



**Halmos College of Natural Sciences and Oceanography
(HCNSO)**

**Directions for Biological Science Master’s Students
Capstone and Thesis**

**This publication is designed to help students through the
various stages of their master’s degree. For full requirements,
please consult the Catalog at**

**[http://www.nova.edu/ocean/academics/course-
catalog/index.html](http://www.nova.edu/ocean/academics/course-catalog/index.html)**

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1. Definition of the Required Paper

1.1 Thesis

1.1.1 Definition of Thesis Paper

A thesis is an original contribution to the knowledge resulting from systematic study of a significant problem or issue. The following is an outline of the various sections of a traditional, quantitative thesis. The format is presented as a guide only. For more in depth information, consult your major professor. The thesis should contain the following sections:

- Title Page (see the end of handbook for standard format)
- Approval Page (see end of handbook)
- Abstract
- Acknowledgements
- Preface
- Table of Contents (detailed; this serves as the outline and section headers)
- Body of Thesis
 - Introduction
 - Statement of Purpose or Objectives
 - Methods and Materials
 - Results
 - Discussion
 - Summary and Conclusions
 - References
 - Appendices (optional)

1.2 Capstone

1.2.1 Definition of Capstone Paper

A capstone is a scholarly manuscript, based upon a comprehensive literature search, review, and synthesis of a chosen topic. It is similar to a thesis, in terms of data acquisition and analyzation. However, data can be used from the literature. A comprehensive literature search is expected and students are encouraged (where appropriate) to talk with workers actively engaged in research relevant to the topic. In this way, students can obtain current information for inclusion in their capstone and demonstrate their ability to explore datasets. The capstone should contain at minimum:

- Title page (see the end of handbook for standard format)
- Table of Contents (detailed; this serves as the outline and section headers)
- Body of Capstone
 - Introduction
 - Statement of Purpose or Objectives
 - Methods

- Results or Review
- Summary and Conclusions
- References

2. Course Schedule – Curriculum Guidance

2.1. The core courses (required by all students, 15 credit hours)

- Biostatistics
- Marine Genomics
- Scientific Communication
- Marine Biodiversity
- Scientific Methods and Experimental Design

2.2. The electives (required by all students, 15-24 credit hours)

- If Choose a minimum of 5 electives for thesis track or 8 electives for capstone track
- You may take a maximum of two courses outside of your chosen concentration
- you wish to have two specializations, you must take an additional four courses under the respective major (Marine Biology, Coastal Zone Management, or Marine and Environmental Science)

2.3. Advising Credits (required by all students, 6-10 credit hours minimum)

- Capstone students are required to take a minimum of 6 credits, and thesis students are required to take a minimum of 10 credits. We do not guarantee your degree will require only the minimum number of credit hours, and encourage you to discuss how many terms will be needed to complete your project with the chair of your committee.

3. Selecting a Major Professor

3.1. The Procedure

The selection of a major professor should normally take place about six months into the program. The explicit procedure is that the student approaches a potential major professor with their ideas about a capstone or thesis project. If the professor agrees to serve as an advisor, the student must write a proposal and choose committee members.

3.2. Committee Members

- A capstone project requires one major professor, and one committee member
- A thesis project requires one major professor, and two committee members
- Each committee must contain at least two Halmos College of Natural Sciences and Oceanography (HCNSO) faculty members. Occasionally, an adjunct professor can substitute for one of the HCNSO faculty, but this is at the discretion of the chair of the department.

4. Writing the Proposal

4.1. What is a proposal?

4.1.1 Definition of the Proposal

- The Proposal is the demonstration by the student and the involved faculty that the student is indeed ready to produce a thesis that will allow graduation according to the standards of Halmos College of Natural Sciences and Oceanography (HCNSO). This forms the basis of an understanding that the faculty involved (including the head of the department, who has final signing authority) will allow graduation if the student produces a document with agreed-upon quality and content.
- A proposal will not be accepted if the style, presentation, and content are not to the quality as would be accepted in the thesis. Therefore, the proposal should be seen as a “mini-thesis” that is at the same stage of what is to be done for the thesis project. Thinking about methods, familiarity with data that need to be analyzed, thorough knowledge of the literature, etc., are not be delayed until the thesis writing stage, but must have been brought to fruition already at the proposal stage. This will allow both faculty and student to be aware of what content is expected.

4.2. Guidelines

There are no firm guidelines about a proposal (this is dictated by the supervisor), however the proposal normally consists of the following elements:

- Title
- An introduction to the topic to be reviewed
- Statement of significance of the work
- Outline of how the paper will be organized (i.e. proposed chapters and subject areas) showing evidence of a preliminary literature review
- References (Literature cited and literature to be reviewed, at least 50 citations are recommended, significantly less and the topic may not warrant review)

4.3. Develop the Topic

4.3.1. The student should develop their project by discussing options with faculty. The major professor is a source of ideas, help, and direction as is the Chair of the Department of Marine & Environmental Sciences. The student must take the project beyond the conceptual stage by doing library readings before formulating a proposal.

4.4. Literature Review

4.4.1. Start in the library. The student should review the current literature to determine how the problem relates to previous work and to assess its feasibility and significance. For a literature review, the student should obtain an idea of the quantity of information available and any previous reviews on the subject. For the proposal, the review should be thorough but does not need to be fully developed. Any proposal submitted without evidence of a literature search will likely be rejected, as well as a proposal that is poorly written. Ultimately, acceptance or rejection of the proposal is at the discretion of the committee.

5. Acceptance of the Proposal

5.1. The Next Steps

5.1.1. The major professor and committee member will review a proposal draft. The student may meet and discuss the issues with the professor and committee.

5.1.2. The committee members make a final decision as to whether the proposal is defensible and sign a cover sheet ([signature page](#)) available on the website.

5.1.3. The student must submit a copy of the approved proposal and its signature pages to the program office before registered for advising credits.

6. Registering for Advising Credits

6.1. How to register

6.1.1. Once the chair of the Department of Marine and Environmental Sciences approves the proposal, the student may register for advising credits in the next term. Students must register under their major professor’s code which can be found online under [current course offerings](#), through www.webstar.nova.edu, or can be provided by the program office.

6.1.2. Once a student is registered for advising credits, they cannot stop registering for credits until the capstone or thesis project is completed and defended. A leave of absence will only be granted in exceptional circumstances (at the discretion of the chair of the department of marine and environmental sciences).

6.2. Number of Credits Required

6.2.1. Students must register for a minimum of six credit hours of advising (two terms). The student should be ready to defend at this time. However, if the student’s committee states that the capstone or thesis is not defensible, the student must register for additional capstone credits until the committee is satisfied.

7. Rubric Exam – The Assessment of Learning Outcomes

7.1. What is the Rubric Exam

7.1.1. Prior to graduation, all M.S. students must take a pass/fail test on the learning outcomes of their program. Students failing the test will be required to retake it prior to graduation. The exam may be retaken multiple times. The questions will concern general knowledge (specifically, the material learned in all 5 CORE courses, and 5 chosen electives) and will be directed at the learning outcomes of the individual courses.

7.1.2. The exam is to be taken after finishing all coursework and prior to the oral defense of thesis or capstone. The exam is closed book.

7.2. How to Schedule the Exam

7.2.1. Students may schedule the exam online at nsuoc.wufoo.com/forms/rubric-schedule-request

8. Progress Reports

8.1. What is the Progress Report

8.1.1. The report is required from each student registered for directed independent study, or advising credits by the end of each term of registration. The completed report is submitted to the program office by the student advisor. The form is available online at: <http://cnso.nova.edu/forms/report-of-progress.pdf>

9. Defending

9.1. Preparing for the defense

9.1.1. On completion of the thesis or capstone to the major professor’s satisfaction, it is formally submitted to the other committee members. Once the committee is satisfied, the defensible copy must be submitted to the program office for final acceptance. This includes an electronic copy and a [defense approval form](#) signed by all committee members.

9.2. Expectations of the Defense

- 9.2.1. The defense will consist of a 30- to 45-minute oral presentation (with appropriate visual aids) to the faculty, student body, and other interested persons.
- 9.2.2. After the public defense, a private closed session limited to the candidate, members of the committee, and interested faculty members will take place. The committee then takes a vote in closed session. The thesis or capstone will be accepted, accepted with revision, or rejected.
- 9.2.3. The Halmos College of Natural Sciences and Oceanography faculty ultimately must pass on acceptability. The student should consult frequently with the committee during all phases of capstone work for continuity and in order to avoid problems during the formal defense. If the paper is not acceptable, the student receives the grade of “F” for the course. If the paper and defense are acceptable, the student receives a grade of “P.” If the paper is acceptable, but requires only minor corrections, the student will receive a grade of “P” when the corrected paper is accepted.
- 9.2.4. All defenses must be scheduled at least one week in advance through the program office. Notice will be provided to the faculty and student body. At least one week prior to the scheduled defense, a copy of the work with its approval page must be submitted to and reside in the program office. This defensible copy must be complete, including, for example, all relevant materials, appendices, figures, and data tables. The copy (or reproductions thereof) will be available for review to any interested faculty member. The paper must be considered at least 95% complete, or it will not be acceptable for defense. If the defensible copy is not submitted in time, the defense will need to be rescheduled. Once the defensible copy is submitted, additional revisions should not be made or circulated prior to defense.

10. The Final Chapter

10.1. Final Submission and Binding

- 10.1.1. Your final and approved Capstone, Thesis, or Dissertation must be submitted to the NSU Oceanographic Campus Library staff for binding before the program office will confer your degree. Submissions are electronic via the NSUWorks online ETD submission system: http://nsuworks.nova.edu/occ_stuetd/. The Oceanographic Campus Library will send out the document for printing and binding at the bindery. The cost of binding is the student’s responsibility. One hardcopy will remain in the program office, and a digital copy of the paper will be available online at http://nsuworks.nova.edu/occ_stuetd/. Along with an electronic copy, a list of keywords is also required by the library at the bottom of the abstract page. The student may submit additional personal copies for binding.

10.2. Printing Requirements

10.2.1. A left-hand margin of 1½ inches is essential. Final copies of papers with a margin less than 1½ and inches will be rejected. This is necessary to prevent loss of text during binding. All other margins should be 1 inch. More information about formatting and printing requirements can be found in the [Oceanographic Campus Library Guide](#)

10.3. Sample Cover and Approval Sheets

10.3.1. Students should follow the sample title and approval sheets from the attached appendix (appendix 1 or 2) or from the library or program office.

10.4. Application for Degree/Conferral

10.4.1. Once the student has turned in the paper for binding, they are ready to complete the degree. Please take a moment to review your name, address, and telephone number in Webstar to ensure that we have the correct information on file should be need to contact you in the future. Corrections can be made within Webstar.

10.4.2. It is important to also review your online transcript (degree, major, grades, etc.) while in Webstar. Should you find any discrepancies, please notify us immediately.

10.4.3. As part of this process, you should review your account to ensure there are no holds and/or outstanding balances. This will expedite the degree conferral process, and as such, facilitate smoother processing on your behalf.

10.4.4. Once everything is correct in Webstar, you need to submit your application for degree. Please go to <https://www.nova.edu/sbin/dapp/degreeapp.pl> and fill out the online form.

10.4.5. The last step in the application for degree process is to remit payment (\$100). Once the information on the Degree Application Request form is completed and submitted online, there will be a link given to go to for payment. No degree will be conferred until payment is received and all financial obligations have been met.

10.4.6. Once the online form is complete, a survey will be sent to student via email. Students must return any Halmos College of Natural Sciences and Oceanography (HCNSO) keys. The student must also make sure all books have been returned to the library. Any incomplete items will result in a delay in conferment of the degree.

10.4.7. Once all of the above have been satisfied, the diploma will be conferred at the end of the month, and will be mailed to the student within two months.

Appendix 1. Sample Cover

HALMOS COLLEGE OF NATURAL SCIENCES AND OCEANOGRAPHY

TITLE

By

Name of Student

Submitted to the Faculty of
Halmos College of Natural Sciences and Oceanography
in partial fulfillment of the requirements for
the degree of Master of Science with a specialty in:

Your Major Here

Nova Southeastern University

Date

Appendix 2. Sample Signature Page

Submitted in Partial Fulfillment of the Requirements for the Degree of

Masters of Science:

Insert Major here

INSERT NAME HERE

Nova Southeastern University

Halmos College of Natural Sciences and Oceanography

Month Year

Committee Approval

Dr. *** *****, Major Professor

Dr. *** *****, Committee Member

Dr. *** *****, Committee Member