

DIVISION OF METEOROLOGY AND PHYSICAL OCEANOGRAPHY

GRADUATE STUDY GUIDE

2006-2007

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A. INTRODUCTION

This Guide outlines the specific procedures and requirements for students in the Division of Meteorology and Physical Oceanography. This Guide serves as a supplement to the RSMAS Graduate Student Handbook, the RSMAS Bulletin, and the Graduate School Bulletin. Students should be aware of all the requirements and procedures in these documents. Students should take full responsibility to follow the procedures and meet the requirements in order to complete their degrees in due time. Any uncertainties regarding the procedures and requirements should be clarified with the MPO Academic Committee Chair and the RSMAS Graduate Studies Office.

All progress should be recorded in the students files.

B. OUTLINE OF GRADUATION REQUIREMENTS

Graduation requirements may change slightly from year to year. The applicable requirements for a given student will be those in effect during that academic year when he/she first registered as a full-time graduate student in the Division. More detailed descriptions of the graduate requirements are given in Sections C - M of this Guide.

B.1. Master of Science

- (a) Credits: 30 credits total, including 24 course credits and 6 research credits (Section D.1) with an average grade of B or above (Section E).
- (b) Seminar: Attending the MPO seminar series every semester and giving at least one 15-minute presentation each year after the Comprehensive Examination (Section L.1)
- (c) Comprehensive Examination: A grade of PASS or HIGH PASS (Section G.1)
- (d) Thesis Committee: A Thesis Committee Form signed by all committee members (Section F)
- (e) Thesis Proposal: An approval form signed by each member of the thesis committee (Section H.1)
- (f) Admission to Candidacy: An application form submitted to the Graduate Studies Office (Section G.3)
- (g) Thesis Defense (Section I.4)
- (h) Submission of Thesis (Section J.1)
- (i) Annual Progress Report (Section L.3)

B.2. Doctor of Philosophy

- (a) Credits: 60 credits total, including a minimum of 36 course credits and a minimum of 12 research credits (Section D.2) with an average grade of B or above (Section E);
- (b) Seminar: Attending the MPO seminar every semester and giving at least one 15-minute presentation each year after the Comprehensive Examination and a one-hour presentation at least 6 months before dissertation defense (Section L.1).
- (c) Field and Laboratory Work: Participating no fewer than 5 days or 40 hours in field or laboratory work (Section L.2).

- (d) Entrance into Ph.D. Program: Three options: (a) a grade of HIGH PASS earned from the Comprehensive Examinations, (b) recommended by the thesis committee after passing the M.S. thesis defense, or (c) an M.S. bypass (Section G.2)
- (e) Dissertation Committee: A Dissertation Committee Form signed by all committee members (Section F.3)
- (f) Dissertation Proposal: An approval form signed by the dissertation committee members (Section H.2)
- (g) Qualifying Examination (Section G.4)
- (h) Admission to Candidacy: An application form submitted to the Graduate Studies Office (Section G.3)
- (i) Dissertation Defense (Section I.2)
- (j) Submission of Dissertation (Section J.2)
- (k) Annual Progress Report (Section L.3)

B.3. Master of Arts

- (a) Credits: 24 course credits and 6 research credits (Section D.3)
- (b) Seminar: Attending the MPO seminar series every semester (Section L.1)
- (c) Comprehensive Examination: A grade of PASS (Section G.1)
- (d) Committee (section F.3).
- (e) Admission to Candidacy (section G.3).
- (f) Report: On a topic chosen by the committee.
- (g) Annual Progress Report (section L.3).

C. TIMETABLE

The timetable shown below gives the recommended schedule to be followed by MPO students. (M.A. students are not required to follow the timetable.) Adhering to the schedule is the sole responsibility of the student. If a student fails to meet a required deadline, the student will be placed on RSMAS Academic Probation for one semester. Failure to correct the deficiencies during the probation period will result in either dismissal from the program or a change of degree objective. Deviations from this timetable must be approved in advance on an individual basis by the student's committee and the MPO Academic Committee.

Milestone	Requirement	M.S.	Ph.D
A. (Year 1)	Comp. Exam.	End of 1st year	same
B.	Retake Comp Exam 1st semester after A (Year 2)	N/A	
C. Entrance into M.S. program	PASS Comp. Exam. (Year 1 or 2)	N/A	
D. Entrance into Ph.D. program		N/A	HIGH PASS Comp. Exam. (Year 1) or Successful M.S. Bypass petition (Year 2 or 3) or Successful M.S. Defense at MPO and committee approval (Year 3)
E.	Committee	Fall 2nd Year	1st semester after D (Year 2-4)
F.	Thesis Proposal	Fall semester of Year 2	N/A
G.	Dissertation Proposal	N/A	<u>Draft</u> : within 8 months from E <u>Final</u> : within 10 months from E (Year 3 — 5)
H.	Qualifying Exam	N/A	one year from E
J.	Retake Qualifying Exam	N/A	1st Semester after H
I.	Candidacy	Following F	Following H
J.	Defense	One year from F (Year 3)	Two years from G (Year 5 — 7)

D. CREDIT REQUIREMENTS

Descriptions of all RSMAS courses are given in the RSMAS Bulletin. All MPO courses are listed and described in Appendix of this Guide. In order to gain a broader exposure to oceanic and atmospheric sciences, all students are encouraged to enroll in courses from other divisions of RSMAS.

All courses taken by students should be approved by their advisors. Students are recommended to consult with their advisors and the MPO Academic Committee Chair regarding their choices of courses.

Deviations from the requirements must be approved by students' advisors and the MPO Academic Committee.

All first year students are required to take the following zero credit course:

RSM 600 Research Ethics

D.1. Master of Science Degree

The M.S. degree requires 24 course credits and 6 thesis research credits (RES 710).

The *required core courses* for all M.S. students of MPO are:

MPO 503	Principles of Physical Oceanography	3 credits
MPO 511	Geophysical Fluid Dynamics I	3 credits
MPO 551	Introduction to Atmospheric Science	3 credits

An additional core course for M.S. students in Meteorology is:

MPO 665	General Circulation of the Atmosphere	3 credits
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and, students in Meteorology are required to take at least one of the following:

MPO 518	Remote Sensing of the Atmosphere	3 credits
MPO 531	Physical Meteorology	3 credits
MPO 561	Tropical Meteorology	3 credits
MPO 611	Geophysical Fluid Dynamics II	3 credits
MPO 615	Numerical Weather Prediction	3 credits
MPO 623	Statistical Analysis of Geophysical Data	3 credits
MPO 624	Statistical Modeling of Geophysical Fields	3 credits
MPO 631	Air-Sea Interaction	3 credits
MPO 632	Climate Dynamics	3 credits
MPO 633	Marine Atmospheric Boundary Layer	3 credits
MPO 662	Computer Models of Fluid Dynamics	3 credits
MPO 663	Convection and Mesoscale Meteorology	3 credits
MPO 664	Atmospheric and Oceanic Turbulence	3 credits

An additional core course for M.S. students in Physical Oceanography is:

MPO 612	Large-Scale Ocean Circulation	3 credits
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and, students in Physical Oceanography must take at least one of the following:

MPO 521	Estuarine and Coastal Processes	3 credits
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MPO 542	Physics of Remote Sensing	3 credits
MPO 611	Geophysical Fluid Dynamics II	3 credits
MPO 621	Waves and Tides	3 credits
MPO 623	Statistical Analysis of Geophysical Data	3 credits
MPO 624	Statistical Modeling of Geophysical Fields	3 credits
MPO 631	Air-Sea Interaction	3 credits
MPO 632	Climate Dynamics	3 credits
MPO 662	Computer Models of Fluid Dynamics	3 credits
MPO 664	Atmospheric and Oceanic Turbulence	3 credits
MPO 650	Coastal Oceanography	3 credits

The remaining 9 course credits can be obtained by taking other graduate courses offered by MPO, RSMAS, or the University.

Material from the required core courses will appear on the Comprehensive Examination for M.S. candidates (along with material from other courses from the first year).

MS candidates in the Division of Meteorology and Physical Oceanography are *not* required to take a class outside of our Division - but they are encouraged to do so.

Students who completed the 30 required credits must register for RES 720 in order to maintain full-time status as a graduate student. No tuition waivers (Section M.2) will be provided for RES 720. It is the students' responsibility to manage their waivers to complete their degrees in due time.

D.2. Doctor of Philosophy

The Ph.D. degree requires 60 credits, including a minimum of 12 dissertation research credits (RES 730) and a minimum of 36 course credits. A minimum of 18 course credits should be taken from 600 level courses. All MPO Ph.D. students are required to take, or have taken an equivalent in another program, the following:

MPO 503	Principles of Physical Oceanography	3 credits
MPO 511	Geophysical Fluid Dynamics I	3 credits
MPO 551	Introduction to Atmospheric Science	3 credits
MPO 611	Geophysical Fluid Dynamics II	3 credits

and *one* of the following:

MPO 612	Large-Scale Ocean Circulation	3 credits
MPO 665	General Circulation of the Atmosphere	3 credits

In addition, all Ph.D. students are required to take at least one 3-credit course given by other divisions at RSMAS, unless they have arrived with an MS degree from another institution.

Material from MPO 503, 511, 551, 611, and either 612 or 665 will appear on the Comprehensive Examination for Ph.D. candidates.

Students may take any other graduate courses offered by MPO, RSMAS, or the University to meet the course credit requirement.

Ph.D. students with a Master of Science degree in a related field from another institute can transfer a maximum of 24 course credits and request waivers for some of the required courses (Section M.3). The credit transfer and waiver of required courses should be done during the first year of graduate study at RSMAS with approval from graduate advisors and the MPO Academic Committee Chair.

Students who completed the 60 required credits must register for each succeeding semester to maintain residence. They will at this time enroll in RES 750 which maintains full-time status as a graduate student but awards no credit. No tuition waivers (Section M.2) will be provided for RES 750. It is the student's responsibility to manage their waivers to complete their degree in due time. For students who are permitted to waive the M.S., RES 710 credits can be converted into RES 730 credits.

D.3. Master of Arts

The M.A. degree requires 24 course credits and 6 research credits.

Required courses for all M.A. students of MPO are

MPO 503	Principles of Physical Oceanography	3 credits
MPO 511	Geophysical Fluid Dynamics I	3 credits
MPO 551	Introduction to Atmospheric Science	3 credits

and at least three other 3-credit courses from MPO.

The remaining 6 course credits can be obtained by taking other graduate courses offered by MPO, RSMAS, or the University.

E. GRADE REQUIREMENTS

Any student with a cumulative grade point average falling below 3.0 in any semester will be on probation for one semester. That student must raise their cumulative average to at least 3.0 during that semester. Failure to do so may result in dismissal from the program.

F. THESIS/DISSERTATION COMMITTEE

F.1. Faculty Advisor

All students are admitted with a faculty advisor assigned by the Division Chairman in consultation with the MPO Academic Committee Chair. The function of the advisors is to assist the students in their academic and research affairs at RSMAS before their thesis/dissertation committees are formed. After the thesis/dissertation committee is formed (Section F.3), any committee member can serve as the student's advisor.

F.2. Committee Chair

As soon as the student has settled on an area of research interest, he/she and his/her faculty advisor should determine which member of the faculty is the logical choice to be the Chair of his/her thesis/dissertation committee. The committee Chair is not required to be the student's faculty advisor.

F.3. Committee

The M.S. thesis committee consists of at least three members. The Chair and at least one other member must be faculty of MPO (including secondary appointments). At least one

committee member must be from outside MPO. The thesis committee should be formed during the first semester after passing the Comprehensive Examination (Section G.1).

The Ph.D. dissertation committee consists of at least five members. At least three committee members (including the Chair) must be faculty of MPO (including secondary appointments). At least one committee member must be from outside RSMAS. The dissertation committee should be formed during the first semester following the entrance into the Ph.D. program (Section G.2).

The committee for students seeking an M.A. consists of at least three members; at least one must be faculty of MPO (including secondary appointments), and at least one must be from outside the division.

A Committee Form must be signed by all members and submitted to the Graduate Studies Office (with a copy filed in the student's record at MPO).

Local members of the committee should meet once every 6 months in order to review the progress of the student.

Changes in the membership of an existing committee must be approved by the committee Chair and the MPO Academic Committee Chair, filed to the student's record at MPO, and relayed to the Graduate Studies Office.

G. EXAMINATIONS AND CANDIDACY

G.1. Comprehensive Examination

All M.S. and Ph.D. students are required to take the Comprehensive Examination. For full-time students, the Comprehensive Examination should be before the end of their first year of graduate studies at RSMAS. This examination will be arranged by the MPO Academic Committee Chair and the examiners will be the instructors (or their assignees) of the first year courses taken by the students.

The purpose of this examination is to evaluate students' understanding of materials in the courses completed up to the time of the examination and their capability of integrating these materials, and to determine whether the students are permitted to proceed to the M.S., M.A. or Ph.D. program.

The Comprehensive Examination will consist of an oral part and a written part. The written part, which lasts no longer than 8 hours, consists of closed-book questions, each from a RSMAS course required in the first year, and those taken as electives in the first year by each individual student. Each student must choose to answer four questions; at least one of the questions from GFD I and II must be answered. The oral part, which lasts no longer than 2 hours for each student, may include questions from all the required RSMAS courses, and the electives.

A student's performance in this examination, together with his/her cumulative grade point average, will determine whether the grade of HIGH PASS, PASS, or FAIL is given by the examining board. The examining board consists of faculty whose questions are answered by the student and any other RSMAS faculty who wish to participate.

HIGH PASS would allow the student to proceed to either the M.S. or Ph.D. program.

PASS would allow the student to proceed to only the M.S. or M.A. program. With a PASS, a student holding an M.S. in a closely related field and seeking a Ph.D. degree may

take one of the following choices: (a) enter the M.S. program at RSMAS before proceeding to the Ph.D. program (see Section G.2, including the M.S. bypass option), or (b) at the discretion of faculty, retake the Comprehensive Examination scheduled no later than the end of the following semester. If the student chooses to retake the examination but does not achieve a HIGH PASS on the second attempt, he/she may still be allowed to enter the M.S. program. A student who does not wish to enter the M.S. program at RSMAS must leave the program.

FAIL would require the student to retake the examination at a time to be determined by the MPO Academic Committee and no later than the end of the following semester. The student may be required to retake the full examination, or, at the discretion of the examining committee, only the oral part. Only PASS or FAIL can be achieved in a re-taken exam. A FAIL on the re-take will require leaving the program.

In the spring of 2006, the faculty voted to allow some students to earn a grade of PASS on the comprehensive exam without taking the oral part of the exam. To be eligible for this option, the student must have a GPA of 3.33 or higher at the time of the exam, and must have strong passing scores on the written part of the exam. Students must also understand that if they choose this option, they cannot change to a Ph.D. track at a later time without first earning an M.S. degree, i.e., an M.S. bypass (see G.2.c below) would not be possible. This is an experimental provision and may be withdrawn, by vote of the faculty, at any time.

G.2. Entrance into Ph.D. Program

A student enters the Ph.D. program by meeting one of the following criteria:

- (a) A HIGH PASS on the Comprehensive Examination
- (b) A completion of an M.S. degree at RSMAS and a thesis committee approval of the request from the student to proceed to the Ph.D. program.
- (c) An approval by the MPO Academic Committee of a written petition for a M.S. bypass. The bypass petition must be submitted by the thesis committee of a student in the M.S. Program and based on (a) exceptional research the student has accomplished as evidenced by a presentation of his or her work in an accepted journal publication and (b) the potential of the student's research to lead to a significant Ph.D. dissertation.

After entering into the Ph.D. Program, a student may request to exit the program and enter into the M.S. Program, as long as he/she does not have an M.S. degree from MPO.

G.3. Admission to official candidacy for M.A., M.S., or Ph.D.

The requirements for admission to official candidacy are:

M.A.: Pass the Comprehensive Examination

Complete a minimum of 12 course credits

Have a 3.0 average or above in graduate course work at RSMAS

Have no grades of I or other deficiencies

M.S.: Pass the Comprehensive Examination

Submit an approved thesis proposal to the Graduate Studies Office

Complete a minimum of 12 course credits

Have a 3.0 average or above in graduate course work at RSMAS

Have no grades of I or other deficiencies

Ph.D.: Pass the Qualifying Examination

Submit an approved dissertation proposal to the Graduate Studies Office

Complete all course requirements

Have a 3.0 average or above in graduate courses at RSMAS

Have no grades of I or other deficiencies

An application for Admission to Candidacy must be submitted to the Graduate Studies Office and a copy filed to the MPO Student Record.

Students should be advised of the following UM rule: *No student may graduate in the same semester as they are admitted to candidacy.* Therefore, we advise all students to proceed with admission to candidacy in the earliest possible semester.

G.4. Ph.D. Qualifying Examination

The qualifying examination consists of three parts: submission of a dissertation proposal, a written examination, and an oral examination. Scheduling of this exam should be discussed with the dissertation committee and should not be more than two years from the entrance into the Ph.D. program. The purpose of this examination is to determine the student's knowledge of (a) general principles of meteorology and physical oceanography, (b) his/her individual specialty, and (c) peripheral and supporting disciplines. Upon satisfactory completion, the student enters into candidacy for the Ph.D., provided other requirements are met (i.e. course requirements, etc.).

A dissertation proposal, demonstrating the ability to formulate and test hypotheses and to systematically explore a well posted scientific problem, must be completed and reviewed by the dissertation committee at least three weeks before the examination. This proposal is described in section H below. Students are urged to submit a draft of their dissertation proposal to committee members at the earliest possible date, so that revisions or preparatory work recommended by the committee can be incorporated into a final draft that stands a maximum chance of being approved at the time of the oral examination. The dissertation committee, together with any other invited participants, will administer a written examination on the subjects outlined above. The oral examination should be held within one week of the written exam.

The written part will consist of take-home, open-book questions on the student's broad area of dissertation interest (e.g. large-scale ocean-circulation, tropical meteorology, climate, etc.) and are geared toward research topics likely to come up during the dissertation research. Written questions are submitted by the committee members at least one week before the examination and are finalized by the Dissertation Committee Chair. The student will be allotted three days to answer the questions. Emphasis will be on discussion that demonstrates the in-depth knowledge required to conduct dissertation research. The oral part will concentrate on (a) the proposal and its area of interest, (b) written examination answers, and (c) general knowledge of meteorology and/or physical oceanography. It will be assumed that the course materials previously covered by the Comprehensive Examination are known and assimilated. The oral part will last 2 hours.

If a student fails the qualifying examination, he/she may, at the discretion of the committee, be allowed one opportunity to be re-examined in whole or in part, but in this case no later than one semester after the original qualifying examination took place. In all

cases, successful completion of the qualifying examination requires passing of both the written and oral parts and gaining written committee approval of the dissertation proposal. Failure of the examination will result in either the student being placed in the M.S. degree program, or if the student has already received an M.S. degree from MPO, they will be dismissed from the program.

H. THESIS/DISSERTATION PROPOSAL

The proposal should contain the following information:

- (a) Tentative title.
- (b) Statement of the problem and objectives of the proposed study.
- (c) Method of investigating the problem, including any equipment, facilities, data and models required.

A thesis/dissertation proposal should be prepared by student under the supervision of their committee Chair. Students are expected to discuss the proposed research with committee members during the developmental stages of the proposal.

A cover sheet (available in the Graduate Studies Office) must be signed by the committee members. A copy of the proposal and the cover sheet should be submitted to the Graduate Studies Office and filed to the student's record at MPO after approved by the committee.

H.1. Thesis proposal

M.S. students should submit their thesis proposal to be approved by members of their thesis committees during the first Spring semester following their Comprehensive Examination (Section G.1). A meeting among the students and their local committees to discuss the proposal is recommended.

H.2. Dissertation Proposal

Ph.D. students should submit their dissertation proposal to be approved by members of their dissertation committees at least three weeks prior to the Qualifying Examination (Section G.4). The proposal should be approved upon successful completion of the Qualifying Examination.

I. DEFENSE

I.1. Thesis defense

The Graduate Studies Office should be notified of the date, time and place of the defense, and the title of the thesis, at least two weeks prior to any M.S. thesis defense. Upon the request from the student, the thesis committee will determine whether the student is recommended for continuing to proceed to the Ph.D. program. The committee Chair should notify the Graduate Studies Office in writing of the outcome of the defense and the recommendation.

I.2. Dissertation Defense

At least two weeks prior to the Ph.D. dissertation defense, the Graduate Studies Office should be notified of the time and place of the defense and the title of the dissertation, and one copy of the dissertation should be given to the Division Secretary for public access.

The committee Chair should notify the Graduate Studies Office in writing of the outcome of the defense.

J. THESIS/DISSERTATION SUBMISSION

Students must be registered in the semester they defend their theses or dissertations.

J.1. Thesis Submission

Three typewritten, unbound copies of the thesis, in approved form on proper paper, must be deposited with the Graduate School on or before the semester deadline specified in the University academic calendar. Instructions regarding proper form, etc., can be obtained from the Graduate Studies Office or from the Graduate School. The thesis must be accompanied by a Certificate of Approval signed by all members of the thesis committee. Forms are available in the Graduate Studies Office. That office should be notified, by copy of the Certificate of Approval, when the thesis is submitted.

With the approval of the thesis committee, a publication may be submitted instead of a thesis. The following regulations apply:

- (a) The publication must be the work of the student alone and not a collaborative effort with another person or persons.
- (b) The work on which the publication is based must be a part of the student's graduate program for which appropriate graduate credit was granted.
- (c) All regulations pertaining to theses shall hold for publications.

J.2. Dissertation Submission

Five copies of the dissertation in approved form must be deposited with the Graduate School on or before the semester deadline specified in the University Academic Calendar. Instructions regarding proper form can be obtained from the Graduate Studies Office or the Graduate School. Each dissertation must be accompanied by a Certificate of Approval available from the Graduate Studies Office. That office should be informed, by copy of the Certificate, when the dissertation is submitted.

K. GRADUATION

Students must apply for graduation no later than the deadline specified in the University Academic Calendar. Forms are available in the Graduate Studies Office. If all that remains is completion of the thesis/dissertation (*after* a successful defense), then it is not necessary to register in the semester of graduation.

L. OTHER REQUIREMENTS

L.1. Seminar

All MPO students are required to attend the MPO seminar series every Fall and Spring semester. All students are required to give at least one 15-minute presentation on their research each year. All Ph.D. students are required to give a one-hour seminar on their research at least 6 months before their dissertation defense.

After the seminar, the student speakers will discuss with their advisors and local committee members their presentation skills and research progress.

L.2. Field and Laboratory Work

All MPO Ph.D. students are required to participate in either field or laboratory work for at least 40 hours before they complete their degrees. The details of the field or laboratory work are determined by students and their advisors. A report summary of the work shall be submitted by students to their advisors.

L.3. Annual Progress Report

The Annual Progress Report is due October 15 every year for all MPO students, except for those in their first year. The reports should be completed by students and their advisors. The purpose of the Annual Progress Report is to document the students progress and identify any existing and potential problems. Any delay of the report (e.g., due to travel of students and/or advisors) must be approved by the MPO Academic Committee Chair.

M. OTHER IMPORTANT INFORMATION

M.1. Registration

Registration is required of all RSMAS students during the regular (Fall and Spring) semesters, unless a leave of absence has been requested and approved by the student's advisor and MPO Academic Committee Chair. It is important that all students receiving a fellowship, or being paid as research or teaching assistants, be registered as full-time students.

Students who fail to register, and not be on approved leave, will be dropped from the student rolls. Should this occur, the students will be required again to submit a formal application for admission to the Graduate School and his/her credentials will be reviewed along with those of all other applicants according to the admission criteria in effect at that time.

M.2. Tuition Waivers

Students who are supported through university teaching assistantships or divisional research assistantships normally receive tuition scholarships which cover the full cost of tuition necessary to complete the M.S. or Ph.D. course requirements. These tuition scholarships are distributed annually to each eligible student in the form of tuition waivers (i.e., 1 tuition waiver = 1 credit of tuition), on a schedule which conforms to the typical course load carried by students through the completion of their degrees. Students in the M.S. program receive a maximum of 30 waivers; students in the Ph.D. program receive a maximum of 36 waivers (if entering with a previous M.S. or equivalent degree), or a maximum of 60 waivers (if entering without a previous M.S. degree).

M.3. Transfer of Credit

A maximum of 24 graduate course credits, with grades of B or above, may be credited to students with an M.S. degree from other institutions to the University of Miami, upon written petition by the student and with the approval of the advisor and MPO Academic Committee Chair. Course credits taken at other institutions which did not result in a degree may also be transferred, but with a limit of 6 credits for M.S. students and 12 credits for Ph.D. students. Forms are available from the Graduate Studies Office. MPO divisional rules governing transfer of credit are identical to the rules specified in the RSMAS Student Handbook.

M.4. Recency of Credit

All course work, including non-degreed credit transferred from other institutions (see M.3), must be completed within 6 years prior to the time of graduation for those seeking an M.S. degree, and within 8 years for those seeking a Ph.D. Validation of over-age credits is possible only by successful examination of the pertinent course material, and with the endorsement of the student's committee.

M.5. Full-time Status

Students are considered full-time in Fall and Spring semesters if registered for at least 9 course credits or at least one research credit (RES 710, 730, 750). To be full-time in the summer sessions, students must be registered for 3 course credits or at least one research credit.

M.6. Course Changes

Students may drop courses each semester until the dates specified in the University Academic calendar. Forms are available from the Graduate Studies Office.

M.7. Grade Changes

When a course for which a grade of Incomplete has been recorded is completed, the grade must be changed by means of a form available in the Graduate Studies Office. Incompletes must normally be made up by the end of the following semester.

M.8. Clearance Procedures

Students leaving RSMAS (graduating, taking a leave of absence, or withdrawing) must obtain a Clearance Form from the Graduate Studies Office. The form must be signed by the designated persons and returned to the Graduate Studies Office.

M.9. Leave of Absence

Students who wish to take a leave of absence must submit a request in writing to the MPO Academic Committee Chair. The committee Chair sends the request, along with his/her recommendation, to the Graduate Studies Office. A leave is normally granted up to one year. To return, an Application for Readmission must be submitted to the Graduate Studies Office. These forms are available from that office. A student taking leave of absence must complete a Clearance Form (see M.8).

M.10. Withdrawal

Students who wish to withdraw from RSMAS must notify the Graduate Studies Office in writing and complete a clearance form.

M.11. Financial Aid

Students enrolled in MPO may receive financial support, through competitive scholarships, fellowships, or assistantships, which cover all or part of tuition and living expenses. Fellowship and scholarship programs available through the university are described in the RSMAS Student Handbook. The most common form of support for graduate students is the research assistantship, in which students actively engage in scientific research under the direction of a faculty member, usually the student's advisor or committee Chair. Funds for these assistantships are obtained through externally funded research grants to the university and are awarded to students on a competitive basis at the time of application.

Competitive scholarships and fellowships are also available from several state and federally-sponsored programs, and some of these scholarships include stipends for living expenses that are more favorable than those normally supplied by university-sponsored programs. Many of these independent scholarships can be applied for before entering the university, during the initial application stage. Some are limited to students who have completed one year or less of graduate study. Students are advised to take full advantage of these special state and federal opportunities; questions concerning procedures, application materials, and deadlines for these programs should be directed to the MPO Academic Committee and/or the Graduate Studies Office.

Ph.D. students are encouraged to take one semester of teaching assistantship, which is available through RSMAS or the Marine and Atmospheric Science Program of the University.

N. APPENDIX - MPO COURSES

<u>COURSE</u>	<u>TITLE</u>	<u>CREDITS</u>	<u>SEM</u>
MPO 503	Principles of Physical Oceanography	3	fall*
MPO 511	Geophysical Fluid Dynamics I	3	fall*
MPO 518	Remote Sensing of the Atmosphere	3	
MPO 521	Estuarine and Coastal Processes	3	
MPO 531	Physical Meteorology	3	spring
MPO 542	Physics of Remote Sensing	3	fall*
MPO 551	Introduction to Atmospheric Science	3	fall*
MPO 561	Tropical Meteorology	3	spring#
MPO 611	Geophysical Fluid Dynamics II	3	spring*
MPO 612	Large-Scale Ocean Circulation	3	spring*
MPO 615	Numerical Weather Prediction	3	spring#
MPO 621	Waves and Tides	3	fall*
MPO 623	Statistical Analysis of Geophysical Data	3	spring*
MPO 624	Statistical Modeling of Geophysical Fields	3	spring*
MPO 631	Air-Sea Interaction	3	spring*
MPO 632	Climate Dynamics	3	fall
MPO 633	Marine Atmospheric Boundary Layer	3	spring#
MPO 650	Coastal Oceanography	3	spring
MPO 661	Synoptic-Scale Meteorology	3	
MPO 662	Computer Models of Fluid Dynamics	3	fall*
MPO 663	Convective and Mesoscale Meteorology	3	
MPO 664	Atmospheric and Oceanic Turbulence	3	spring#
MPO 665	General Circulation of the Atmosphere	3	spring*
MPO 671/674	Advanced Studies	1-4	

* offered every year

offered once every two years