

Gordon University

**Masters Thesis Guidelines – Environmental Health
Masters Thesis Guidelines – Human Nutrition
Masters Thesis Guidelines – Toxicology**

GUIDELINES AND PROCEDURES FOR MASTER OF SCIENCE THESIS IN ENVIRONMENTAL HEALTH

Introduction

A Master's thesis is required for the degree in Environmental Health based on a Master's project proposed and conducted by each student. The environmental health faculty conducts a formal process for these projects to familiarize students with the professional requirements such projects should meet. Most employers expect Masters level graduates to devise approaches to solve difficult and complex problems, to submit and obtain approval (or funding) for proposed work, to prepare a professional report or paper, and to respond to comments on the work done from various reviewers. A good thesis prepares them for this aspect of their professional work.

A thesis begins with a good idea. It can be part of ongoing research, in which some financial support may be available. Summer internships and work study can also provide content. The faculty expects the student to choose a topic of interest and of reasonable importance. The subject matter is the option of the student, but should generally deal with some issue in environmental health or protection. We can suggest areas, but the student still has the responsibility to select the specific project; to prepare a good proposal with defined objectives; to complete the work; and to write, present, and defend the results. Graduate students generally need guidance on the format and content of a proposal, which in many ways is the hardest part of the process - deciding on a relevant project, its significance, feasibility of its accomplishment and how it ought to be conducted is a large part of any professional work. The thesis expands upon the proposal and reports and interprets what was actually done.

The guidelines that follow are not the only way to do proposals and theses, but they do contain the major elements that each should have, in one way or another. The form and content apply not only for a thesis, but professional reports and peer-reviewed papers and publications.

Guidelines on Research Proposals and Theses

The object of a research proposal (or thesis) is to present the substance of what you propose to do (or have done) and its contribution to environmental health science. This written presentation should include the following:

1. **Introduction/Problem Statement:** A brief and clear statement of the problem your research addresses.
2. **Objectives:** The objectives to be met should be stated in terms of what is to be accomplished. They project the major anticipated findings that will form the major conclusions of the research; thus, they serve to guide the work to be done. Objectives and conclusions should match; i.e. if you state an objective, you should expect to produce a conclusion stating how, or if, the objective was met.
3. **Background:** A presentation of the current status of knowledge on your problem sufficient to demonstrate why the proposed work needs (or needed) to be done. Major studies from the existing literature or other documented experience should be presented. You should also point out the major deficiencies in existing knowledge, what needs to be done (i.e. why your research is justified), and how your research findings would improve existing knowledge.
4. **Approach/Method:** Proposals should develop the conceptual basis and general elements of what is to be done sufficient to demonstrate that it has been well thought out. The thesis should, of course, report what was actually done.
5. **Results:** Proposals could anticipate types of results that may be obtainable; however, it may not be possible to forecast the results at the proposal stage so it is reasonable to skip this section in a

proposal. The thesis will, of course, present the data actually obtained. Any elaboration should be limited to understanding where the data came from (actual discussion occurs in the next section).

6. **Discussion:** The findings you draw from the data, how conclusions match your objectives, and why you feel they are the correct ones. A good discussion critiques the data, presents the strengths and weaknesses of the data, and interprets the facts (or lack thereof) that were developed in the research.
7. **Conclusions:** The major findings of the work in a brief synopsis. A conclusion should be stated for each of your objectives; other related significant findings should also be included. It ought to be possible to focus your conclusions into one or two pages of text in the thesis.
8. **Available Resources for the Project:** Details of the equipment to be used in the study and their accessibility to the student should be provided. An estimate of the cost of the research (materials, reagents, computer time, sample analysis, field work, equipment purchase or rental, etc.) should also be provided. Analysis (estimate) of the “cost for doing business” is an integral part of any research project and should be included in the thesis proposal.

Proposals are not expected to contain items 5, 6, or 7; however, these are necessary components of a thesis. Most proposals will substitute for these items a proposed schedule and any special equipment or resource needs, with justification. In a proposal, you need to demonstrate convincingly that your research could make a contribution to an environmental health issue or problem.

Approval of Proposals and Theses

For the Master's degree in each environmental health subject area, you will need a Research Advisor and at least one, but preferably two other faculty to review your proposal and thesis research. As you begin to consider ideas for your thesis topic, you will naturally gravitate to the faculty member with interests compatible with your own. You should initiate discussions concerning your ideas with the environmental health sciences faculty member that may be your Research Advisor. Depending on the topic, he/she will either agree to be your Research Advisor or direct you to the most appropriate faculty member to serve in that capacity.

You and your Research Advisor will discuss the specifics of your proposed project and you will write the formal proposal. Once your Advisor is satisfied with the content of the proposal, it will be submitted to the other two or three faculty for approval, and it will become the agreement between you and them on the project to be conducted. Besides your Advisor, other members of the EHS faculty should be involved in your thesis, as much as possible. The research advisor will circulate the approved proposal to other EHS faculty who may offer input, and he/she will communicate any additional suggestions to you after you begin your work. Deviations are expected due to the nature of research, but major deviations should be presented and discussed with your Advisor who may request a revised proposal if the changes are major. Review and approval of a revised proposal is in the student's interest to avoid future problems of misinterpretation.

The title page of the proposal should be similar to the example in Attachment A with your Advisor's name appearing first. The signed title page signifies faculty approval.

The thesis will contain the substance of the previous section. Each thesis will vary depending on the project undertaken. For example, theoretical work or modeling would generally have a greater emphasis on background literature and/or a separate section on significance may be appropriate. The thesis is a professional presentation of work performed; a good thesis will better prepare you for the defense. Your Research Advisor must be kept apprised of your progress throughout your work. You should present draft versions of your thesis to the Research Advisor at various stages of completion. When your advisor determines that the thesis is ready for defense, it will be distributed to the other EHS faculty that approved the proposal for review prior to the defense.

Thesis Defense and Final Approval

An oral defense of the thesis is required; it will be scheduled after your Advisor is satisfied that the draft is defensible. The defense is your formal presentation of the thesis to the faculty, all of whom make every effort to attend. The defense begins with your brief, (5 to 8 minutes), uninterrupted oral statement of the problem you addressed, your method of tackling the problem, and your findings. After the oral presentation, questions will be asked by the faculty to determine your understanding of the subject and your interpretations of the data. Questions on other subjects, but related to your work, may also be asked. The defense will continue until the faculty are convinced that you have satisfactorily defended your thesis. After questioning, you will be asked to leave the room while the faculty discuss your performance and whether additional work is required before final acceptance.

After the defense portion of the work is successfully completed, you will make any requested revisions and/or present additional work. Your Research Advisor will assure that all requested revisions have been made, thereafter accepting the final version of the thesis. The degree will be awarded once the faculty have signed the title page, thus signifying their final approval (Attachment A). An unbound original copy of the thesis must be logged in with the program secretary. The copy will be bound and kept as a permanent record in the program office.

ATTACHMENT A

Master of Science Project Proposal

THE ENVIRONMENTAL SIGNIFICANCE OF

by

Graduate Aspirant

A Thesis Submitted in
Partial Fulfillment of the Requirements
for the Degree of Master of Science
(Environmental Health Sciences)
at the Gordon University.

2005

Approved: _____, 2005

O Great Guru, Ph.D., Advisor
(title)

Knowledgeable Person, Ph.D.
(title)

Knowledgeable Person, Ph.D.
(title)

Guidelines for MS Thesis in Human Nutrition

1. Each student is required to complete a research project and a thesis or manuscript as a partial fulfillment of the degree requirements. Following the first or second term of a student's enrollment in the Human Nutrition program, he/she is encouraged to explore a research topic with his/her academic advisor. With guidance from the advisor, the student will select courses to be completed which will enhance the degree program.

Research projects are not limited to laboratory or biochemical research with either animals or humans. Students are also encouraged to consider surveying a group of individuals or a community to gather and analyze nutrition related information related to dietary intake, food behaviors, or other topics.

2. A research committee must be selected to aid in supervision and assist in completion of the research work. The committee will be composed of three faculty members, at least one of who shall be from another program/department.
3. The student will submit a research proposal (Table 1) to the committee. After approval of the proposal, the student will conduct the study, analyze the data, and prepare either a thesis or a manuscript for publication in a peer-reviewed scientific journal. Upon approval of the thesis or journal manuscript by the committee, the student will fulfill the thesis requirement for the MS degree.