (CBE) Style Manual, 5th ed., for questions of style. Literature citations, however, will be of the author-and-year type (e.g. Darwin 1859). The faculty advisor will assist with selection of appropriate style.

A thesis will contain a cover page (see Appendix I, Title Page) and a signature page (see Appendix II, Committee Recommendation) prepared by the student. Sections of the thesis will include:

Title - a short descriptive phrase clearly defining the contents.

Abstract - a concise summary of the paper emphasizing the results obtained.

Introduction - a brief definition of the problem investigated, review of pertinent

Methods - a description of all data gathering, data analysis, specimens, and other materials used. If the project involved field work, a description of the study area will be included. Methods must be stated specifically so that results can be reproduced.

Results - the findings of the research. This is the most important part of the thesis yet may often be the shortest. Text, tables, and figures (graphs, drawings, and photographs) will be used as needed. Tables and figures should not duplicate material in text and should be numbered so that they can be referred to in the text.

Discussion - the principles, relationships, and generalizations shown by the results. This section will show how the results and interpretations agree (or contrast) with other people's work. It will tell what is significant about the findings. Conclusions are stated, and the evidence for each is summarized.

Acknowledgments - recognizes the assistance of all individuals contributing to the research and/or writing.

Literature Cited - lists alphabetically all sources cited in the thesis. See Appendix III (Examples of Literature Citations) for examples.

PUBLICATION OF THE THESIS

The student and faculty advisor should discuss the possibility of publishing parts of or the entire thesis upon its completion. An agreement about the authorship and order of authors should be reached early in the development of the thesis proposal. Students should be aware that publication may incur costs (page and reprint charges) that the Zoology Department may not be able to subsidize, though every effort shall be made to find support for this and related endeavors (e.g., presentations at scientific meetings).

An agreement about ownership of patents that might arise from the research should also be reached early in the process. See the University Policy and Procedures Manual Policy #5-13 for details.

FACULTY RESEARCH INTERESTS: see the department website (<http://www.weber.edu/zoology>) for more detailed descriptions of faculty research.

Dr. Jonathan Clark – genetics and molecular evolution

Dr. John Cavitt – avian ecology

Dr. J. Neil Jensen – genetics, population biology

Dr. Ron A. Meyers – vertebrate functional morphology, bird flight

Dr. John Mull – insect ecology and behavior

Dr. Robert Okazaki – invertebrate physiology and endocrinology

Dr. Barb Trask – molecular cell biology and developmental biology

Dr. Samuel I. Zeveloff – mammalian reproductive ecology, life-history evolution, wilderness issues

Appendix I

THESIS

**NEST ATTENDING BEHAVIOR BY MALE BARN
SWALLOWS**

Submitted by

Waldo S. Student

**In partial fulfillment of the requirements for the
Thesis in Zoology
Weber State University
Ogden, Utah
June 2002**

Appendix II

WEBER STATE UNIVERSITY

WE HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER OUR SUPERVISION BY WALDO S. STUDENT ENTITLED "NEST ATTENDING BEHAVIOR BY MALE BARN SWALLOWS" BE ACCEPTED AS FULFILLING PARTIAL REQUIREMENTS FOR THE THESIS IN ZOOLOGY.

Thesis Committee

Advisor

Department Chair

Appendix III

EXAMPLES OF LITERATURE CITATIONS

Standard journal article by one author:

Hastings, A. 1987. Can competition be detected using species co-occurrence

Standard journal article by two authors:

Johnson, R. R., and J. J. Dinsmore. 1986. Habitat use by breeding Virginia rails and soras. *J. Wildl. Manage.* 50:387-391.

Standard book with multiple authors:

Wilson, C. L., W. E. Loomis, and T. A. Steeves. 1971. *Botany*. Holt, Rinehart and Winston, New York.

See biological journals for other examples.

EXAMPLES OF IN-TEXT CITATION. PLACEMENT OF PARENTHESES DEPENDS ON SENTENCE STRUCTURE.

One author: Smith (1958) or (Smith 1985)

Two authors: Smith and Jones (1986) or (Smith and Jones 1986)

Three or more authors: Smith et al. (1987) or (Smith et al. 1987)

THESIS IN ZOOLOGY PREREGISTRATION FORM

This form is to be considered a first step in doing a Thesis in Zoology. The student should select a Zoology faculty member to serve as their research advisor based on their research interests. The student should discuss the research project with the faculty advisor before filling out and signing section I of this form. The student and advisor should then identify individuals to serve on the thesis committee. The thesis committee will consist of a Zoology faculty advisor and at least two other members. After reading the summary in section I, interested faculty will sign in section II, indicating their agreement to serve on the thesis committee. After the department chair's signature has been obtained, the faculty advisor will retain the original form and see that copies are given to the thesis committee members, the department and the student. This form must be filled out prior to the student's enrolling for thesis credit (Zool 4970). Be sure to read over the course description for Zool 4970 and the Thesis Guidelines. Please type the information requested below.

SECTION I

Briefly summarize the research project you wish to conduct. Include your research topic, hypothesis, and a brief summary of your planned research.

Which semester or semesters do you plan on conducting your research?

Student's signature:

Date

SECTION II

Obtain the following signatures in the order in which they appear.

Faculty Advisor:

Date

Committee Members:

Date

Date

Date

Department Chair:

Date