2008-2009
Rosenstiel School of Marine and Atmospheric Science
DIVISION OF MARINE BIOLOGY AND FISHERIES

Summary: .................................................................................................................................. 2
Preface: ..................................................................................................................................... 2
Time Line: ................................................................................................................................ 2
The First Year ............................................................................................................................... 3
The Student’s Dissertation Committee ..................................................................................... 3
  Importance of Faculty Participation: .................................................................................... 3
  Dissertation Committee: .................................................................................................... 3
  Requirements ....................................................................................................................... 3
Course Information and Requirements: .................................................................................... 3
  Required Core Courses ....................................................................................................... 4
  Waiver of the Core Courses: ............................................................................................... 4
  Comprehensive Examination ............................................................................................... 4
  MBF Comprehensive Exam format .................................................................................... 4
  Procedures for passing/failing the MBF Comprehensive Exam: ......................................... 5
The Second Year ......................................................................................................................... 5
Dissertation Proposal: ............................................................................................................... 5
Proposal Defense ....................................................................................................................... 6
  Qualifying Examination: ................................................................................................... 6
  Advancement to Candidacy: ................................................................................................. 7
The Degree .................................................................................................................................... 7
Dissertation ............................................................................................................................... 7
Defense ..................................................................................................................................... 7
Degree Progress, Warnings, Problems, and Academic Probation .............................................. 8
  Recency of Credit: ............................................................................................................... 8
  Academic Warning and Probation: ..................................................................................... 8
  Entry into the Ph.D. Program: ............................................................................................. 9
  Leave of Absence: .............................................................................................................. 9
  Funding: ............................................................................................................................... 9
  Student Files: ....................................................................................................................... 9
  Appeals and Changes in Policy: ......................................................................................... 10
Appendix .................................................................................................................................... 11
  MBF Graduate Faculty ....................................................................................................... 11
  Courses 2008-2009 ............................................................................................................. 12
  Fellowships .......................................................................................................................... 13
A Concise Ph. D. HANDBOOK

Fall 2008

SUMMARY:
1: In the first year, graduate students need to take required course work, pass the comprehensive exam, and form a dissertation committee. They should have their 1st committee meeting.
2: In the second year and every year thereafter, graduate students need to meet with their committee, agree on a thesis proposal, write a proposal, defend the proposal, and pass qualifying exams.
3: In the third year, students need to meet with their committee and provide an annual progress report. Committee chair should provide a similar concise description of this meeting and whether the student is making satisfactory progress.
4: To graduate, students need to be a Ph.D. candidate and apply to graduate one semester prior to defending. The written dissertation should be made available to the dissertation committee six weeks prior to the oral defense. The written dissertation has to be tentatively approved by the dissertation committee two weeks prior to this defense. The student has to provide a presentation and defend their dissertation in public.
5: Documentation for committees, committee meetings, and description of progress must be provided to the MBF office.
6: It is expected that students will defend their Ph.D. five years after entering the MBF graduate student program (four years if they come with a Master’s degree).

PREFACE:
Graduate student education is a symbiotic relationship between a mentor and the student. The mentor is responsible for advising and supporting a student’s research. The graduate student is responsible for his/her education and becoming an independent scientist. The student’s dissertation committee plays an important role in the maturation and education of a graduate student. This committee is responsible for insuring the quality of research, evaluating student progress for candidacy, and approving the dissertation.

This MBF Student Handbook is designed to aid students and faculty by stating the Division's interpretations of RSMAS policy, and by stating specific division requirements. It is ultimately the responsibility of each student and their advisor to meet all of the guidelines and requirements of the Division and the School.

TIME LINE:
Year 1: All required courses taken. Comprehensive exam taken at the end of spring semester. Student dissertation committee formed, have first committee meeting
Year 2: Proposal written and defended, and qualifying exams taken.
Years 2-5: Annual meetings with the dissertation committee and submission of concise annual progress reports.

<table>
<thead>
<tr>
<th>Year 1:</th>
<th>Year 2:</th>
<th>Year 3:</th>
<th>Year 4:</th>
<th>Year 5:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall: Biometry, Biol. Oc., Ecology</td>
<td>Course work</td>
<td>Research-committee meeting</td>
<td>Research-committee meeting</td>
<td>Finish research, Defend, get out of here</td>
</tr>
<tr>
<td>Spring: Physical Oc, Physiology</td>
<td>Thesis development, 1st committee meeting, PROPOSAL &amp; Qualifiers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMPREHENSIVE EXAMS
The First Year.

THE STUDENT’S DISSERTATION COMMITTEE

A student’s dissertation committee is important to the student and to our academic institution because members of the committee both provide guidance and are the guardians of a program of excellence. A committee should be formed in the student’s first year and a first committee meeting must be held. Students should discuss with their advisors possible committee members. The committee must meet once per year to review the student's progress. A short report of what was discussed should be sent to the Graduate Studies Office by the committee chairman for addition to the student's file.

Importance of Faculty Participation:

Faculty active participation in a student’s dissertation committee is very important for a successful and excellent graduate program. The members of a dissertation committee are responsible for overseeing the student’s research, approving the proposal, and evaluating the student for candidacy (passing qualifiers). The committee is responsible for the student’s development into an independent scientist and approving the student dissertation.

DISSERTATION COMMITTEE:

The dissertation committee will consist of no fewer than five members: the chair, three members from the Graduate Faculty, and one from outside the RSMAS (this can be a faculty member at UM or outside of the University). The chair must be a member in good standing on the graduate faculty. MBF recommends a diverse committee. (Notice, outside member at UM can also be a member of Graduate Faculty).

REQUIREMENTS

A list of proposed committee members should be presented to the divisional academic committee for approval. If approved, an “Appointment to Student’s Committee” form should be completed, signed by all members, and forwarded to the Graduate Studies Office and the MBF office. Proposed changes in the membership of existing committees must be approved by the committee chairman and must carry the endorsement of the divisional academic committee, before being forwarded to the Graduate Studies Office and the MBF office.

The committee must meet at least once per year to review the student's progress. A short report of what was discussed should be sent to the Graduate Studies Office and the MBF office by the committee chairman for addition to the student's file.

COURSE INFORMATION AND REQUIREMENTS:

Sixty credits are the minimum requirement for the Ph.D. and no fewer than half of the total credits must be in work only open to graduate students (600-level and above). The students are expected to take 24 credits in graduate courses and the rest can be dissertation research. At least 24 of the 60 credits must be taken in residence at the University of Miami, and may include those course credits taken as part of the Masters of Science degree. A minimum of 12 dissertation credits must be taken. Students transferring into the school with a Masters of Science degree are normally given credit for up to twenty-four course credits, if the degree is in the discipline. Since a maximum of 60 credits are paid for by RSMAS (if the student is supported by federally funded research), the faculty advisor and student need to consider carefully how many credits to transfer.

Course offerings are listed at the end of this document.

All students must maintain a GPA higher than 3.0 at all times. This is a requirement of the Graduate School and is checked each semester by the Graduate Studies Office. A student whose GPA falls below 3.0 is automatically placed on RSMAS academic probation. If the GPA is not increased to 3.0 in the subsequent semester, the student may be dismissed from the program.
REQUIRED CORE COURSES

Students are required to take MBF 604 Biological Oceanography, MBF 508 Biometrics, MBF 515 Tropical Marine Ecology, MBF 574 Graduate Physiology, MBF 610 Physical Environment of Marine Organisms, and MBF 602 Graduate Student Seminar.

Students most likely will not enroll in MBF Graduate Student Seminar (MBF 602) during their first year but they are expected to attend all seminars every year they are an MBF student. Students need to enroll once for 1 credit prior to the semester they defend their dissertation. All students must attend the MBF graduate seminar and after the first year give an annual seminar. Students arriving with a M.S. degree are expected to give a seminar in the first year about their M.S. research.

FIRST YEAR

FALL: 9 CREDITS

3 credits MBF 604 Biological Oceanography
3 credits MBF 508 Biometrics
3 credits MBF 515 Tropical Marine Ecology

SPRING: 9 CREDITS

3 credits MBF 610 Physical Environment of Marine Organisms.
3 credits MBF 574 Graduate Physiology
3 credits MBF other courses or research

OTHER courses:

First year students should be encouraged to take courses in which they have an academic deficit and to prepare for the comprehensive exam. The University requires a written Comprehensive Exam and student and faculty should anticipate that this exam will cover the diversity of research topics in MBF. Students should always select courses in consultation with their advisor. The MBF Academic Committee is available for advice.

After the first year, students may take advantage of special course offerings in their field of interest. Additionally, all students are expected to be full-time as a combination of course work and research activities:

a) by taking nine or more graduate credits
b) by enrolling in one credit hour of Master's Thesis, Doctoral Dissertation research course 710, 730, or a minimum 1 credit charge of residency research (course 720,750).

WAIVER OF THE CORE COURSES:

Any student who has successfully completed one or more equivalent courses at an accredited institution may petition the MBF Academic Committee to waive the requirement for the relevant core course(s). This is accomplished by interview with the core course instructor, after which the instructor will send his/her recommendation to the MBF Academic Committee in the form of a memorandum.

COMPREHENSIVE EXAMINATION

At the end of the first year a written comprehensive examination is required of all RSMAS students. This test is designed to evaluate breadth of knowledge and the student is expected to understand the diversity of research represented by the MBF faculty. The Graduate Studies Office should receive written notification of the examination results.

MBF COMPREHENSIVE EXAM FORMAT

The exam is set by the MBF Academic Committee and consists of 10 questions representing biological oceanography, physical oceanography, ecology, biometry as well as biochemistry and physiology. Students are encouraged to answer all questions to the best of their ability; however,
students must answer at least 8 within an 8-hour period with some restrictions on the choice of questions to be answered (may differ on a year-to-year basis).

PROCEDURES FOR PASSING/FAILING THE MBF COMPREHENSIVE EXAM:
Each answer will be evaluated by a MBF faculty member with grading as a percentile. Final determination of pass/fail is made by the MBF Academic Committee.

There are three possible outcomes:
(1) Unconditional Pass: at least 8 questions answered, each with a grade of 75% or higher. 
(2) Conditional Pass: at least 7 answers each receiving grades of 75% or higher. 
(3) Failure: less than 7 answers receiving grades of 75% or higher.

Consequences:
(1) Those receiving an Unconditional Pass have successfully completed their examination.
(2) Those receiving a Conditional Pass must re-answer a relevant question, to be determined by the Academic committee, as a five page essay within 3 weeks of the Comprehensive Exam. The essay answer is “open book”, should be well referenced and demonstrate that the student now has a comprehensive understanding of the relevant field. Failure to do so results in a failed comprehensive exam.
(3) Those who failed the exam may be given a (single) second chance to take the entire exam whereby the same pass/fail criteria as above will apply. A second comprehensive examination must take place within 3 months after the first attempt upon the advice of the student’s committee and at the discretion of the faculty of the division (represented by the academic committee).

A failed Comprehensive Exam with no endorsement to retake the exam will result in immediate dismissal from the MBF graduate program.
A failed second Comprehensive Exam will also result in immediate dismissal from the MBF graduate program.

The Second Year.

DISSERTATION PROPOSAL:
The dissertation proposal is the foundation for qualifying exams and both must be completed by the end of the second year.

Students should approach the proposal in the same manner as they would a proposal for funding directed to a government agency. The first step in designing a research project is to formulate clearly stated hypotheses. Students are advised to “be specific and informative and avoid redundancies.” The proposal should be in NSF style (see http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg).

A. SUMMARY (1 page or less) describing the specific aims and the importance of the research,
B. PROJECT DESCRIPTION (15 pages) with these sections:
1. Specific Aims. Provide a list of aims that state concisely and realistically what the research described in the proposal is intended to accomplish and/or what hypothesis is to be tested. Do not exceed one page.
2. Significance and Background. Briefly sketch the background to the hypothesis, critically evaluate existing knowledge, and specifically identify how the research will advance the field. State concisely the importance of the research by relating the specific aims to longer-term objectives.
3. Progress Report/Preliminary Studies. This section provides an account of the investigator's preliminary studies pertinent to the research.
4. Experimental Design and Methods. Should discuss in detail the experimental design and how these experiments address the specific aims. Should provide detailed procedures for those approaches or techniques that are novel or not well established.

5. Provide a tentative sequence and timetable for the investigation. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims.

6. Literature Cited. List all publications cited in the proposal. Use a standardized format such as from a scientific journal in your field that includes all pertinent information such as the authors, title, and location of the work. Cited literature is not included in the 15-page limit.

Recommendation in the event of numerous revisions:
Numerous edits to the proposal by the committee should be avoided. The chair of the committee is primarily responsible for providing a sound document to the student’s dissertation committee. The committee is responsible for approving the proposal and experimental approach. If there are many questions concerning experimental design, a committee meeting should be held to discuss these problems.

PROPOSAL DEFENSE
The proposal defense provides the student and the committee the opportunity to more fully discuss the objective and methods of the proposed research. After the dissertation committee has had time to read and review the proposal, the student must defend their proposal. Typically, the student provides a presentation on the proposed work and the committee is given the opportunity to question the hypothesis, methods, and breadth of the research. If the written proposal was found to be sound and acceptable, the defense should be seen as an opportunity to enhance the student’s research. If the proposal has problems, the defense should provide the student and committee an opportunity to fully discuss these problems and address approaches to overcome them.

Finally, since the qualifying examination is based on the proposed research, this meeting with the student’s committee is an excellent time to define the reading and type of information the student needs to master for their qualifying exam.

QUALIFYING EXAMINATION:
At the end of the second year a written qualifying examination is required of all students admitted to the doctoral program. Having passed the qualifying exam and meeting all other requirements, a student becomes a candidate for a Ph.D. The purpose of the qualifying examination is to demonstrate that the MBF doctoral student has the necessary level of understanding and expertise in her/his research and related fields to complete the dissertation research and to demonstrate the appropriate level of knowledge commensurate with earning a doctoral degree from RSMAS.

For MBF students, the qualifying examination is based on the student’s written proposal. The qualifying exam should focus on the subject matter needed to complete the research proposed by the student. The topic areas to be covered by the written examination should be agreed by the student, chair, and the dissertation committee during or soon after the proposal defense. The student is strongly encouraged to discuss the specific topics with each member of the dissertation committee, well in advance of the examination, to clarify the expected questions. The committee is encouraged to provide specific reading or areas of knowledge they will test the student on.

Typically the qualifying exam is two to four partial days (4-6 hours) on questions written by their committee. It is the chair’s responsibility to provide the test and to have the student’s committee grade this in a timely manner. The scheduling of the exam sessions is the responsibility of the student's major advisor, but in all cases the written portion of the examination shall be completed within one week.
In the event of a failure, a student may be re-examined once upon the recommendation of the student's committee and at the discretion of the MBF Academic Committee. If granted, the re-examination must be given before the end of the following semester. In addition, an oral qualifying examination may be required by the student's committee. However, the oral examination may not serve as a substitute for the written examination, which is a Graduate School requirement. That is, the student must pass a written exam, and the oral exam may be used at the discretion of the dissertation committee to verify or further test the student.

The decision of passing or failing the qualifying examination rests with the dissertation committee. The qualifying examination (written and, if required, oral) must be successfully completed, as documented by the dissertation committee, before the student can be admitted to candidacy.

ADVANCEMENT TO CANDIDACY:

Students should advance to candidacy at the end of their second year but must advance at least one semester prior to defending and graduation. Advancement to candidacy requires the completion of all course work and passing qualifying exams. The form requesting advancement to candidacy is available in the Graduate Studies Office.

The Degree

Students are expected to finish in five years. Students are required to meet annually with their committee and provide a succinct one-page progress report to be kept on file in the MBF office. The chair is expected to provide a statement summarizing this committee meeting and the student’s progress.

Dissertation

The written dissertation should be provided to the committee six weeks prior to the oral defense. The committee is responsible for returning any required changes two weeks prior to the oral defense. In no case will the oral defense proceed without written comments from each member of the committee.

Specific requirements for the format of the dissertations are set by the Graduate School. These guidelines are available in the Graduate Studies Office. Students must read these guidelines and strictly adhere to them. Otherwise, the dissertation may not be accepted by the Graduate School and the student will not graduate.

A student's dissertation/thesis must be signed by all committee members and turned in to the Graduate School prepared for binding by the end of the subsequent full semester following the date of defense.

Defense

MBF requires a public oral presentation of a student dissertation. The public presentation should occur only after the committee has been sufficient time to review the written dissertation. Thus, the defense should take place two weeks after receiving comments from each committee member on the written dissertation. Students should consult closely with their advisor and advisory committee members throughout the course of their studies to minimize any possibility for dissension at the defense.

Procedure if there is dissension on the acceptability of a thesis or dissertation:

Note that there is a School-wide policy on Academic Appeals. See page 18 of the RSMAS student handbook (online) for a description of this procedure. Alternatively for MBF students, the following may be applied:

If during the final phase of evaluating a draft thesis/dissertation, or at the defense, a committee member refuses to approve the document, and this results in fewer than the requisite number of signatures, the following procedure can be followed:
The student and his or her advisor will recommend to the MBF Academic Committee a third party reviewer to read the document and render an opinion as to its acceptability. The MBF Academic Committee can approve or disapprove the reviewer, and if it disapproves, the student and advisor will recommend alternates until approval is obtained. The MBF Academic Committee can provide the student and advisor with acceptable suggestions as well. The reviewer should have expertise in the research area and preferably be a senior scientist. Once a reviewer has been approved, he or she will read the thesis/dissertation, attend the defense (if possible), and provide the MBF Academic Committee with a written evaluation. It is also expected that the MBF Academic Committee members will attend the defense if possible. The MBF Academic Committee will then render a decision regarding the acceptability of the thesis/dissertation, weighing all evidence including the reviewer's report.

This decision will be conveyed to the Division Chairperson in the form of a recommendation, and depending on the requirements for committee composition, with either the chairperson or Associate Dean signing the document. Dissenting members of the Thesis/Dissertation Committee do not sign the document but may register a minority report.

Degree Progress, Warnings, Problems, and Academic Probation

The MBF Academic Committee monitors each student's progress each semester. The expected time to completion for degrees is as follows:
- M.S. - 2 to 2.5 years
- Ph.D. - 4 to 5 years

Recency of Credit:

The Graduate School has a firm policy concerning the time elapsed since earning academic credits. Students must complete all degree requirements within eight years, including leaves of absence. If the student remains for a Ph.D. after completing a M.S. at RSMAS, the date of entry is enrollment in the Ph.D. program, and credits from that time forward are the only ones affected by this policy. Credits are reinstated for four years after completion of the Qualifying Examination. For further information, students are urged to contact the Graduate School on the Coral Gables Campus.

Academic Warning and Probation:

- Students will not be allowed to enroll after the fall of their second year unless they have passed their comprehensive exams.
- Students will not be allowed to enroll after the fall of their third year unless they have defended their proposal and passed their qualifying exam.
- Students will not be allowed to enroll in fall of their 3rd or subsequent years unless they document their annual dissertation committee meeting.

If there is a problem with the student's progress, the student and advisor will be called to appear before the MBF Academic Committee to discuss the problem and possible solutions. If meeting with the Academic Committee does not solve the problem with the student's progress, the MBF Academic Committee can recommend that the student be dismissed from the University.

Students and their advisors can at any time speak to any member of the Academic Committee about a situation that is causing delays in the student's progress. Confidentiality will be maintained as necessary and appropriate.

Resetting the timeline for degree completion:

If a student falls significantly behind the schedule for a degree because of a major event such as a change of advisor, change of research project, personal hardship, or other unforeseen events, the
student and advisor may petition the MBF Academic Committee to "reset the clock" for completion of the degree.

Required Minimum GPA:

All students must maintain a GPA higher than 3.0 at all times. This is a requirement of the Graduate School and is checked each semester by the Graduate Studies Office. A student whose GPA falls below 3.0 is automatically placed on RSMAS academic probation. If the GPA is not increased to 3.0 in the subsequent semester, the student may be dismissed from the program.

ENTRY INTO THE PH.D. PROGRAM:

Correcting Errors in Degree Program:

Occasionally, a student who intended to enter the Ph.D. program is registered as an M.S. student at the time of acceptance. To correct this error, a memorandum signed by the student's advisor is sent to the Graduate Studies Office with a copy directed to the MBF Academic Secretary. The same process is followed for Ph.D. students who had intended to complete a Master’s degree.

Entry into the Ph.D. program after completion of the M.S. at RSMAS:

Completion of the M.S. degree in MBF does not guarantee acceptance to the Ph.D. program. If admission to the doctoral program is desired by the student, the thesis committee must recommend this at the time of the M.S. defense in the form of a memo to the MBF Academic Committee. The student must then complete a readmission form. Finally, there must be a faculty member with funds available to act as the student's advisor. It is recommended that this process be initiated at least three months in advance of the entry date desired.

LEAVE OF ABSENCE:

All leaves must be approved in advance by the MBF Academic Committee and the Associate Dean. Leave is usually granted for one year at a time, with possible extensions under extreme circumstances. Leaves are requested for the student by his/her advisor or advisory committee by means of a memorandum sent to the MBF Academic Committee. This memorandum should indicate the advisor's approval. When returning, the student must file a readmission form. The form is available in the Graduate Studies Office, and must be approved by the MBF Academic Committee. Any time the student is not registered at the University for a period of one or more semesters, she/he must request a leave of absence. Students are cautioned that under the Recency of Credit rule set by the Graduate School, they must complete all degree requirements within eight years of entry, including leaves of absence.

FUNDING:

Most students in the Division are supported by research assistantships, although a few are supported by teaching assistantships. Support is typically offered for tuition, stipend, and research funds. In addition, certain divisional, school or university Fellowships provide support of varying duration.

Research Assistants and Teaching Assistants are awarded tuition scholarships under the terms of current RSMAS policy. See the Graduate Studies Office for any questions on this policy. Most fellowships/scholarships are available only to doctoral students. MBF-distributed scholarship funds are listed in appendices. Files of information on non-UM fellowships as well as a fellowship database are available from the MBF Academic Secretary.

STUDENT FILES:

The MBF Academic Secretary keeps a copy of all MBF student files, although the official student file is in the Graduate Studies Office. Since the progress of MBF students is mainly tracked by the Division, students should submit all paperwork, other than course registration forms, through the MBF Academic Secretary. The appropriate forms are forwarded to the Graduate Studies Office.
APPEALS AND CHANGES IN POLICY:

The student may appeal any decision made by the MBF Academic Committee to the RSMAS Academic Committee, and, if necessary, subsequently to the Associate Dean for Graduate Studies. All students should be aware that there is no right to a degree, and that the M.A., M.S., and Ph.D. degrees are conferred only with approval of the thesis/dissertation committee and completion of all degree requirements issued by the Division, the School, and the University. The MBF Academic Committee recognizes that the guidelines for obtaining degrees will evolve in any healthy program. Any faculty member or student who has recommendations should contact the MBF Academic Committee.
Appendix

MBF Graduate Faculty

FACULTY 2008
Cowen, Robert, Chairman
Ault, Jerald
Babcock, Elizabeth
Baker, Andrew
Bakun, Andrew
Brand, Larry
Crawford, Douglas
Die, David
Ehrhardt, Nelson
Fieber, Lynne
Fleming, Lora
Glynn, Peter
Grosell, Martin
Hitchcock, Gary
Langdon, Chris
Lirman, Diego
McDonald, Danielle
McManus, John
Oleksiak, Margie
Ortner, Peter
Schmale, Michael
Serafy, Joseph
Smith, Sharon
Sponaugle, Su
Thomas, Gary
Wood, Chris
### COURSES 2008-2009

<table>
<thead>
<tr>
<th>MBF</th>
<th>COURSE schedule</th>
<th>Credits</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core courses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBF 602</td>
<td>Student seminar</td>
<td>1</td>
<td>ALL</td>
</tr>
<tr>
<td>MBF 604</td>
<td>Biological Oceanography</td>
<td>3</td>
<td>Fall</td>
</tr>
<tr>
<td>MBF 508</td>
<td>Biometrics</td>
<td>3</td>
<td>Fall</td>
</tr>
<tr>
<td>MBF 515</td>
<td>Tropical Marine Ecology</td>
<td>3</td>
<td>Fall</td>
</tr>
<tr>
<td>MBF 610</td>
<td>Physical Environment of Marine Organisms</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 574</td>
<td>Graduate Physiology</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td><strong>Fisheries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBF 590</td>
<td>Sustainable Fisheries-assessment and conservation</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 613</td>
<td>Marine Population dynamics</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 615</td>
<td>Advance Biometrics</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td><strong>Biological Oceanography</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tropical Reef Ecology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBF 514</td>
<td>Field Tropical Marine Biology</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 518</td>
<td>Ecology and Physiology of Coral Reefs</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 687</td>
<td>Biology and Systematics of Fishes</td>
<td>3</td>
<td>Fall</td>
</tr>
<tr>
<td>RSM 620</td>
<td>Object Oriented Programming</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td><strong>Molecular and Biomedical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBF 573</td>
<td>The Oceans and Human Health</td>
<td>3</td>
<td>Fall</td>
</tr>
<tr>
<td>MBF 533</td>
<td>Physiological Adaptations of Marine Organisms</td>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>MBF 576</td>
<td>Diseases of Marine Organisms</td>
<td>2</td>
<td>Fall</td>
</tr>
<tr>
<td>MBF 607</td>
<td>Biochemical Toxicology</td>
<td>3</td>
<td>Fall</td>
</tr>
</tbody>
</table>
FELLOWSHIPS

Fellowships are gifts that enable qualified students to devote all their time to graduate study without the need to seek employment.

ROSENSTIEL FELLOWSHIP  $12,344 (MA/MS) and $13,688 (PhD) stipend / 8 months plus tuition scholarship of 18 credits. One fellowship awarded per division for a meritorious student. All applicants to the Rosenstiel School are considered. Deadline for all application material: January 1st.

MAYTAG FELLOWSHIPS  $18,000 stipend / 10 or 12 months plus tuition scholarship of 18 credits. Fields eligible: Marine Biology, Biology (limited areas in Psychology and Chemistry). Deadline for all application material: January 1st.

UM FELLOWSHIPS  $10,000 toward the student’s 10 or 12 month stipend months plus tuition scholarship of 18 credits. Five-year award (with satisfactory progress). All UM doctoral applicants eligible. Deadline for all application material: January 1st.

ROYAL CARIBBEAN INTERNATIONAL/CELEBRITY CRUISES OCEAN FUND SCHOLARSHIP (March) The fellowship funds will be used to pay one half of an annual stipend and one half of the annual (18) tuition waivers. The division (faculty member) will be responsible for the other one half of the annual stipend and the Graduate Studies Office will cover the other one half of the waivers from the regular waiver pool. Two student scholarships per year will be awarded. Each division will be allowed to nominate two (2) candidates. The funds will be used to support NEW incoming students.

HARDING MICHEL FELLOWSHIP  A $30,000 fellowship plus tuition for Biological Oceanographic research in honor of Harding B. Michel, a pioneer zooplanktologist from the Rosenstiel School at the University of Miami. Students in their 3-5th year of their Ph.D. program who have advanced to candidacy and have valid need to complete a meritorious research program are eligible.