UNIVERSITY OF PUERTO RICO

MAYAGÜEZ CAMPUS

DEPARTMENT OF MARINE SCIENCES

STUDENT MANUAL

REGULATIONS AND REQUISITES OF THE MS AND PhD PROGRAMS IN MARINE SCIENCES

September 2008

TABLE OF CONTENTS

NOTE: The information in this manual is subject to change without previous notification.

WELCOME

The faculty, administration and personnel of the Department of Marine Sciences of the University of Puerto Rico at Mayagüez welcome you to our graduate programs. We hope you will find these programs challenging, interesting and valuable.

We are pleased that among the numerous institutions and programs available, you selected us for your graduate studies. We too, make our selections with care because it is our students that make the DMS the exciting and dynamic place it is. Congratulations on your admission to this program.

Your progress and success in the DMS will depend on your academic foundations, your dedication to your graduate studies and to the establishment of an open communication with the members of this academic community: students, professors, researchers, and librarians. The sooner you initiate this communication the earlier you will begin to take full advantage of the learning opportunities that will help you advance your interests in the exciting fields of the Marine Sciences.

Please take time to read through this student manual to orient you on important information regarding departmental policies and procedures. For additional information on policies and procedures, please consult the Office of Graduate Students (http://grad.uprm.edu/oeg/EstudiantesActivos/Normas/), UPR Student Handbook (http://www.uprm.edu/procuraduria/reglamento_upr.html), UPRM Student Regulation handbook (http://www.uprm.edu/procuraduria/reglamento_rum.html) and the Departmental Administration. Also, take the time, beginning as soon as possible, to become familiar with our faculty, their ongoing research projects and their publications. Attend our seminars and other interesting seminar series offered at the Mayagüez campus and visit the Marine Sciences library collection regularly. Begin your graduate education with a commitment to excellence and make it a very productive one.

Nilda E. Aponte, PhD
Chairperson

Note: The Student Manual of the Department of Marine Sciences is published to provide students and the public with information about the programs and policies of the department. Students are responsible for reading, understanding and following all policies and information contained herein. The information here provided complies with Certifications 97-21, 87-9b and the DMS regulations revision approved by the UPRM Graduate Council in September 2007. All contents are subject to change by the University authorities without notice.

I. BRIEF HISTORIC REVIEW OF THE DEPARTMENT OF MARINE SCIENCES

The Department of Marine Sciences (DMS) has its origins in the Institute of Marine Biology (IMB) of the Department of Biology of the University of Puerto Rico at Mayagüez (UPRM). The institute was founded on February 8, 1954. The main offices of the IMB were located at the main campus at a building known as the Fisheries Building. Finally the IMB activities were transferred to Isla Magueyes, La Parguera, where the IMB shared the 18-acre island with the Puerto Rico Zoo. The initial development of the IMB included the construction of modest research laboratory facilities, dormitories for researchers and students and a dock for the CARITE, a service vessel for the marine cages associated with the zoo.

In 1966, José E. Arrarás Esq., Chancellor of the formerly named Colegio de Agricultura y Artes Mecánicas de Mayagüez (CAAM), requested of Dr. Máximo Cerame Vivas, then assistant professor of the Department of Biology of the UPR Río Piedras Campus, to prepare a proposal for the creation of a new academic and technical program in Marine Sciences. That same year, Dr. Cerame submitted to the University authorities a proposal entitled "The Development of Studies in Marine Sciences in Puerto Rico for the next 25 years." This document described the justifications, advantages and the institutional and country-wide benefits of the establishment of a center for research and education in Marine Sciences. The proposal emphasized the potential and the importance of local environmental resources as well as the human resources available for the creation of such a center.

In January 1967, Dr. Máximo Cerame Vivas was appointed director of the IMB and entrusted with the structuring and organization of a graduate Department of Marine Sciences. The Certification that officially created the Department of Marine Sciences (DMS) was approved on August 19, 1968, by a resolution of the Puerto Rico Council of Higher Education. The DMS doctoral program was approved and established by the Council of Higher Education on November 17, 1972. Since its beginning, the DMS graduate program has been characterized as an interdisciplinary program integrating the disciplines of Biological, Chemical, Geological and Physical Oceanography.

The DMS was the first graduate department of the Mayagüez Campus and the quality of the research conducted and published soon merited national and international recognition as the first marine research center within the Caribbean region.

Through the present, the DMS has produced more than a thousand scientific publications, has hosted scientists from around the world and has graduated nearly 400 MS and PhD Students. The initial modest facilities at Isla Magueyes have grown to include class rooms, offices, marine installations and state of the art research and teaching laboratories.

The progress and growth of the Department of Marine Sciences is due to the commitment of its faculty and its students. After Dr. Cerame Vivas' resignation in 1973, the DMS has been chaired by Dr. Francisco A. Pagán-Font, Dr. Manuel Hernández-Ávila, Dr. Thomas R. Tosteson, Dr. John M. Kubaryk and Dr. Dallas Alston. The current director of the DMS is Dr. Nilda E. Aponte.

II. VISION AND MISSION OF THE DEPARTMENT OF MARINE SCIENCES

VISION

To increase and transmit knowledge of the marine environment by means of scientific research, placing this knowledge at the service of the community through its professors, researchers, students and graduates.

To contribute to social and economic development through the conservation and rational use of the marine environment.

To provide leadership and serve as a model for graduate education within the University of Puerto Rico system.

MISSION

The mission of the Department of Marine Sciences is to promote a greater understanding of the marine environment within the core disciplines of biological, chemical, geological and physical oceanography, and related areas. The specific goals of the Department are to increase knowledge in the marine sciences, educate graduate students in the marine sciences, and serve the community. Original research by both faculty and students is the central focus of the department's program, and emphasizes the complementary and mutualistic relationship among these goals. The Department offers Master of Science and Doctor of Philosophy degrees in marine sciences encompassing both the full breadth of these disciplines and the specialization needed to develop specific technical and analytical skills within a larger scientific context. The program seeks to produce graduates with a strong background in marine sciences able to critically analyze problems and offer solutions through the application of scientific knowledge and research. Students are prepared for careers in teaching, research and industry, as well as resource and environmental management.

III. THE DEPARTMENT OF MARINE SCIENCES

A. General Information

The Department of Marine Sciences (DMS) is part of the College of Arts and Sciences of the University of Puerto Rico at Mayagüez. The DMS encompasses two graduate programs: the Masters program leading to the degree of Master of Science (MS) in Marine Sciences and the doctoral program leading to the degree of Doctor in Philosophy (PhD) in Marine Sciences. The Curriculum is designed to familiarize graduate students with the interdisciplinary field of marine sciences as well as to allow for specialization in one of the four major fields: Biological Oceanography, Geological Oceanography, Physical Oceanography, and Chemical Oceanography. Most of the academic activities are conducted at the marine laboratories located at Isla Magueyes, La Parguera.

To date the Department of Marine Sciences has granted around 90 Doctoral Degrees and 289 Masters Degrees. Graduates of our program have a history of excelling as leaders in academia and as consultants or researchers in private and governmental research and development agencies. In the last 10 years, the Department of Marine Sciences has sustained a student body of 90-100 students of which nearly 45% are in the PhD program. The program is highly diverse with faculty representing more than 7 countries and a student body with an average of 33 % being international students from North, South and Central America, the Caribbean, Europe and Asia. The department is enriched by the participation in our research activities of numerous Ad Honorem faculty, postdoctoral scientists and external collaborators. Scientific research is a cornerstone in the academic activities of the DMS. All degrees in all specialties require original research by students that result in one or more publications according to the degree pursued.

The general regulations for conducting graduate studies at the Mayagüez Campus are available at http://grad.uprm.edu . This document specifies the particular requisites for a degree at the DMS.

B. Location

Main Campus: The Department of Marine Sciences is located in the Physics, Geology and Marine Sciences Building (commonly known as the "Physics building and designated with the code "F") on the Mayagüez Campus of the University of Puerto Rico. Central Administrative offices are located at F-205. Departmental administrative offices are located at F-424 and F-429. The Marine Sciences Library is also located in the Physics Building at F-208 as are some classrooms, laboratories and faculty offices.

Isla Magueyes Marine Laboratories: The principal DMS Research and Teaching Facilities are located on 18 acre Magueyes Island just offshore from La Parguera and 22 miles from Mayagüez. Magueyes lies within a protected embayment on the southwest coast of Puerto Rico. These installations include various specialized teaching and research laboratories in chemical oceanography, geological oceanography, invertebrate systematics and evolution, marine botany (ecology and systematics), marine biotechnology, bio-optical oceanography, marine microbiology (biogeochemistry), coral reef biology, ichthyology, and marine physiology among others.

In addition to classroom and laboratory facilities, the marine station maintains a computer room, indoor and outdoor aquaria and tanks with running seawater, and three museums containing reference collections of fish, invertebrates, and algae. The field station is also equipped with a diverse marine fleet for research use. Small and medium boats are available for regular student use. Larger vessels are used by faculty and students as supported by funded research projects. The DMS also offers basic and advanced dive training for students as is required for their research. The DMS administrative personnel can provide you the necessary information on how to access these services.

IV. OFFICES AND PROGRAMS AFFILIATED WITH THE DMS

A. Caribbean Coral Reef Institute (CCRI)

The Caribbean Coral Reef Institute (CCRI) is a cooperative program between the University of Puerto Rico – Mayagüez (UPRM) and the National Oceanic and Atmospheric Administration (NOAA). The Institute sponsors scientific research and monitoring programs that address short and long-term management-driven priorities for the understanding and managing of the coral reef ecosystem of the US Caribbean. These activities address the major threats to coral reefs within an ecosystem context, including human socio-economic dimensions, and enhance our understanding of the biological and physical processes that structure coral reefs and impact the health of the ecosystem. Through its sponsored programs and partnerships, CCRI aims to build research and management capacity in order to fully utilize the scientific expertise of the region in promoting both sustainable ecosystems and the services they provide. For more information visit http://ccri.uprm.edu/.

B. Caribbean Regional Association (CaRA)

The Caribbean Regional Association (CaRA, http://cara.uprm.edu , one of eleven regional components of the US Integrated Coastal Ocean Observing System, was created through grants from NOAA. CaRA will be responsible for the planning, implementation and management of Regional Coastal Ocean Observing Systems for the Caribbean (CariCOOS), which will address observational data and forecast-product needs from all societal sectors with interests in the coastal environment. As a step towards this goal, CaRA has brought together existent regional observing data streams under a single interface (http://www.caricoos.org/). Data sets are listed as observations, predictions and models. Observations are presented as near-real time data lists or images. Predictions are those provided by US government agencies as operational products. Models present "nowcasts" and "forecasts" derived from experimental, data assimilative computer models available from government agencies and educational institutions.

C. The Puerto Rico Tsunami Warning and Mitigation Program

The Puerto Rico Tsunami Warning and Mitigation Program (PRTWMP) has been funded by the USA Federal Emergency Management Agency and the University of Puerto Rico. The program is focused on several main tasks: 1) preparation of tsunami flood maps for the whole island; 2) education about this "forgotten hazard" in the Caribbean (including a video, tsunami drills at public schools, workshops and the installation of tsunami warning signs along beaches); 3) local (Puerto Rico) and

regional (Caribbean) seismic wave form analysis for rapid determination of earthquake source parameters; 4) development of a tsunami warning and advisory protocols for the Caribbean region; 5) preparation of a PC-Windows based Atlantic and Caribbean Historical Tsunami Database. For more information visit http://poseidon.uprm.edu/. This page is the repository of results of the program.

D. Caribbean Atmospheric Research Center

The Caribbean Atmospheric Research Center at the University of Puerto Rico - Mayagüez is part of the Climate Modeling Group at UPRM sponsored by the National Aeronautical and Space Administration (NASA). The goal of the center is to offer comprehensive weather and climate information for the Caribbean Region. The research group is dedicated to facilitate comprehensive climatological and weather display, data acquisition and analyses of the Caribbean region. For more information visit http://atmos.uprm.edu/index.html.

V. GENERAL REQUIREMENTS FOR ADMISSION TO THE DMS GRADUATE PROGRAMS

A. Requisites for Admission to the MS Program

1. Applicants to the MS program in Marine Sciences should possess:

a) A BS or MS degree, or its equivalent with a specialization in science or engineering from a recognized institution.

b) A minimum general GPA of 3.0. However, applicants with a GPA of 2.8 or better may be considered if compelling circumstances[1] are presented. Applicants with a GPA below 2.8 will not be considered.

c) Graduate Record Examination (GRE) scores (verbal, quantitative, analytical and subject test).

d) Strong academic preparation in the field of general specialization (Biology, Geology, Physics, Chemistry), including university level courses (prerequisites) in calculus, physics, chemistry and general biology for all applicants (see below for minimum program pre-requisites).

(1) Calculus (1 semester)

(2) General Biology (1 year)

(3) Physics (1 year)

(4) General Chemistry (1 year)

[1] Compelling circumstances may include demonstrated research experience and productivity; documented personal health circumstances that affected the student's academic performance for one or two semesters.

(5) Organic Chemistry (1 semester), for DMS applicants in Biological or Chemical Oceanography.

(6) Statistics and computer literacy are highly recommended.

B. Requisites for Admission to the PhD Program

1. Applicants to the PhD program in Marine Sciences should possess:

a) An MS or its equivalent with a specialization in science or engineering from a recognized institution, or

A BS or its equivalent with specialization in science or engineering from a recognized institution, and with demonstrated research experience and productivity.

b) A minimum BS general GPA of 3.0. However, applicants with a Master Degree (GPA 3.3 and above) and a BS with a GPA of 2.8 and above will be considered if compelling circumstances are presented[2]. Applicants with a BS or BA GPAs below 2.8 will not be considered under any circumstances.

c) The Graduate Record Examination (GRE) scores (verbal, quantitative, analytical and subject tests).

d) Strong academic preparation in the field of general specialization (Biology, Geology, Physics, Chemistry), including university level courses (prerequisites) in calculus, physics, chemistry and general biology for all applicants (see below for minimum program pre-requisites).

(1) Calculus (1 semester)

(2) General Biology (1 year)

(3) Physics (1 year)

(4) General Chemistry (1 year)

(5) Organic Chemistry (1 semester) for DMS applicants in Biological or Chemical Oceanography.

(6) Statistics and computer literacy are strongly recommended.

[2] Compelling circumstances may include demonstrated research experience and productivity; documented personal health circumstances that affected the student's academic performance for one or two semesters.

VI. APPLICATION FOR ADMISSION AND ADMISSION PROCESS (MS AND PhD PROGRAMS)

1. To be considered, the student must submit to the Office of Graduate Studies (OGS) the following documents and any other documents requested according to current OGS regulation:

   a) Application Form to the UPRM Graduate Program.

   b) Three letters of recommendation from individuals that can testify to the ability and commitment of the applicant to pursue graduate studies. At least two of these letters should come from professionals in the applicant's main field of expertise.

   c) Personal Statement: The applicant statement is an opportunity to put qualifications in context and to explain applicants' plans for graduate school. Topics to be included may be to the extent possible: what is envisioned for a research project; why is this project or area of interest important; why is the DMS an appropriate Institution to carry out your studies; how did interest in this topic/area occur; what background do you have in this area; and if there has been communication with a prospective advisor. Applicants are encouraged to address any past problems in their record. PhD applicants are expected to provide a reasonably specific statement of the research project intended.

   d) Three Official Transcripts, as required by the Office of Graduate Studies.

   e) Results of the Graduate Record Examination (verbal, quantitative, analytical and subject tests).

   f) Results of the TOEFL Exam (if applicable according to regulations of the Office of Graduate Studies).

   g) Other evidence of professional excellence (publications, projects, participation in symposia and congresses) if available.

   h) For PhD applicants: A letter from a DMS Faculty Sponsor to ensure that the student and a prospective professor have discussed issues relating to compatibility in areas of research, appropriate laboratory facilities and financial support.

2. The complete set of documents is pre-evaluated by the Office of Graduate Studies and those candidates meeting the OGS admission requisites are

submitted to the Department of Marine Sciences for evaluation by the DMS Graduate Policy Committee. After evaluating the applications, the Graduate Policy Committee members submit their recommendations to the Director of the Department for final decision. Results are then sent to the Office of Graduate Studies which communicates to the applicant the results of the process.

3. Apply on line at: https://uprm.myuniversityapp.net/apply/authentication.do?cmd=login-check

VII. TYPES OF ADMISSION (MS AND PhD PROGRAMS)

A. General Considerations

1. Once admitted, students are expected to study within the degree area chosen at the time of application and admission (i.e. Biology, Chemistry, Geology or Physics).

2. To change discipline under which the student was admitted requires approval of the DMS Graduate Policy Committee and the authorization of the Director of the Department. The student must submit the following documents to the DMS Graduate Policy Committee:

   a) A written petition stating reasons and justifications for the change.

   b) A new statement of interest.

   c) A letter of support from a potential new major professor. The letter should also include reasons for the change and should address deficiencies in the student's background and appropriate remedies.

B. Total Admission

1. Total Admission as regular student of the graduate program is granted to candidates that comply with all the requisites for admission.

C. Conditional Admission

1. Conditional Admission as regular student of the graduate program are granted:

   a) To applicants with up to two of the previous mentioned course deficiencies, if other requirements are met.

   b) To applicants judged to be deficient in courses related to the chosen specialty area, with specific course work to be recommended.

2. All course deficiencies must be made up within one year of enrollment, with grades according to current regulations in the Office of Graduate Studies. Applicants conditionally admitted may not receive any grade of C or lower in the first year after enrolling, while carrying a full academic load. Failure to satisfy the conditions for Conditional Acceptance will result in termination from the program.

D. Second Admissions

1. Second admissions are described in Certification 97-21 Article G.11.X and G.11.X.

2. A student may be granted a second admission to the DMS graduate program following suspension in cases where the student was suspended for exceeding time limits for study, but were otherwise in good standing.

3. Students dismissed for academic failures such as three successive semesters on probation, failure to approve the courses assigned as deficiencies with grades of A or B, failure to approve the MS general oral exam, PhD qualifying or comprehensive exam in two opportunities, academic dishonesty or not otherwise in good standing at time of leaving the Department will not be considered for second admission.

4. The application for second admission should be accompanied by a letter from the student's major advisor informing the Graduate Policy Committee what the compelling reasons for a second admission are.

5. Students applying for second admission for exceeding time limits for completing the degree must provide the evidence to the DMS Graduate Policy Committee of the advanced level of their thesis or dissertation document in the form of a letter from the major professor. Second admission, under these circumstances implies a co-validation of all coursework and examinations passed at time of suspension.

   a) All students granted second admission after suspension for exhausting the time limits for completion of the degree will be required to turn in to their graduate committee a thesis draft during the first semester following the second admission.

   b) The thesis must then be defended within one year of the second admission.

6. Failure to comply with the conditions for the second admission will result in loss of co-validation of previous work, including courses and degree exams.

E. Internal Transfers Between DMS Programs

1. From the MS to the PhD Program:

a) A student whose performance and research output as an MS student exceeds the expectations of their Graduate Committee may request to be transferred to the PhD program.

b) The documentation required for Graduate Policy Committee evaluation of the request will be the same as for a new admission; however the institutional process will be an internal transfer in which all the credits approved as an MS student will be transferred towards the completion of the PhD.

c) Additional documents needed:

(1) A letter from the student requesting to be transferred from the MS to the PhD program.

(2) A letter from the Student's graduate committee explaining the compelling reasons for the transfer including publications, proposals granted to the student, etc.

d) If the transfer is granted, admission date to the PhD program will be the date of registration in the first course taken as an MS student.

e) Time for completion of the PhD degree will be as stipulated in current regulations of the office of graduate studies.

2. From the PhD to the MS Program

a) Multiple reasons, including time constraints may compel a student with a BS or an MS obtained elsewhere to move from the PhD program to the MS program. Students requesting this transfer must be in good academic standing.

b) The documentation required for departmental evaluation will be the same as for a new admission, however the institutional process will be an internal transfer in which credits approved as a PhD student will be transferred towards the completion of the MS.

c) Additional documents needed:

(1) A letter from the student requesting to be transferred from the PhD to the MS program.

(2) A support letter from the student's Chairperson and the Graduate Committee Members explaining the reasons for the transfer.

d) If the transfer is granted, admission date to the MS program for this transfer student will be the date of registration in the first course (taken as a PhD student).

e) Time for completion of the MS degree will be according to current regulations of the Office of Graduate Studies. Note: Students beyond the time constrain for the MS program are not eligible for transfer from the PhD to MS program.

VIII. PROCESS AND REQUISITES TOWARDS A DEGREE IN MARINE SCIENCES

A. Student's Graduate Committee: Formation and Composition (MS and PhD)

1. The graduate committee of the student should be formed within the first year of enrollment in the Department.

2. The academic advisor (Chairperson) must be a faculty member of the Department of Marine Sciences.

3. The graduate committee is constituted by academically qualified persons, as described by the UPRM graduate regulations, related to the area of study chosen by the student and advisor. Graduate committee members may be made up by faculty of the Department of Marine Sciences, professors of other University of Puerto Rico campuses, Mayagüez departments, or by competent professionals appointed as "Ad Honorem" faculty.

4. MS Graduate Committee shall consist of three to five members, a majority of these committee members must be faculty members of the DMS.

5. PhD Graduate Committee shall consist of four to six members. A majority of these committee members must be faculty members of the Department; at least one member of PhD committees must be from outside of the DMS.

6. It is the responsibility of MS and PhD students to maintain contact and consult frequently with the members of his/her Graduate Committee, particularly when preparing the thesis proposal, while conducting the research and during the preparation of the thesis.

B. Changes to the Composition of the Student's Graduate Committee.

1. A student may choose to change the composition of his/her graduate committee for diverse academic or non-academic reasons. All changes to the composition of the graduate committee must be approved by the DMS graduate policy committee and the director of the Department. The document to formalize such changes is Form DAAEG-004 of the Office of Graduate Studies.

2. If the committee reorganization includes a change in the Thesis advisor and a change in the research topic, the degree exams (MS General Exam and PhD Comprehensive) approved by the student under his/her previous supervisors will be invalidated. This provides the new chairperson and the newly formed graduate committee the opportunity to test the student's general knowledge or his/her knowledge in the new field. With proper justifications, the newly formed graduate committee may recommend the revalidation of the exams previously approved by the student.

C. Plan of Graduate Study:

1. Preparation of the Plan of Study:

a) The Plan of Graduate Study should follow the regulations and format established by the Office of Graduate Studies. The plan is prepared by the student in consultation with his/her major advisor and the graduate committee. The plan includes a list of the courses transferred and applied towards degree credits, courses taken, and courses to be taken to complete course credit requirements. It also formalizes the student's graduate committee.

b) The Plan of Graduate Study is an official document that should be signed by members of the student's Graduate Committee, the Chairperson of the Departmental Graduate Policy Committee and the Director of the Department. This signed document is submitted to the Office of Graduate Studies and the UPRM Registrar's Office

during the student's second semester according to current regulations.

2. Modifications/Amendments to the Plan of Study:

   a) To modify the course composition in the Plan of Graduate Study it is necessary to submit an amendment, as established by the Office of Graduate Studies (Form DAAEG-004). The modifications must be signed by the chairman of the graduate committee and all the members of the student's graduate committee. This process further requires the endorsement of the chairman of the graduate policy committee and approval of the Director of the DMS. The original document is sent to the Registrar's Office and a copy to the Office of Graduate Studies.

3. Co-Validation and Transfer of Graduate Courses to be Included in the Plan of Graduate Studies.

   a) Transfer courses are graduate courses approved at other departments or accredited institutions that may become part of the students' graduate plan. Transfer courses that are essentially equivalent to DMS courses may be considered for co-validation (or substitutes) for DMS courses. Co-validated courses may include one or more core courses. The number of credits accepted for transferred courses will be based on the analysis of the number of contact hours of the course conducted by registrar's office.

   b) Students can request the co-validation or transfer of a limited number of specific courses to be substituted for other courses or to be included as part of their work program; however, the final accreditation of those courses will depend on the nature of the course content and will be evaluated and approved by the departmental graduate policy committee and the departmental chairperson.

   c) Only graduate courses approved with A or B (or equivalents) in fully accredited institutions and which have been taken no longer than 10 years prior to entering the graduate program can be considered for co-validation.

   d) To determine if a transferred course can be co-validated, the student must provide an official course description for the semester/session that the course was completed, and a course syllabus. The co-validation will proceed if a DMS specialist verifies that the course is equivalent to the one offered at DMS. The process requires a final notification to the registrar's office.

e) Courses taken for pass/fail or satisfactory/unsatisfactory grades may be transferred but are not eligible for co-validation.

f) Credits from graduate seminars, courses in Special Topics or Special Problems and MS Thesis will not be transferable.

g) According to OGS regulations a minimum of 60% of the coursework must be approved at UPRM, the degree granting institution.

4. Transfer and Co-Validation of Credits From a MS Degree

a) Applicants who have completed a Master's Degree in Sciences, Mathematics or Engineering at a fully accredited university can transfer up to thirty (30) credit hours, taken during the course of studies for the Master's Degree, within ten (10) years of the application date to the Doctoral Program. Transferred courses should be recommended by the student's graduate committee based on their relevance to the candidate's research at DMS. These recommendations will be evaluated and approved by the Departmental Graduate Policy Committee and Departmental Chairperson before their inclusion in the student's plan of studies and submission to the Registrar's Office.

b) Applicants with master degrees granted by fully accredited institutions from research (publication)-based programs that do not have a credit/course system, may be granted a maximum of 24 credits towards the PhD program. The final number of credits to be granted should be recommended and justified by the student's graduate committee based on the relevance to the candidate's previous research and publications to his/her activities at the DMS. These recommendations will be evaluated and approved by the Departmental Graduate Policy Committee and Departmental Chairperson before their inclusion in the student's plan of studies and submission to the Registrar's Office.

c) Persons with continuous professional exposure to the field of Marine Sciences after obtaining their Master's Degree can request in writing a waiver of the time-limit on previous graduate courses. This waiver will be evaluated by the Departmental Graduate Policy Committee and Departmental Chairperson and informed to the Office of Graduate studies for approval before final submission to the Registrar's Office. The final number of credits to be granted should be recommended and justified by the student's graduate committee based on the relevance to the candidate's previous research and publications to his/her activities at the DMS.

d) In all cases the final transfer and co-validation of credits and the substitution of courses will be done following the procedures described by the Registrar's Office and the Office of Graduate Studies.

5. Co-Validation or Transfer of Graduate Courses Approved as Part of an Undergraduate Program

a) Co-validations or transfers of graduate courses approved by applicants as part of their undergraduate programs (BS, BA) will follow the regulations established by the Office of Graduate Studies.

D. Course Work (MS)

The course work required for completion of an MS degree includes 35* graduate level credits distributed as follows:

Credits	Courses
12	CORE COURSES (Biological, Chemical, Geological and Physical Oceanography) all passed with grades of B or better
2	CIMA 8785 CURRENT TOPICS SEMINAR (CORE)
6	CIMA 6999. RESEARCH AND THESIS
3	CMOB 6635 RESEARCH METHODS IN MARINE SCIENCES, or equivalent CMOF 6005 METHODS OF OCEANOGRAPHIC DATA ANALYSIS (For students in Physical Oceanography) Graduate level Statistics for Biological, Chemical and Geological Oceanography Students.
3	Advanced Courses in Marine Sciences (See lists of DMS Courses)
9-12	Additional graduate courses available at DMS and other departments (chosen by the student after consultation with the advisor and or the Graduate Committee) (See UPRM Graduate Catalog)
35(*)	Total number of credits for completion of the MS degree

*According to regulations of the Office of Graduate Studies, a minimum of 60% of the coursework (21 credits) must be approved at UPRM as the degree granting institution.

E. Course Work (PhD)

The course work required for completion of a PhD degree includes a total of 72* graduate-level credits beyond the baccalaureate degree distributed as follows:

Credits	Courses
12	CORE COURSES (Biological, Chemical, Geological and Physical Oceanography) all passed with grades of B or better.
2	CIMA 8785 CURRENT TOPICS SEMINAR (CORE)
12	CIMA 8999 DOCTORAL RESEARCH AND DISSERTATION
3	CMOB 6635 RESEARCH METHODS IN MARINE SCIENCES, or equivalent CMOF 6005 METHODS OF OCEANOGRAPHIC DATA ANALYSIS (For students in Physical Oceanography) Graduate level Statistics for Biological, Chemical and Geological Oceanography Students.
6	Advanced Courses in Marine Sciences in concentration discipline (See lists of DMS Courses)
Up to 30	Courses transferred from a recognized institution, as part of previous advanced degree (or advanced studies) or additional graduate courses available (chosen by the student following consultation with the student's advisor and graduate committee)at DMS and other departments
As needed	Additional graduate courses available at DMS and other departments (chosen by the student following consultation with the student's advisor and graduate committee)
72(*)	Total number of credits for completion of the PhD degree

*According to regulations of the Office of Graduate Studies, a minimum of 60% of the coursework (43 credits) must be approved at UPRM as the degree granting institution.

F. Additional Information about the Courses and Coursework

1. All Students who enroll in the DMS are required to take or co-validate four core courses in oceanography: Biological Oceanography (CMOB 6616); Chemical Oceanography (CMOQ 6615), Geological Oceanography (CMOG 6617) and Physical Oceanography (CMPF 6618). A minimum grade of "B" is required for all core courses. Students not passing core courses with an A or B must repeat that core course. A student may register a maximum of two times for any core course. Failure to pass the core courses in two opportunities results in suspension from the program.

2. All students are required to take a 2-credits Current Topics Seminar, CIMA 8785 (1 semester) and a 3 credit course in statistics, or oceanographic data analysis (for physical oceanographers). The latter may be satisfied by taking the appropriate course (CMOB6635, Research Methods in Marine Sciences, CMOF Oceanographic Data Analysis) offered within the DMS or by taking an acceptable alternative course, e.g., as offered by the Department of Mathematical Sciences or the Department of Agronomy.

3. Courses designated as Special Problems or Special Topics are not acceptable to fulfill the minimum requirements for advanced course in the core disciplines and cannot be co-validated from a previous degree.

4. A maximum of 3 credit hours in courses designated as "Special Problems" or Special Topics may be applied towards degree requirements for the MS

5. A maximum of 6 credit hours in courses designated as "Special Problems" or Special Topics may be applied towards degree requirements for the PhD

6. Note: There are situations where a course has not been formally approved and are taught under the title of Special Topics. These courses are considered to be "structured" at the discretion of DMS Director, and will not count against the number of special problems courses a student may apply towards degree credits.

7. Students must have formed a formal graduate committee before registering in either CIMA 6999 or CIMA 8999.

8. Courses offered in SCUBA diving training may not be applied towards degree requirements.

9. Advanced Courses: A minimum number of credit hours must be taken in "Advanced Courses". (Advanced courses are defined as those titled "Advanced ...." or have one or more prerequisite graduate courses.)

   a) A minimum of three (3) credit hours in advanced credits are required for the MS program.

b) A minimum of six (6) credit hours in advanced credits are required for the PhD program.

IX. RESEARCH PROPOSAL

1. All DMS degrees require that the student carries out scientific research which will be outlined in a research proposal and culminates in a thesis, as described briefly in the following sections and in detail in the DMS STUDENT GUIDE FOR THE PREPARATION OF MASTER'S THESES AND DOCTORAL DISSERTATIONS.

2. All graduate students must submit a thesis proposal as described in the *DMS STUDENT GUIDE FOR THE PREPARATION OF MASTER'S THESES AND DOCTORAL DISSERTATIONS.* The document must be signed by the student's Graduate Committee and Director of the Department. In all cases a full thesis or dissertation proposal document should be submitted to the Department of Marine Sciences.

3. MS Students - Full Thesis Proposal must be submitted to the Department of Marine Sciences before selecting a second enrollment in thesis credits and before the deadline established by the OGS for these cases. The signed cover page is submitted to the Office of Graduate Studies as evidence of fulfillment of the requirement.

4. PhD Students- Full Thesis Proposal must be submitted to the Department of Marine Sciences before selecting a third enrollment in thesis credits and before the deadline established by the OGS for these cases. The proposal and the signed cover page are submitted to the Office of Graduate Studies as evidence of fulfillment of the requirement.

X. THESIS AND DISSERTATION

1. DMS theses and dissertations will consist of publication-ready manuscript(s) plus associated materials. Each manuscript will be a chapter of the thesis/dissertation and will be prepared in accordance with the style of the target journal to the fullest extent possible within the preparation guidelines of the Office of Graduate Studies. The full thesis/dissertation will consist of the combined manuscripts, plus an overall Abstract, overall Introduction, overall Discussion and combined Bibliography. The purpose of the overall Introduction and Discussion sections is to put into a unified context the work represented within the individual manuscripts (Chapters). For details see the DMS STUDENT GUIDE FOR THE PREPARATION OF MASTER'S THESES AND DOCTORAL DISSERTATIONS.

   a) For the MS thesis, the minimum requirement is for one publication-ready manuscript (Chapter), approved by the graduate committee

and already submitted and accepted for review by a peer-reviewed journal.

b) For the Doctoral Dissertation, the minimum requirement is for three (3) first author publication-ready manuscripts, approved by the graduate committee, of which one must already have been accepted for publication and two submitted and accepted for review by peer-reviewed journals. In all cases, acceptable manuscripts are considered to be full length research articles and not notes, short contributions, book reviews or abstracts. One peer-reviewed symposium proceedings may be applied towards the 3 manuscript requirement for PhD candidates. Questions concerning suitability for meeting these requirements should be referred to the Graduate Policy Committee.

2. Submission of drafts and final document: When the thesis research has been completed (or parts of it), the student should proceed to work on the corresponding publication(s). To complete the process, the student should submit a draft of the thesis to his/her major advisor at least a semester in advance of the estimated date of thesis defense (see DMS STUDENT GUIDE FOR THE PREPARATION OF MASTER'S THESES AND DOCTORAL DISSERTATIONS). A polished thesis draft must be submitted to the full committee at least 1.5 months prior to submission to the Office of Graduate Studies. This allows the committee sufficient time to make corrections and suggest pertinent changes.

a) Students must complete the form "Solicitud de Admisión al Examen de Defensa de Tesis o Informe de Proyecto". The student, in agreement with all members of the Graduate committee, will recommend a date for the examination. The thesis and other pertinent documents (including exam fees) should be delivered to the Office of Graduate Studies a minimum of 30 days prior to the defense of thesis and according to the OGS calendar.

b) It is the responsibility of all students to be aware of specific dates concerning the final allowable period for requesting the thesis defense and submitting theses each semester. Consult the UPRM Academic Calendar for these dates. At all times, follow the DMS and OGS regulations.

XI. SUSPENSION

1. Conditions for residence at the UPRM, suspension and probation are stipulated in the Certification 97-21.

2. In addition to the conditions for suspension stipulated in Certification 97.21, failure to pass the DMS core courses with grades of B or higher, after two opportunities results in suspension from the graduate program (Certification 87-9).

XII. SPECIFIC REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

A. Time for Completion

1. The maximum time to complete the requirements for graduation is 6 calendar years from the date of first registration after admission. For international students, the maximum time to complete the requirements for graduation is 3 years (Immigration Regulations; unless an extension is granted).

B. Course Work

1. All of the disciplines offered by the Department of Marine Sciences require a minimum of 35 credit hours in order to comply with the requisites for the degree of Master of Science (MS) in Marine Sciences.

2. The number of credit hours required includes core courses (14 total including a 2 credit seminar), quantitative methods, statistics or data analysis (3), thesis (6), and courses in the area of specialty. A maximum of 6 credits may be taken at the level of advanced undergraduate (5000 level courses). Sixty percent of the course work should be approved at the DMS.

3. Students should carry out research of an independent nature that represents a contribution towards furthering knowledge and prepare the corresponding publication-ready thesis (CIMA 6999, Research and Thesis, 6 credits).

C. General Oral Examination

1. All Masters students should pass an oral examination administered by the student's Graduate Committee.

2. This examination must be taken no later than the semester following that in which the student has submitted the thesis proposal or the semester following completion of the required course work.

3. The exam will predominantly cover the core areas of marine sciences and aspects of the student's general area of specialization and will serve as an evaluation of the knowledge acquired by the student in the field of marine sciences.

4. The exam will also serve to determine areas of needed improvement. Once the student has taken the exam the committee will take the appropriate

measures, if necessary, to correct deficiencies. These may take the form of recommended readings, additional coursework or other actions appropriate for the benefit of the student.

5. The results of the exam will be reported to the Office of Graduate Studies within 15 working days in a written document (Form DAAEG-21) signed by all members of the student's Graduate committee and the Director of the Department.

6. If the student fails the examination, he/she will be permitted to take the examination a second time within a year of the first failure. If the student fails a second time, the student will be suspended from the program. Non-attendance at the exam, without approval of a request for postponement by the graduate policy committee is considered a failure.

7. The approved exam has a validity of two years after which, if the student has not completed the degree, it must be retaken and passed in one opportunity.

D. Thesis Defense

1. All students will be required to defend their thesis. The thesis defense will be conducted according to the guidelines established by the Office of Graduate Studies.

XIII. SPECIFIC REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE

A. Time for Completion

1. For students admitted to the PhD program with a BS, the maximum time to complete the requirements for graduation will be 10 calendar years from the date of first registration after admission. For international students, the maximum time to complete the requirements for graduation is 6 years (Immigration Regulations, unless an extension is granted).

2. For students admitted to the PhD program with a MS, the maximum time to complete the requirements for graduation is 8 calendar years from the date of first registration after admission. For international students, the maximum tine to complete the requirements for graduation is 4 years (Immigration Regulations, unless an extension is granted).

B. Course Work

1. Students are required to complete 60 credit hours in course work and 12 credit hours for thesis research, for a total of 72 credits.

2. The student may complete a portion of these credit requisites with credits obtained while attaining the MS degree, with a maximum of up to 30 credits applied towards the PhD requirements (see section on co-validations and

transfers). The student's graduate committee will recommend the additional courses to take. A maximum of 6 credits may be taken at the level of advanced undergraduate (5000 level courses), and these can be included among the 30 credits that are applied from previous MS or BS study. A minimum of 54 credits in courses will be at the graduate level, of those a minimum of 39 credits will be in the area of specialization, including 6 credits in advanced courses and a minimum of 15 credits outside the area of specialization, but in related areas.

3. The Graduate Committee will decide which courses taken by the student in his/her Masters Program in other institutions will be acceptable for transfer. If previous student course work is appropriate, courses may be substituted for specific or core course requirement, as for example Biological Oceanography or Quantitative methods. The Graduate Committee will send their recommendation in writing to the Graduate Policy Committee and to the DMS director for a final decision.

4. Students should carry out research of an independent nature that represents a significant contribution towards furthering knowledge and prepare the corresponding publication-ready thesis (CIMA 8999, Doctoral Dissertation, 12 credits).

C. Qualifying Exam

1. All doctoral students must pass a Qualifying Exam.

2. The purpose of this exam is to determine if the student qualifies to doctoral degree candidacy and to identify areas in which the candidate requires improvement. The Qualifying Exam must be taken at the end of the student's second semester. The qualifying exam is offered at the end of each semester in May and December

3. The exam will be prepared and administered by the Graduate Policy Committee of the Department in collaboration with the faculty, particularly the core course faculty. The exam will last 4 hours and will consist of objective questions taken from an accumulated archive of questions submitted by the DMS faculty. The exam will consist of 4 parts of general questions with each part covering one of the four core disciplines of Marine Sciences, i.e., Biological, Chemical, Geological and Physical Oceanography, plus 1 part that will be a specialized exam in the student's discipline of study (Biology, Chemistry, Geology or Physics). The latter part will test general knowledge considered to be basic to the individual disciplines (i.e., for students admitted in Biological Oceanography this would include questions on the broad principles of genetics, evolution, ecology, biochemistry, physiology, etc.).

4. The exam will be graded as Pass or Fail. In order to pass the examination, it is necessary to obtain a passing grade of 70% or greater in 4 of the 5 individual sections and an overall average total of 70% for all 5 sections. If a student scores less than 70% in 2 parts (or more) or has less than an overall 70% average, the exam is failed. If the exam is failed on first attempt due to scores lower than 70% on two or more sections, the student must repeat the failed sections when the exam is next administered. The results of the exam will be reported to the Office of Graduate Studies within 15 working days in a written document (Form DAAEG-21) signed by all members of the Departmental Graduate Policy Committee and the Director of the Department. If the exam is failed twice, the Director of the Department will inform the Office of Graduate Studies that the student has been suspended from the DMS doctoral program.

5. Non-attendance at the exam, without approval of a request for postponement by the graduate policy committee is considered a failure.

D. Comprehensive Examination

1. All doctoral students must pass a Comprehensive Examination.

2. The exam will demonstrate that the student has sufficient knowledge in marine sciences and in his/her field of specialization that he/she merits status as degree candidate.

3. The student's major advisor will notify the DMS of date of administration of the exam. The exam should be taken after passing the qualifying exam and within a year of completing the course work in the doctoral program. The student's major advisor may solicit questions from the DMS faculty and the examination will be prepared by the student's Graduate Committee.

4. The written exam will be administered by the Office of the DMS director.

5. The exam will consist of two parts. The first will be of 2 days duration (maximum of 8 hours each day) and will be comprised of essay answer questions. On each day of the examination, the student will be given 5 questions and will choose 4 to answer. Thus, a total of 8 questions will be answered by the student over the two days of the exam. Each answer is to be graded by two persons of the student's graduate committee (including the person submitting that question). No individual should grade more than 5 answers. Exam questions are graded as -, 0, or +. For purposes of grading, "-" is considered deficient; "0" is considered to be competent, and "+" is considered to be excellent. After adding all (16) of the individual scores, a final grade in the positive is considered passing. The corrected Comprehensive Examination will be made available to the student's entire

Graduate Committee. Only the students passing the written part can move to the oral exam.

6. Once the first part of the exam has been graded and only if the student has been scored with a grade of "pass", the second part, an oral exam, will be administered within a period of 2-3 weeks after the first part. The oral exam will be of no more than 4 hours duration. The oral exam will be evaluated as Pass or Fail which will be decided by the Graduate Committee. The student must pass both parts of the exam. If a failure occurs at this stage, the oral portion must be repeated in the following semester. The results of the exam will be reported to the Office of Graduate Studies within 15 working days in a written document (Form DAAEG-21) signed by all members of the student's Graduate committee and the Director of the Department.

7. The DMS will communicate the results to the Office of Graduate Studies. If the exam is failed twice, the Director of the Department will inform the Office of Graduate Studies that the student has been suspended from the DMS doctoral program.

8. Non-attendance to any part of the exam of the exam, without approval of a request for postponement by the graduate policy committee or is considered a failure.

E. Dissertation Defense

1. Dissertation: The defense of thesis must be announced to the general Departmental academic community at least two weeks prior to the examination. The regulations for administration of the exam are those of the Office of Graduate Studies of the UPRM.

XIV. GENERAL NOTES

1. You are responsible for being aware of and complying with the rules and regulations herein included and the rules and regulations of the Office of Graduate Studies. Certain regulations are subject to change.

2. The DMS will contact you by email to keep you informed on important general academic deadlines and University processes. However, you must keep in contact with the DMS to receive this information. For your benefit, KEEP YOUR CONTACT INFORMATION UPDATED.

3. At the end of every semester you will be required to complete a Student Progress Report. The progress report is a summary of your academic activities and your progress towards completion of the degree. The student progress report must be signed by your thesis/dissertation chairperson.

4. You may request keys for the areas in which you will be conducting your work. Key application forms are available from the DMS offices and require the authorizing signature of the faculty in charge of the facilities and the Director of the Department.

5. Assistantships are processed electronically. The process is initiated at the Department or Office granting the assistantship. If you have a DMS assistantship (institutional or externally funded), make sure that the information is available to the DMS student affairs administrative personnel on or before the beginning of the semester. Delays in any part of this process results in delayed payments.

6. To obtain the director's signature on your final thesis document you will have to submit the DMS clearance form. This document certifies that you are in good standing concerning DMS material, equipment, keys, and library material.

XV. DMS REGISTRATION PROCESS

1. Each semester, during the specified period of time, students should sign-in for the courses of their interest according to their Plan of Studies and the DMS curricular course offerings for the semester. Students are responsible for compliance with the pre-requisites of the courses they select.

2. After selecting the courses, these are entered to the UPRM electronic registration system by the DMS student affairs administrative personnel or student counselor at the DMS Central offices in Mayagüez. This process must be done on the date and time assigned to you for registration.

3. Students registering in thesis (CIMA 6999) or Dissertation (CIMA 8999) should specify the number of credits for which they will be registering. You may register in CIMA 6999 for a maximum of 6 (six) credits and CIMA 8999 for a maximum of twelve credits, and pay accordingly. Once you have registered and paid for the maximum number of credits for thesis/dissertation you may continue registering in the course for 0 (zero) credits.

   Note: Only students with a formal graduate committee and an approved Plan of Graduate Study are eligible for registration for CIMA 6999 and CIMA 8999.

   a) MS Students: To register in thesis for a second semester, you must have an approved thesis proposal. To comply with the requirement at the Office of Graduate Studies you should submit the first page of the proposal with the corresponding signatures. Failure to comply with this requisite results in an inability to register in CIMA 6999.

b) PhD Students: To register in dissertation for a third semester, you must have an approved thesis proposal. To comply with the requirement at the Office of Graduate Studies you must submit a copy of the full proposal with the corresponding signatures. Failure to comply with this requisite results in an inability to register in CIMA 8999.

4. The registration payment documents will be available at "Mi Portal Colegial" or at the Registration Center. If no changes are needed, the student may proceed to pay online at uprm.edu or personally at one of the offices of Banco Popular de Puerto Rico or one of the designated centers on the Mayagüez Campus.

5. Students registering for the first time must pay a $5.00 fee* at the UPRM Collecting Office (Finances) and go to the Student Center, 4th floor, to obtain an UPRM Student Identification Card. You will be required to present this identification for all your UPRM transactions and activities. (*subject to change without notice).

6. Modifications concerning your medical insurance should be done at the UPRM Medical Services Offices.

7. Student registration can only be done by you or a person you designate by means of a written authorization.

8. KEEP REGULAR CONTACT WITH THE DMS FOR INFORMATION ON REGISTRATION DATES.

XVI. DIVING AT THE DMS

1. DMS Diving regulations are available in the Diving Safety Manual for the University of Puerto Rico Mayagüez Campus, Department of Marine Sciences. The manual outlines the administration and safety procedures for sanctioned diving operations at the Department of Marine Sciences, UPRM. This manual will be provided to you by the DMS Diving Safety Officer.

2. The DMS offers basic and advanced diving training and certification for students. Dive courses are non-credit courses. For more information about the DMS diving courses your may contact the DMS Diving Safety Officer.

3. ALL DMS diving activities must be authorized by the DMS Diving Safety Officer.

XVII. LIST OF APPENDICES

Appendix I: DMS Required and Elective Courses (From Certification 87-9a).

Appendix II: List of Courses Offered at the DMS (Active Courses).

Appendix III: Links to Forms and Documents for Graduate Studies Processes.

Appendix IV: DMS Directory.

Appendix V: General Contact Information.

Appendix I. DMS Required and Elective Courses (From Certification 87-9a, pages 15-16).

(1) CORE COURSES, COMMON TO ALL PROGRAMS (PhD AND MS) AND AREAS OF SPECIALIZATION

Course Code	Title	Credits
CMOQ 6615	Chemical Oceanography	3
CMOG 6616	Geological Oceanography	3
CMPF 6617	Physical Oceanography	3
CMOB 6618	Biological Oceanography	3
CIMA 8785	Seminar	2
TOTAL		14

(2) COURSE WORK REQUIRED BY AREAS OF SPECIALIZATION

Biological Oceanography

COURSE OR COURSE DESCRIPTION	CREDITS	
	MS	PhD
REQUIRED COURSES (CORE)	14	14
Thesis Research or Dissertation	6	12
Graduate level Statistics or Quantitative Methods CMOB 6635. Research Methods In Marine Sciences or AGRO 6600. Advanced Biometrics	3	3
Advanced courses in area of specialization (Required)	2-3	6-9
Other courses in Marine Sciences (or other departments) recommended by the students graduate committee	9-10	34-37
Maximum number of credits that may be co-validated from previous relevant degree	0	Up to 30
TOTAL CREDITS	35	72

Chemical Oceanography

COURSE OR COURSE DESCRIPTION	CREDITS	
	MS	PhD
REQUIRED COURSES (CORE)	14	14
Thesis Research or Doctoral Dissertation	6	12
CMOQ 8616. Oceanographic Techniques	3	3
CMOQ 8638. Chemical Oceanography Laboratory	3	3
Graduate level Statistics	3	3
Advanced Chemistry Course	3	3
Other courses in Marine Sciences recommended by the students graduate committee	3	34
Maximum number of credits that may be co-validated from previous relevant degree	0	Up to 30
TOTAL CREDITS	35	72

Physical Oceanography

COURSE OR COURSE DESCRIPTION	CREDITS	
	MS	PhD
REQUIRED COURSES (CORES)	14	14
Thesis Research or Doctoral Dissertation	6	12
CMPF 6005 Methods of oceanographic data analysis	3	3
CMPF 6631 Geophysical fluid dynamics I	3	3
CMPF 6632 Geophysical fluid II	3	3
Other courses in Marine Sciences (or other Departments) recommended by the student's graduate committee	6	37
Maximum number of credits that may be co-validated from previous relevant degree	0	30
TOTAL CREDITS	35	72

Geological Oceanography

COURSE OR COURSE DESCRIPTION	CREDITS	
	MS	PhD
REQUIRED COURSES (CORE)	14	14
Thesis Research or Doctoral Dissertation	6	12
Graduate level Statistics	3	3
CMOG 8675 Advanced geological oceanography	3	3
Other courses in Marine Sciences (or other Departments) recommended by the students graduate committee	9	37
Maximum number of credits that may be co-validated from previous relevant degree	0	30
TOTAL CREDITS	35	72

Appendix II. List of DMS Active Courses

ADVANCED UNDERGRADUATE COURSES

CIMA 5005. INTRODUCTION TO OCEANOGRAPHY (I, II) (On demand).
Three credit hours. Three hours of lecture per week. Prerequisite: authorization of the Director of the Department.
Basic knowledge, techniques, and areas of interest of the different disciplines of marine sciences. The interaction and research aims in Physical, Geological, Chemical and Biological Oceanography.

CMOB 5006. SEAFOOD PROCESSING (II)
(On demand). Four credit hours. Three hours of lecture and one three-hour laboratory per week.
Techniques for processing seafood products and their effects on quality and consumer acceptance.

CMOB 5007. FUNDAMENTALS OF AQUACULTURE.
Three credit hours. Three hours of lecture per week.
The culture of animals and plants in fresh, brackish, or saline water. Field trips required.

CMOB 5015. FISHERIES BIOLOGY (I, II).
Three credit hours. Three hours of lecture per week.
A study of the principles and methods of fisheries investigation with emphasis on the fisheries of North America and the Caribbean. Field trips.

CMOB 5016. PHYCOLOGY (I, II). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
Fundamental study of algae in general, with reference to the main groups: Chlorophyta, Xantophyta, Cyanophyta, Phaeophyta, Rhodophyta. Study of biology, life histories, morphogenesis, ecology, evolution, taxonomy, and commercial or industrial uses of algae, and their importance in the bio-economics of the sea and other bodies of water. Intensive use will be made of audiovisual techniques, the herbarium, the laboratory, and field trips.

CMOB 5017. MARINE ECOLOGY AND RESOURCE MANAGEMENT.
Five credit hours. Three hours of lecture and two three-hour laboratories per week. Prerequisite: authorization of the Director of the Department.
Description of the marine environment and familiarization with the major tropical marine communities; data-gathering and biological sampling techniques; human impact on the marine environment from the standpoint of pollution, exploitation, protection, and regulation; jurisprudence in major litigation involving marine resources; management practices.

CMOB 5035. ENDANGERED MARINE VERTEBRATES.
Two credit hours. Two three-hour periods of practice per week.
Biology, diseases, autopsy, and care of protected and endangered marine vertebrates. Field trips are required.

CMOB 5087. AQUACULTURE AND THE ENVIRONMENT.

Three credit hours. Three hours of lecture per week.
Impact of aquaculture on the environment and the mitigation of its effects. Field trips required.

GENERAL GRADUATE COURSES

CIMA 6999. RESEARCH AND THESIS (I, II, S).
One to six credit hours.
Up to a maximum of six credits representing the research and thesis may be granted towards the master of science degree.

CIMA 8785. CURRENT TOPICS SEMINAR (II).
Two credit hours. Two hours of lecture per week.
Recent topics in marine sciences and related fields.

CIMA 8998. SPECIAL PROBLEMS (I, II, S).
One to three credit hours. One to three sessions per week.
Tutorial discussion and/or laboratory and library
research on a special topic.

CIMA 8999. DOCTORAL RESEARCH AND DISSERTATION (I, II, S).
Up to twelve credit hours.
Up to a maximum of twelve credits representing the dissertation may be granted toward the Doctor of Philosophy degree.

BIOLOGICAL OCEANOGRAPHY (CMOB)

GRADUATE COURSES

CMOB 6018. MARINE ECOLOGY (I, II)
(On demand). Four credit hours. Three hours of lecture and one three-hour laboratory per week.
Structure and function of marine ecosystems; flux of energy and materials in biogeochemical cycles.

CMOB 6026. SEAFOOD TECHNOLOGY.
Three credit hours. Three hours of lecture per week. Prerequisite: CIMA 5006 or CMOB 5006.
Industrial and regulatory procedures to ensure the quality of fish, shellfish, and related products. Field trips are required.

CMOB 6056. WATER QUALITY MANAGEMENT IN AQUACULTURE.
Three credit hours. Three hours of lecture per week.
Manipulation of water quality to improve production of aquatic organisms. Field trips are required.

CMOB 6075. FRESHWATER INVERTEBRATES.
Three credit hours. One hour of lecture and two two-hour laboratories per week. Identification of freshwater invertebrates, their role in the environment, and their importance in aquaculture and pollution studies.

CMOB 6077. ZOOPLANKTON ECOLOGY
(On demand). Three credit hours.
Two hours of lecture and one three-hour laboratory per week. Prerequisite: authorization of the Director of the Department. Aspects of zooplankton ecology in relation to oceanographic processes in estuarine, neritic, and oceanic ecosystems. Includes experiences in sampling techniques and experimental design.

CMOB 6618. BIOLOGICAL OCEANOGRAPHY(I).
Three credit hours. Two hours of lecture and one three-hour laboratory per week. Marine life and its relationship to geological, physical and chemical aspects of the ocean; basic techniques fundamental to marine research. Demonstrations and field trips.

CMOB 6619. BIO-OPTICAL OCEANOGRAPHY (I)
(On demand). Four credit hours. Three hours of lecture and one three-hour laboratory per week. Integrated study of the role of light in aquatic ecosystems including the physics of light transmission within water, the biochemistry and physiology of aquatic photosynthesis, and the ecological relationships that depend on the underwater light environment. Field trips required.

CMOB 6635. RESEARCH METHODS IN MARINE SCIENCES (II).
Three credit hours. Three hours of lecture per week.
Techniques of data collection, analysis, and interpretation with emphasis on research problems relevant to the marine ecosystems of Puerto Rico.

CMOB 6636. WATER QUALITY IN FISH PONDS (II).
Four credit hours. Three hours of lecture and one three-hour laboratory per week.
Physical, chemical, and biological characteristics of water that affect the growth and health of organisms cultivated in freshwater.

CMOB 6655. MOLECULAR MARINE BIOLOGY (I, II)
(On demand). Four credit hours. Two hours of lecture and two three-hour laboratories per week. Prerequisite: authorization of the Director of the Department.
Theory, practice, and applications of molecular marine biology.

CMOB 6686. FISH NUTRITION (I)
(On demand). Four credit hours. Three hours of lecture and one three-hour laboratory per week.
The nutritional requirements and the digestive physiology of marine and freshwater fish.

CMOB 6687. DESIGN AND MANAGEMENT OF AQUACULTURE HATCHERIES (I, II)
(On demand). Four credit hours. Three hours of lecture and one four-hour laboratory per week.
Theory and practice in the cultivation of tropical aquatic species emphasizing a systems approach to the design and management of hatcheries.

CMOB 6689. CULTURED AQUATIC ORGANISMS HEALTH.

Three credit hours. One hour of lecture and two three-hours laboratories per week.
The nature, prevention, diagnosis, and treatment of parasites and diseases of cultured aquatic organisms. Field trips are required.

CMOB 8635. MARINE MICROBIOLOGY.
Three credit hours. Two lectures and one three-hour laboratory per week.
A study of the biology of marine microalgae, bacteria and protozoa, with emphasis on the techniques of pure cultures and the physiology and ecology of marine organisms, both autotrophic and heterotrophic.

CMOB 8636. MARINE PARASITOLOGY (I)
(On demand). Four credit hours. Two hours of lecture and two three-hour laboratories per week.
Parasitology of marine organisms with emphasis on local fauna; collecting methods, preparation for the study and identification of parasites.

CMOB 8645. MARINE PHYSIOLOGY (I)
(On demand). Three credit hours. Three hours of lecture per week.
The physiological processes at the cellular and organismal levels directly concerned with the adaptation of the organism to the physical and chemical environment of the ocean; the more specialized physiological processes encountered in the study of the growth and behavior of marine organisms.

CMOB 8646. MARINE PHYSIOLOGY LABORATORY (II)
(On demand). One or two credit hours. One or two three-hour laboratories per week. Corequisite: CMOB 8645.
Laboratory research projects on a specific physiological process of marine organisms in response to marine environment. Project by arrangement.

CMOB 8656. SELECTED TOPICS IN PHYSIOLOGICAL ECOLOGY (II)
(On demand). Three credit hours. Three hours of lecture per week. The physiological bases for ecological relationships as displayed in representative examples. Individual laboratory projects will be required of all students.

CMOB 8657. AQUACULTURE (I, II)
(On demand). Four credit hours. Three hours of lecture and one three-hour laboratory per week.
Principles underlying food production by efficient utilization of various aquatic environments and organisms to include fresh, brackish and marine environments; and the lotic and lentic systems of the culture of fish and other aquatic crops, such as algae, mollusks, and crustaceans.

CMOB 8658. ADVANCED MARINE PARASITOLOGY.
Three credit hours. One hour of lecture and two three-hour laboratories per week. Prerequisite: CMOB 8636.
Study of advanced topics on the parasites of marine animals. A research project will be required.

CMOB 8659. INVERTEBRATE AQUACULTURE.
Three credit hours. Three hours of lecture per week.
Study of the cultivation of invertebrates such as shrimps, oysters, clams, mussels, gastropods, and octopi. Emphasis on modern techniques, feasibility and economic aspects.

CMOB 8667. ADVANCED FISHERIES BIOLOGY (I, II)
(On demand). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
Prerequisites: authorization of the Director of the Department.
Population dynamics of exploited species, management and conservation principles for commercial fisheries.

CMOB 8676. SYSTEMATICS OF MARINE INVERTEBRATES (I)
(On demand). Four credit hours. Three hours of lecture and one four-hour laboratory per week.
Taxonomy, phylogeny and distribution of marine invertebrates with special attention to local forms.

CMOB 8678. MARINE POPULATION BIOLOGY (I, II)
(On demand). Three credit hours. Three hours of lecture per week.
Principles of population biology and their application to the organization of marine communities.

CMOB 8679. MARINE BOTANY (I, II).
Three credit hours. Two hours of lecture and one three hour laboratory per week.
A study of the flora of the sea, with emphasis on the morphology, ecology and taxonomy of algae.

CMOB 8685. THE RHODOPHYTA OF PUERTO RICO.
Three credit hours. Two hours of lecture and one three-hour laboratory per week. Prerequisite: CMOB 8679.
A study of the life cycles, reproduction, taxonomy and ecology of the macroscopic red algae of Puerto Rico.

CMOB 8686. ICHTHYOLOGY I (II)
(On demand). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
A study of the morphology, physiology and ecology of fishes, with emphasis on marine forms.

CMOB 8687. ICHTHYOLOGY II (I)
(On demand). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
A study of the systematics, evolution and distribution of fishes, with emphasis on marine forms.

CMOB 8689. PIGMENT PHYSIOLOGY (II)
(On demand). Three credit hours. Three hours of lecture per week.
Physiological function of marine pigments.

CMOB 8695. THE PHAEOPHYTA (I, II)
(On demand). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
Prerequisite: CIMA 5016 or CIMA 8679 or CMOB 5016 or CMOB 8679.

Life cycles, biology, morphology, ecology, taxonomy and evolution of the brown algae. Field trips required.

CMOB 8696. THE CHLOROPHYTA (I, II)
(On demand). Three credit hours. Two hours of lecture and one three-hour laboratory per week.
Prerequisite: CMOB 5016 or CMOB 8679.
Life cycles, biology, morphology, ecology, taxonomy, and evolution of the benthic marine green algae. Field trips required.

CMOB 8699. PHYCOLOGY SEMINAR (II) (On demand).
One credit hour. One hour of lecture per week.
Discussion of recent works in marine phycology and topics related to student research problems.

CMOB 8705. SPECIAL PROBLEMS IN EXPERIMENTAL MARINE PHYCOLOGY (I, II)
(On demand). One to three credit hours. One to three sessions per week. Prerequisite: authorization of the Director of the Department.
Project specifically related to experimental research on marine algae. The presentation of an independent research project is required.

CMOB 8707. CURRENT TOPICS IN PHYCOLOGICAL RESEARCH (II)
(On demand). Two credit hours. One hour of lecture and one hour of seminar per week. Prerequisite: CMOB 5016 or CMOB 8679.
Advanced topics in phycology; classical and current papers in phycological research; seminars on assigned topics.

CMOB 8708. CORAL REEF BIOLOGY.
Four credit hours. Three hours of lecture and one three hour laboratory per week.
Evolution, characteristics, and distribution of coral reefs. Field trips required.

CMOB 8709. ECOLOGY AND ZOOGEOGRAPHY OF CORAL REEFS.
Five credits hours. Three hours of lecture and one six hours laboratory per week.
Prerequisite: CMOB 8708 or authorization of the Director of the Department. Field trips are required.

CMOB 8716. ECOLOGY OF MARINE COMMUNITIES SEMINAR (II)
(On demand). Two credit hours. Two sessions per week.
Composition and quantitative structure of selected marine assemblages, and their energetic and tropic relationships.

CMOB 8992. A, B, C. SPECIAL PROBLEMS IN MARINE PHYSIOLOGY (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Courses dealing with specific techniques in the laboratory related to problems in areas of osmoregulation, ionic equilibrium, and pigment physiology.

CMOB 8993. A, B, C. SPECIAL TOPICS IN AQUACULTURE (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Studies under staff supervision on projects specifically concerned with aquaculture. Topics will be selected by agreement between the student and the professor.

CMOB 8994. A, B, C. SPECIAL PROBLEMS IN MARINE INVERTEBRATES (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Supervised study or research on specific selected aspects of marine invertebrates, or techniques pertaining to their study.

CMOB 8995. A, B, C. SPECIAL PROBLEMS IN FISHERIES BIOLOGY (I, II).
One to three credit hours. One to three sessions per week.
Individual student research on the biology of commercial fish and invertebrates, and on commercial fisheries.

CMOB 8996. A, B, C. SPECIAL PROBLEMS IN MARINE ALGAE (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Individual student research on selected problems dealing with the marine algae of Puerto Rico.

CMOB 8997. A, B, C. SPECIAL PROBLEMS IN ICHTHYOLOGY (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Individual student research on marine fishes.

CHEMICAL OCEANOGRAPHY (CMOQ)

GRADUATE COURSES

CMOQ 6615. CHEMICAL OCEANOGRAPHY (II).
Three credit hours. Three hours of lecture per week.
General survey of chemical oceanography, including application of basic concepts of physical and analytical chemistry to the marine environments, chemical interactions of major and minor constituents of seawater, the influence of chemical processes on physical, biological, and geological processes.

CMOQ 6617. MARINE POLLUTION (II)
(On demand). Three credit hours. Three hours of lecture per week. Prerequisite: CMOQ 6615 or CIMA 6615.
Deleterious effects on living resources, human health, marine activities, and water quality caused by the anthropogenic introduction of substances or energy into the marine environment.

CMOQ 8616. OCEANOGRAPHIC TECHNIQUES (I).
Three credit hours. One hour of lecture and one six-hour laboratory period per week; also a three days duration training cruise. Pre-requisite: authorization of the Director of the Department.

Training in the use of standard shipboard and laboratory techniques in physical, chemical, geological and biological oceanography. Planning and execution of a trip on a cruise. Data collection, processing and analysis.

CMOQ 8638. CHEMICAL OCEANOGRAPHY LABORATORY (I).
Three credit hours. One hour of lecture and six hours of laboratory per week.
Laboratory experience in techniques of sampling and handling of marine samples, and the analyses of these samples for major, minor and trace constituents.

CMOQ 8991. A, B, C. SPECIAL PROBLEMS IN CHEMICAL OCEANOGRAPHY (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Laboratory studies of specific problems in chemical oceanography. Topics to be chosen by the student and approved by the professor.

GEOLOGICAL OCEANOGRAPHY (CMOG)

Graduate Courses

CMOG 6616. GEOLOGICAL OCEANOGRAPHY (II).
Three credit hours. Two hours of lecture and one three-hour laboratory per week. For students not majoring in Geological Oceanography.
A review of the basic concepts of geology; geomorphology and structure of the ocean basins and continental shelves; techniques of marine exploration and research; study of the tectonic theories on the origin of marine basins and structural processes; the distribution of sediments, and marine sedimentary processes.

CMOG 8606. COASTAL GEOMORPHOLOGY (II)
(On demand). Three credit hours.
Two hours of lecture and one three-hour laboratory per week. The origin of coastal features and their relationships with shore problems relative to the basic sciences; presentation of the forces that modify the shores. Discussion and field trips.

CMOG 8655. MARINE BIOGEOGRAPHY (I, II)
(On demand). Three credit hours. Three hours of lecture per week.
The origin, speciation and distribution of marine plants and animals in relation to the physical, chemical and physiological aspects of the ocean, with special emphasis on tropical biota.

CMOG 8675. ADVANCED GEOLOGICAL OCEANOGRAPHY (I, II)
(On demand). Three credit hours. Two hours of lecture and one three hour laboratory per week.
A comprehensive review of the geomorphology and structure of the ocean basins; analysis of tectonic theories and structural processes operating in the marine environment; distribution of marine sediments.

CMOG 8706. STRUCTURE OF CORAL REEF.
Three credit hours. One hour of lecture and two three-hour laboratories per week.
Structure, development, and methods of study of coral reefs. Field trips required.

CMOG 8717. SPECIAL PROBLEMS IN MARINE GEOLOGY (II)
(On demand). One to three credit hours. One to three hours of lecture and one three-hour laboratory per week.
Supervised study or research on specific aspects in marine geology.

PHYSICAL OCEANOGRAPHY (CMOF)

GRADUATE COURSES

CMOF 6005. METHODS OF OCEANOGRAPHIC DATA ANALYSIS (II)
(On demand). Three credit hours. Three hours of lecture per week.
Oceanographic data analysis emphasizing computer techniques: exploratory data analysis, regression analysis, scalar and vector spectral analysis, maximum entropy spectral analysis, empirical orthogonal eigen functions, filters, complex demodulation.

CMOF 6006. ATMOSPHERIC AND OCEANIC TURBULENCE (I, II)
(On demand). Three credit hours. Three hours of lecture per week.
Fundamental concepts of turbulence and their application to the study of geophysical fluids.

CMOF 6617. PHYSICAL OCEANOGRAPHY (I).
Three credit hours. Three hours of lecture per week.
General introduction to the study of physical processes in the sea; physical properties of sea water, heat budget, water budget, temperature salinity relationships, light in the sea, equations of motion, vertical stability, Coriolis effect geostrophic motion, general oceanic circulation, waves and tides.

CMOF 6631-6632. GEOPHYSICAL FLUID DYNAMICS I-II.
Three credit hours. Three hours of lecture per week each semester. Prerequisite: authorization of the Director of the Department.
The dynamics of large-scale motions in the ocean and the atmosphere. Theories of stratified fluids in rotation and of geophysical waves.

CMOF 6655 OCEAN SURFACE WAVE MECHANIC
Three credit hours. Three hours of lecture per week. Prerequisite: authorization of the Director of the Department.
The mechanics of ocean surface gravity waves, including theory, kinematical properties, statistics, spectra, and forces.

CMOF 6667. MECHANICS OF COASTAL SEDIMENT TRANSPORT.
Three credit hours. Three hours of lecture per week.
Development of mathematical models to represent coastal sediment transport.

CMOF 8619. COASTAL OCEANOGRAPHY.
Three credit hours. Three hours of lecture per week.
Interactions between long and short period waves and the shore; tides, storm surges, seiches, shoaling wave theories, wave refraction and diffraction, breakers, run-up, longshore currents, near shore sediment transportation, foreshore processes.

CMOF 8990. A, B, C. SPECIAL PROBLEMS IN PHYSICAL OCEANOGRAPHY (I, II)
(On demand). One to three credit hours. One to three sessions per week.
Selected topics in physical oceanography.

Appendix III. Links to Forms and Documents for Graduate Studies Processes

FORM	LINK
Form to Authorize a Waiver of Tuition for Students with Assistantships	http://grad.uprm.edu/daaeg002.pdf
Plan of Graduate Study (DAAEG-003)	http://grad.uprm.edu/daaeg003.doc
Amendments to the Plan of Graduate Studies (DAAEG-004)	http://grad.uprm.edu/daaeg004.doc
Form to Authorize Payment of Tuition Fees from External Funds	http://grad.uprm.edu/daaeg011.pdf
Application for the Theses Exam	http://grad.uprm.edu/daaeg006.pdf
Graduation Request form	(Must be obtained at the Registrar's Office)
Application for readmission and Internal Transfer	http://www.uprm.edu/registrar/docs/readmisionTraslado.pdf
DMS Student Progress Report	DMS Web Page

Appendix IV. Departmental Directory and Contact Information

DMS Faculty	Telephone	Email
Dallas E. Alston, PhD	(787) 899-2048 ext. 237 (787) 265-5491	dalston@uprm.edu
Nilda E. Aponte, PhD	(787) 265-3838 (787) 899-2048 ext. 260 (Office) ext. 273 (Herbarium/ Laboratory)	naponte@uprm.edu
Richard S. Appeldoorn, PhD	(787) 899-2048 ext. 251 (Office) ext. 265 (Laboratory)	rappeldo@uprm.edu
Roy Armstrong, PhD	(787) 899-2048 ext. 249 (Office) exts. 248; 287 (Laboratory)	rarmstrong@uprm.edu
David L. Ballantine, PhD	(787) 899-2048 ext. 236 (Office) ext. 256; 277(Laboratory) (787) 899-5783 (Tel/Fax)	dballant@uprm.edu
Jorge E. Corredor, PhD	(787) 899-2048 ext. 244 (Office) ext. 253; 285; 286(Laboratory)	jcorredor@uprm.edu
Jorge R. García, PhD	(787) 899-2048 ext. 247 (Office) ext. 224 (Laboratory)	renigar@caribe.net
Ichthyology Laboratory	(787) 899-2048 ext. 252 (Office/Lab.)	
John M. Kubaryk, PhD	(787) 899-2048 ext. 246 (Office)	j_kubaryk@cima.uprm.edu
José M. López, PhD	(787) 899-2048 ext. 235 (787) 832-4040 ext. 2122	jlopez@uprm.edu
Aurelio Mercado, MS	(787) 832-4040 ext. 3201 (787) 265-5461 (tel/Fax)	amercado@uprm.edu

DMS Faculty	Telephone	Email
Julio Morell, MS	(787) 899-2048 ext. 255 (Office) ext. 243; 257 (Laboratory)	j_morell@cima.uprm.edu
Govind Nadathur, PhD	(787) 899-2048 ext. 259 (Office) ext. 233 (Laboratory)	g_nadathur@cima.uprm.edu
Ernesto Otero-Morales, PhD	(787) 899-2048 ext. 269, 227 (Office) ext. 258, (Laboratory)	eotero@uprm.edu
Nikolaos Schizas, PhD	(787) 899-2048 ext. 242 (Office) ext. 225 (Laboratory)	n_schizas@cima.uprm.edu
Clark Sherman, PhD	(787) 899-2048 ext. 250 (Office) 278 (Laboratory.)	csherman@uprm.edu
Wilford Schmidt, PhD	(787) 832-4040 ext. 2069 (Office) (787) 899-2048 ext. 245 (Office)	wschmidt@uprm.edu
Matthew Smith, PhD	(787) 899-2048 ext. 264 (Office); 275 (Laboratory)	wsmith@uprm.edu
Ernesto Weil, PhD	(787) 899-2048 ext. 241 (Office) ext. 272(Laboratory)	e_weil@cima.uprm.edu
Ernest H. Williams, PhD	(787) 832-	ewilliams@uprm.edu
Amos Winter, PhD	(787) 265-5416	awinter@uprm.edu
Paul M. Yoshioka, PhD	(787) 899-2048 ext. 228 (Office) 229 (Laboratory)	p_yoshioka@cima.uprm.edu
Baqar R. Zaidi, PhD	(787) 265-5487	bzaidi@uprm.edu

DMS Administrative Personnel	Administrative Duties	Telephone	Email
Mrs. Maritza Pagán (F-429)	Faculty Issues; External Funds, Student Travel and Fellowships. Property custodian.	787 -265-5408	mapagan@uprm.edu
Mrs. Jossie Moulier (F-424)	General Departmental Accounts and non-teaching personnel	787-832-4040 ext. 2194	jossie@cima.uprm.edu
Mrs. Monserrate Casiano F-205	Student issues	(787) 832-4040 ext. 3447, 3443	taty@cima.uprm.edu
Mrs. Nilda E. Ramírez (F-205)	Director's Secretary	(787) 265-3838	nilda@cima.uprm.edu
Mr. Peter Rocafort (F-430)	Assessment Records	(787) 832-4040 ext. 3305	procafort@uprm.edu
Mrs. Zulma Martínez Isla Magueyes	Magueyes Issues, Property Custodian	(787) 899-2048 ext. 221	zmartinez@uprm.edu
Mrs. Lilivette Valle Isla Magueyes	Marine Section and Vessels; Magueyes Visitors Program	(787) 899-2048 ext. 223	lili@cima.uprm.edu

Other personnel	Duties	Telephone	Email address
Mr. Aldo Acosta	Computer Center and Communications	(787) 899-2048 ext. 274	aldo@cima.uprm.edu
Mr. Milton Carlo	DMS Dive Safety Office	(787) 899-2048 ext. 266	mcarlo@cima.uprm.edu
Mr. Neftalí Figueroa	Supervisor, Magueyes Maintenance	(787) 899-2048 ext. 240	neftali@cima.upr.edu
Mr. Ricky Laracuente	Marine Section	(787) 899-2048 ext. 254	ricky@cima.uprm.edu
Ángel L. Camacho	Small Boats	(787) 899-2048 ext. 230	n/a
Botero/Guard	Transportation and Surveillance.	(787) 899-2048 Ext. 239	n/a

Centers	Contact Person	Telephone
DMS Computer Laboratory	Mr. Aldo Acosta	(787) 899-2048 ext. 261
DMS Visitor's Laboratory	Mrs. Lilivette Valle	(787) 899-2048 ext. 262
CaRA Caribbean Regional Association (CariCOOS)	Prof. Julio Morell	(787) 899-2048 ext. 279, 255
CCRI (Caribbean Coral Reef institute)	Dr. Richard Appeldoorn	(787) 899-2048 exts.280, 281, 282
Puerto Rico Tsunami Warning and Mitigation Program	Prof. Aurelio Mercado	(787) 265-5461
Caribbean Atmospheric Research Center	Dr. Amos Winter	(787) 265-5416

Appendix V. General Contact Information

	MAYAGÜEZ MAIN OFFICE	ISLA MAGUEYES MARINE LABS
Office Address:	Department of Marine Sciences University of Puerto Rico, Mayagüez PO Box 9013 Mayagüez, Puerto Rico 00681	Department of Marine Sciences University of Puerto Rico, Mayagüez PO Box 9013 Mayagüez, Puerto Rico 00681
Office Phone:	(787) 265-3838	(787) 899-2048 exts. 221;223; 222
Office FAX:	(787) 265-3838 (787) 265-5408 (787) 832-3432	(787) 899-5500
Shipping Address	359 Blvd. Alfonso Valdés Physics, Geology and Marine Sci. Building Office F-205 Mayagüez, PR	End Road 304 Isla Magueyes, La Parguera Lajas, Puerto Rico 00667

XVIII. ACKNOWLEDGEMENTS

Members DMS Graduate Policy Committee 2004-2008

(Dr. Richard Appeldoorn, Dr. Nilda E. Aponte, Dr. Roy Armstrong, Dr. David Ballantine, Dr. Jorge García, Dr. Ernesto Otero, Dr. Clark Sherman, Dr. Nikolaos Schizas,)