



**DMS STUDENT GUIDE FOR THE PREPARATION
OF MASTER'S THESES AND DOCTORAL
DISSERTATIONS**

January 2009

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INTRODUCTION

In September 2007, the Graduate Council approved an amendment to the format for MS theses and PhD dissertations in the Department of Marine Sciences (DMS) establishing the inclusion of article-style documents. This means that DMS-completed theses or dissertations will include a specific number of journal style manuscripts within the regular format of a thesis or dissertation. The document will have chapters with a journal style format within the limits allowed by the regulations of the Office of Graduate Studies. The minimum number of journal style manuscripts required in a thesis varies between programs (MS and PhD). The journal style manuscripts must be submitted and/or accepted in specialized peer-reviewed journals recommended by the student's graduate committee. The student's graduate committee will be responsible to assure that the student's research is published in a quality scientific journal with high acceptance rate, good ranking, and high impact factor or connectedness. See Appendix A.

A master's thesis or a doctoral dissertation is a scholarly document presented by a degree-seeking candidate to a graduate committee and to the Office of Graduate Studies for approval on behalf of the Institution in partial fulfillment of the requirements for a Master's or Doctoral Degree. A thesis or dissertation is also a University official document and an important contribution that should provide a positive representation of yourself, your mentor, your graduate committee and the University of Puerto Rico.

The master's thesis and the dissertation represent the culmination of a student's research training and in the case of PhD candidates, possibly, their entry into a research or academic career. As per current practice, this research is developed under the supervision of a faculty committee, but substantially it is the student's independent, original work, with proper citation of ideas from appropriate sources. Successful DMS thesis and dissertations should be based on original research of publishable quality, answering one or more scientific questions while providing a demonstration of the student's scholarship, research creativity, and writing ability.

DMS Journal Style Manuscript Requirements for the MS program

A complete MS thesis must encompass material for one suitable publication in a specialized peer-reviewed journal (See suggested lists). Theses must be based upon research completed while the student is enrolled at The University of Puerto Rico at Mayagüez. Prior to application for graduation, the MS student must submit one first-authored manuscript to a peer-reviewed journal. A letter or other communication from the editor indicating (1) that the manuscript has been received and (2) that the manuscript has been deemed suitable for review constitutes evidence for this requirement.

DMS Journal Style Manuscript Requirements for the PhD program

A complete PhD Dissertation must encompass material for a minimum of three suitable publications in specialized peer-reviewed journals (See suggested lists). Journal-style dissertations must be based upon research completed while the student is enrolled at The University of Puerto Rico at Mayagüez. Before applying for graduation, one of these papers

must be accepted for publication and the other two must be submitted. A written communication from the editors indicating acceptance of a manuscript for publication and two communications indicating that the other two manuscripts (1) have been received and (2) that the manuscripts have been deemed suitable for review constitutes evidence for this requirement.

For the article being accepted for publication, the student must be the first author.. The student must be first author of at least one of the submitted publications.

DMS THESES AND DISSERTATIONS

In order to maintain consistency and a high standard of excellence in the preparation of theses and Dissertations accepted for graduate degrees, the Department of Marine Sciences of the University of Puerto Rico has prepared a set of guidelines to help the student through the preparation of the final thesis or dissertation. These guidelines do not substitute for the guidelines provided by the UPRM Office of Graduate Studies but provide specific details concerning the publication readiness expected from the DMS thesis and dissertations.

The UPRM MS thesis and Dissertation process generally consists of five steps or phases:

- 1) Development and approval of a research proposal.
- 2) Data collection and analyses
- 3) Preparation of a scholarly written outcome of the investigation (including publication requirements)
- 4) Oral defense and final approval by the graduate committee,
- 5) Presentation of the final document (PDF) to the Office of Graduate Studies.

NOTE: Some of these steps (1) are subject to deadlines regulated by the Office of Graduate Studies and/or (2) require compliance with other departmental requirements (i. e. comprehensive exams, general oral exams, candidacy, etc.). Students are personally responsible for being aware of all deadlines

THE THESIS OR DISSERTATION PROPOSAL

The UPRM Office of Graduate Studies (OGS) has provided detailed information concerning the preparation of a Master's or Doctoral research proposal at <http://grad.uprm.edu/oeg/EstudiantesActivos/Normas/guia.php>

The proposal represents a commitment between the student and his/her graduate committee concerning specific topic and scope of the research, as well as the expected outcomes.

Based on OGS MS theses and dissertation guidelines, and specific DMS program requirements, proposals should include the following parts.

COVER PAGE- The cover page of the proposal is similar to the cover page of the Thesis or Dissertation- but includes only the signatures of the members of the student's graduate committee (See example). The title of the proposal must be a precise and concise description of the research topic.

Justification- This section provides information about the importance of the Project and argues for the compelling issues that support its being conducted. This section should address the significance of the potential original contribution of the research.

Suggested length for MS: 1 page.

Suggested length for PhD: 1-3 pages.

Literature Review- This section summarizes the content of the most informative publications about the proposed research topic(s). The literature review should be organized in a way that will direct the reader to the objectives.

Suggested length for MS: 3 - 5 pages.

Suggested length for PhD: 3-10 pages.

Objectives- This section includes the goals and the purpose of the proposed research. This section should also include the potential title(s) of the article style components of the final document. Suggested length: 1-2 pages.

Methods- This section describes in detail the materials and methods that will be utilized to accomplish the objectives of the research project. A statement should be included which addresses: (1) any costs of the research (including boat usage) and how those costs will be met; (2) necessary laboratory facilities and equipment required and explanation that they are available for the research; and (3) duration of the data collecting/experimentation period. Suggested length: 3-7 pages.

Literature cited: Includes a list of the references cited in the text, organized according to one of the styles accepted in the particular discipline or specialization. Suggested length: 3-7 pages.

At the discretion of the thesis advisor and the student's graduate committee, the thesis and dissertation proposals should be presented and defended before the student's Graduate Committee prior to being approved by the Director. This presentation must be scheduled at least 2 weeks prior to the Office of Graduate Studies' deadline for submission of thesis/dissertation proposals. The proposal presentation involves the student and graduate committee and may include other UPRM faculty, at the discretion of the advisor.

PROCEDURES FOR MASTER'S THESES

The following steps should be taken by any master's student in preparation for graduation:

- The student is responsible to know the certifications which specify the requisites and regulations covering Graduate Studies at UPR Mayagüez Campus, and the DMS Student Manual, which includes DMS specific requisites and regulations.
- Choose the research area and organize your graduate committee.
- Submit a Plan of Studies (See Student Manual).

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- Registration in Thesis. You may register for thesis (CIMA 6999) once before turning in your thesis proposal approved by all the members of your graduate committee to the Office of Graduate Studies.
- Complete your thesis proposal. Submit a copy of the first page, including signatures to the Office of Graduate Studies. Submit a full copy of the document to the DMS.
- Conduct the proposed research and carefully document your findings. Allocate time for the write-up of the thesis document and the required manuscript (submitted publication).
- On the semester you plan to graduate, obtain from the Office of Graduate Studies or the DMS student's officer, the deadlines for thesis submission and presentation for the semester.
- On the semester you plan to graduate, submit an "Application for Graduation" to the Registrar's Office during the registration period of the semester.
- At least 120 days before your intended date to submit the complete thesis to the Office of Graduate studies, submit the manuscript to an approved specialized peer-reviewed journal.
- On or before the deadline established to submit the thesis to the Office of Graduate Studies. Submit to the Office of Graduate Studies three (3) unbound copies of the thesis on regular paper in an envelope. Include also:
 - ¶ A signed application for the thesis exam <http://grad.uprm.edu/daaeg006.pdf>. This application must be signed by all the members of the student's graduate committee and the director of the Department.
- For the signature of the Chairperson of the DMS Graduate Policy Committee and the Director of the Department, you must submit the communication from the editor of an accepted peer-reviewed journal acknowledging receiving your paper and its suitability to be sent for review.
- After approving the thesis defense, make the corresponding corrections to the document submit the following documents to the Office of Graduate Studies:
 - ¶ Thesis in PDF Format.
 - ¶ Two cover pages in original, signed by all the members of the graduate committee, the OGS representative and the director of the Department.
 - ¶ One hard copy of the English and Spanish abstracts.
 - ¶ ProQuest Contract- (For MS): <http://grad.uprm.edu/formumimaestria.pdf>)
- For the DMS director's signature you will be require to complete the DMS clearance forms and the MS Exit Assessment survey.

PROCEDURES FOR DOCTORAL DISSERTATIONS

The following steps should be taken by doctoral students in preparation for graduation:

- Make sure you know Certification 97-21 that governs graduate studies at the UPR Mayagüez Campus and the DMS student Manual which includes DMS specific requisites and regulations.
- With your chairperson, determine your research areas and organize your graduate committee.
- Submit a Plan of Studies (See Student Manual).

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- You may register for thesis (CIMA 8999) three times before turning in your thesis proposal, approved by all the members of your graduate committee, to the Office of Graduate Studies.
- Complete your thesis proposal and submit it to the DMS Students' office; copy of the first page, including signatures should be submitted to the Office of Graduate Studies.
- Conduct the proposed research and carefully document your findings. Allocate time for the write-up of the dissertation document and the required manuscripts (submitted publications).
- Candidacy is obtained upon passing of the Qualifying exams.
- Pass written and oral Comprehensive Exams.
- In the process of your research, submit and get published one peer reviewed research article and make sure that two others are ready to be submitted.
- On the semester you plan to graduate, obtain from the Office of Graduate Studies or the DMS student's office the deadlines for thesis submission and presentation for the semester.
- Submit an "Application for Graduation" to the Registrar's office during the registration period of the semester in which you wish to graduate or earlier.
- On or before the deadline established, to submit the dissertation to the Office of Graduate Studies. Submit three (3) unbound copies of the dissertation on regular paper in an envelope. Include also:
 - ¶ A signed application for the thesis exam <http://grad.uprm.edu/daaeg006.pdf>. This application must be signed by all the members of the student's graduate committee and the director of the Department.
 - ¶ For the signature of the Chairperson of the DMS Graduate Policy Committee and the Director of the Department, you must submit the communications from the corresponding editors of the accepted peer-reviewed journals acknowledging that one of your papers has been accepted for publications and that two others have been submitted and accepted for review.
- After successful completion of the dissertation defense and within the period determined by the Office of Graduate Studies, complete any corrections to your dissertation. Proofread carefully prior to submission to ensure that the manuscript meets the standards established by your discipline, the DMS, the Office of Graduate Studies and the Institution. Finally, submit the following documents to the Office of Graduate Studies:
 - ¶ Thesis in PDF Format.
 - ¶ Two cover pages in original, signed by all the members of the graduate committee, the OGS representative and the director of the Department.
 - ¶ One hard copy of the English and Spanish abstracts.
 - ¶ ProQuest contract (PhD) : <http://grad.uprm.edu/formumidoctorado.pdf>
 - ¶ *Survey of Earned Doctorates* <http://grad.uprm.edu/surveyphd.pdf>
- For the DMS director's signature you will be required to complete the DMS clearance form and the PhD Exit Assessment survey.

PARTS OF THE MANUSCRIPT

A thesis or dissertation consists of four main parts: the cover or title page, the preliminary pages, the main body, and references. Each part contains several sections. Some sections may be omitted, but the order of the following outlines must be observed. For details visit <http://grad.uprm.edu/oeg/EstudiantesActivos/Normas/guia.php>

Parts of an MS Thesis

Cover Page (required; not numbered) – Includes title of the thesis and the signatures of the graduate committee members, the graduate school representative and the director or the Department. (See example)

Preliminary Pages: Preliminary pages are numbered in roman numerals located centrally in the footer i, ii, iii, iv,.....

- Abstract in English (Required)
- Resumen (Spanish Abstract) (Required)
- Copyright page (Required)
- Dedication page (Optional)
- Acknowledgments (Required)
- Table of contents (Required; titles of each section listed must concur exactly with body of the paper. Do not list this page among the contents)
- List of tables (required when tables are used)
- List of figures and Illustrations (Required when figures are used)
- List of abbreviations or symbols (Required when symbols used are not self-explanatory)
- List of Appendices (Required when appendices are included in the document)

Main Manuscript (Includes a manuscript submitted to a DMS-approved peer-reviewed journal). All the pages must be numbered with Arabic numerals 1, 2, 3..., positioned according to the instructions provided by the Office of Graduate Studies.

- Introduction
- Review of Literature
- Methods
- Results
- Discussion
- Conclusions

References or Literature cited (All the pages must be numbered with Arabic numerals as a continuation of the previous pages)

- References (Literature cited through the manuscript)
- Appendices (Optional)

Parts of a Dissertation

Cover Page (required; not numbered) – Includes title of the thesis and the signatures of the graduate committee members, the graduate school representative and the director or the Department. (See example)

Preliminary Pages: *Preliminary pages are numbered in roman numerals located centrally at the footer i, ii, iii,iv,.....*

- Abstract in English (Required)
- Resumen (Spanish Abstract) (Required)
- Copyright page(Required)
- Dedication page (Optional)
- Acknowledgments (Required)
- Table of contents (Required; titles of each section listed must concur exactly with body of the paper. Do not list this page among the contents)
- List of tables (required when tables are used)
- List of figures and Illustrations (Required when figures are used)
- List of abbreviations or symbols (Required when symbols used are not self-explanatory)
- List of Appendices (Required when appendices are included in the document)

Main Body: Main body of the DMS Dissertation must include at least three manuscripts. The following is a suggested format that provides a manuscript oriented organization. All the pages must be numbered with Arabic numerals 1, 2, 3..... positioned according to the instructions provided by the Office of Graduate Studies.

Chapter 1 Introduction

The introduction should include a clear statement of the student's purpose or hypotheses to be tested. It provides necessary background information and a broad statement (or statements) that support and justify the conducting of the research. This section also will include statements concerning the relationship between the various manuscripts.

Chapter 2 Title of the First Article

Subheadings/sections – e.g., Introduction (with the corresponding literature info), Methods, Results, Discussion, Conclusions, Reference List (for article 1), Appendices

Chapter 3 Title of Second Article

Subheadings/sections – e.g., Introduction (with the corresponding literature info), Methods, Results, Discussion, Conclusions, Reference List (for article 2), Appendices

Chapter 4 Title of Third Article

Subheadings/sections – e.g., Introduction (with the corresponding literature info), Methods, Results, Discussion, Conclusions, Reference List (for article 3), Appendices

Chapter 5 Overall Discussion

(Comprehensive discussion of the whole research).

Overall Conclusions (Optional; Recommendations may be included at the end of the conclusions)

References or Literature cited (All the pages must be numbered with Arabic numerals as a continuation of the previous pages)

References: All general references from the introduction, overall conclusion, and for the submitted manuscripts should be included conforming to the same style and format as the manuscripts.

Appendices

Include here any additional appendices that relate to the manuscript as a whole

ADDITIONAL RECOMMENDATIONS FOR MS AND PHD CANDIDATES

Thesis/Dissertation Document Correctness

The Student's Graduate Committee will review the thesis/dissertation document to assure it's scholarly contents as well as the quality of the document write up. The document submitted to the Office of Graduate Studies must demonstrate the correct use of language (English or Spanish), be free of spelling errors and the sentences must grammatically correct. The quality of the document submitted is part of the evaluation of a thesis or dissertation. Their signature of the graduate committee members in the cover page constitutes and assurance of the previous.

Illustrative Materials

Drawings, figures, tables, and graphs may be included only if they are of high quality. Prepare your illustrative materials on paper that is the same type and weight as used elsewhere in your manuscript. All materials must conform to the margin requirements outlined by the Office of Graduate Studies.

All lettering on your illustrative materials must be done on a computer or typewriter, or by using a lettering guide. Freehand lettering is unacceptable.

Photographs should be printed from negatives or electronically on 8½ x 11 inch photographic paper, eliminating the need to attach (glue) photographs to manuscript paper.

Charts, maps, drawings, and similar items can be copied or printed onto 8½ x 11 inch photographic paper. Make sure that reproduction of these items is of a permanent nature.

Numbering and titles of tables, charts and illustrations must follow the guidelines provided by the Office of Graduate Studies.

Consult with the Office of Graduate studies about the inclusion in the thesis of non-traditional material such as recordings, videos, compact disks or computer programs,

Use of Copyrighted Material

When writing a thesis or dissertation, you must be careful in using copyrighted materials. Generally speaking, you may make limited use of short passages from copyrighted material if proper credit is given to the owner of the copyright. Make sure you provide proper credit to all of your sources including web pages, references, personal communications etc.

Extensive use of the copyright requires permission of the copyright owner. Permission to use copyrighted material in scholarly works is usually granted without payment or compensation to the copyright owner, but not always. If the copyright owner grants permission to use the material, a letter of release must be obtained and included in the appendix of your document. Likewise, the copyright owner should be given credit in the acknowledgments of your manuscript.

Academic Misconduct

All acts of dishonesty in any work constitute academic misconduct, including cheating, plagiarism, fabrication of information, and the like. Academic misconduct will not be tolerated. As a researcher, you are held to the highest professional standards. For more information on the official policy on academic misconduct refer to the REGLAMENTO GENERAL DE ESTUDIANTES DE LA UNIVERSIDAD DE PUERTO RICO, Part VI, Articles 15-18 **or to the** Office of the Dean Students of the University of Puerto Rico at Mayagüez.

More questions?

If you have any doubts concerning the development of your document, please consult with your graduate committee or the DMS Graduate Policy Committee.

Sources:

University of Alabama Graduate School, A student Guide to preparing Theses and Dissertations
<http://graduate.ua.edu/thesis/manual/index.html>

Universidad de Puerto Rico, Mayagüez Oficina de Estudios Graduados. Recursos y Documentos.
<http://grad.uprm.edu/oeg/RecursosDocumentos/>

Nova Southeastern University. Center for Psychological Studies. DISSERTATION GUIDELINES
<http://cps.nova.edu/onlinedissertguide07.pdf>

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First Draft by the DMS Graduate Policy Committee 2005-2008

Dr. Richard S. Appeldoorn, Dr. Nilda E. Aponte, Dr. Roy Armstrong, Dr. Jorge García, Dr. Clark Sherman, Dr. Nikolaos Schizas.

Revision and Final Corrections by DMS Graduate Policy Committee 2008-11.

Dr. Richard S. Appeldoorn, Dr. Nilda E. Aponte, Dr. David L. Ballantine, Dr. Ernesto Otero, Dr. Clark Sherman, Nikolaos Schizas

Revised and approved by the Faculty of the Department of Marine Sciences: _____

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APPENDIX A List of suggested peer review journals in Marine Sciences

(This is not an exhaustive list; your graduate committee may recommend other peer reviewed outlets)

(At this stage the DMS will only be accepting submissions to peer reviewed print journals)

| | |
|--|---|
| Applied and Environmental Microbiology | Journal of Geophysical Research |
| Applied Optics | Journal of Phycology |
| Aquatic Botany | Journal of Plankton Research |
| Biogeochemistry | Journal of Shellfish Research |
| Botanica Marina | Journal of the Marine Biological Association of the United Kingdom |
| Bulletin of Marine Science | Limnology and Oceanography |
| Caribbean Journal of Science | Marine Biology |
| Continental Shelf Research | Marine Biology |
| Continental Shelf Research | Marine Biology |
| Copeia | Marine Biotechnology |
| Coral Reefs | Marine Chemistry |
| Deep Sea Research Part I: Oceanographic Research Papers | Marine Ecology |
| Environmental Microbiology | Marine Ecology Progress Series |
| EOS, Transactions American Geophysical Union | Marine Ecology Progress Series |
| Estuaries & Coasts | Marine Fisheries Review |
| Estuarine, Coastal and Shelf Science | Marine Geodesy |
| Geophysical Research Letters | Marine Pollution Bulletin |
| Gulf and Caribbean Research | Phycologia |
| ICES Journal of Marine Science | The Journal of Geology |
| International Journal of Remote Sensing | The Journal of Marine Science and Technology |
| Journal of Applied Phycology | Transactions of the American Fisheries Society |
| Journal of Biological Chemistry | |
| Journal of Experimental Marine Biology and Ecology | |

APPENDIX B. Sample MS and PhD theses front pages.

MS THESES

| | |
|--|---------------|
| TITLE OF THE THESIS | |
| By | |
| Name of the Student | |
| A thesis submitted in partial fulfillment of the requirements for the degree of | |
| MASTER OF SCIENCE IN MARINE SCIENCES _____ OCEANOGRAPHY | |
| UNIVERSITY OF PUERTO RICO MAYAGÜEZ CAMPUS YEAR | |
| Approved by: | |
| _____ Name of Professor, Degree Member, Graduate Committee | _____ Date |
| _____ Name of Professor, Degree Member, Graduate Committee | _____ Date |
| _____ Name of Professor, Degree President, Graduate Committee | _____ Date |
| _____ Name of Professor, Degree Representative of Graduate Studies | _____ Date |
| _____ Name of Professor, Degree Chairperson of the Department of Marine Sciences | _____ Date |

DOCTORAL DISSERTATION

TITLE OF THE THESIS

By

Name of the Student

A dissertation submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN MARINE SCIENCES
_____ OCEANOGRAPHY

UNIVERSITY OF PUERTO RICO
MAYAGÜEZ CAMPUS
2008

Approved by:

Name of Professor, Degree
Member, Graduate Committee

Date

Name of Professor, Degree
Member, Graduate Committee

Date

Name of Professor, Degree
Member, Graduate Committee

Date

Name of Professor, Degree
President, Graduate Committee

Date

P

Name of Professor, Degree
Representative of Graduate Studies

Date

Name of Professor, Degree
Chairperson of the Department of Marine Sciences

Date