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**MEMORANDUM**

**To:** Donna E. Shalala, President

**From:** Richard L. Williamson  
Chair, Faculty Senate

**Date:** March 25, 2010

**Subject:** Faculty Senate Legislation #2009-21(B) – Rosenstiel School for Marine and Atmospheric Science to change the name of degrees offered within each division from Master of Arts (M.A.) to Master of Professional Science (M.P.S.) and approved new programs and their associated tracks within the MPS degree

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At its March 24, 2010 meeting, the Faculty Senate approved the proposal of the Rosenstiel School for Marine and Atmospheric Science to change the name of degrees offered within each division from Master of Arts (M.A.) to Master of Professional Science (M.P.S.). The Senate further approved new programs and their associated tracks within the MPS degree.

The proposal is enclosed for your reference.

This legislation is now forwarded to you for your action.


RW/rh

Enclosure

cc: Thomas LeBlanc, Executive Vice President and Provost  
Roni Avissar, Dean, Rosenstiel School for Marine and Atmospheric Science  
Brian Soden, Associate Dean for Professional Masters, Rosenstiel School for Marine and Atmospheric Science

CAPSULE: Faculty Senate Legislation #2009-21(B) – Rosenstiel School for Marine and Atmospheric Science to change the name of degrees offered within each division from Master of Arts (M.A.) to Master of Professional Science (M.P.S.) and approved new programs and their associated tracks within the MPS degree

**PRESIDENT'S RESPONSE**

APPROVED:  DATE: 4/4/10  
(President's Signature)

OFFICE OR INDIVIDUAL TO IMPLEMENT: DEAN Roni Avissar

EFFECTIVE DATE OF LEGISLATION: IMMEDIATELY  
(if other than June 1 next following)

NOT APPROVED AND REFERRED TO: \_\_\_\_\_

REMARKS (IF NOT APPROVED): \_\_\_\_\_



Division of Meteorology and Physical Oceanography  
Rosenstiel School for Marine and Atmospheric Science  
University of Miami  
4600 Rickenbacker Causeway  
Miami, FL 33149  
Phone: 305 421-4202      Email: b.soden@miami.edu

March 3, 2010

Dear Colleagues:

The Rosenstiel School for Marine and Atmospheric Science seeks to rename the Master of Arts (M.A.) degrees offered within each of our divisions to a Master of Professional Science (M.P.S.) and the creation of the enclosed tracks within the MPS degree.

Currently RSMAS offers both an M.A. and an M.S. in each of the following 5 divisions: Applied Marine Physics (AMP), Marine and Atmospheric Chemistry (MAC), Marine Affairs and Policy (MAF), Marine Biology and Fisheries (MBF), Marine Geology and Geophysics (MGG), and Meteorology and Physical Oceanography (MPO). For example, students can receive an M.A. in Applied Marine Physics, or an M.S. in Marine Biology and Fisheries.

We seek the Senate's approval to change the name of the M.A. degree to an M.P.S. for the following reasons: a) to make the name more consistent with the function and intent of the degree, b) to make the degree more attractive to prospective students, and c) to make students who receive the degree more marketable in obtaining jobs.

We wish to emphasize that we are not seeking to create a new degree program, but simply to give an existing program a new name. There will be no changes to the number of credits or curricular requirements for the degree. While there may be some new courses added to the graduate curriculum, this is part of a broader expansion of teaching activities at RSMAS. The degree program is designed to be revenue generating; however the modest costs for initiating the program have been approved by the Dean and are expected to be recovered within the first year.

This change has been approved by the RSMAS faculty, and was unanimously approved by the Graduate Council.

Sincerely,

Brian Soden  
Associate Dean for Professional Masters, RSMAS

Roni Avissar  
Dean of RSMAS

## **Proposal for a Master of Professional Science Degree at the Rosenstiel School for Marine and Atmospheric Science**

### **1. Description of Mission**

#### **1.1. Overview**

##### *Background*

In 1997 the Alfred P. Sloan Foundation helped launch the first Professional Science Masters degree in response to a growing need for a scientifically-trained workforce that was not being met by traditional research-based graduate education. Professional Science Masters (MPS) programs were developed to meet the increasing national demand for students with interdisciplinary training in science and industry. Their goal was to better prepare scientists for employment in new and emerging industries that lie at the intersection of science and business, law, media, and other non-traditional fields. As described by Dr. Rita Colwell, former director of the National Science Foundation, MPS programs *“aim to engage students with professional goals and help them become scientists uniquely suited to the 21st-century workplace, equipped with a deeper and broader scientific knowledge than that acquired with a Bachelor of Science degree and the skills to apply it”*.

Rather than emphasizing research skills, MPS programs emphasize hands-on training and an interdisciplinary curriculum targeted to the application of science. In place of a research thesis, students get real-world experience through internships which provide students the means to apply classroom learning towards industry-relevant skills. To date, over 130 professional science masters programs have been developed at over 64 universities in the US which are generating over 600 graduates per year. These science-trained professionals go on to careers in the administration, management and the conservation of coastal and marine resources; find work in emerging fields of the risk management in the human health, fisheries, agriculture, water management, natural hazards and coastal zone sectors; or combine weather and business training to work for the private sector in insurance, energy or other weather-impacted industries.

Recognizing the growing need for such a degree within our own disciplines, the Rosenstiel School of Marine and Atmospheric Science seeks the approval of the Faculty Senate to establish Masters of Professional Science (MPS) degrees in 3 areas: Marine Affairs and Policy (MAF), Marine Biology and Fisheries (MBF), and Meteorology and Physical Oceanography. Our aim is to provide a professional degree option to students which complements our traditional research-based MS degree. It will be designed for students who major in the sciences as undergraduates and seek careers which require both applied scientific knowledge and professional skills. It is NOT intended for students who are interested in continuing on for a Ph.D., but rather for those who seek to strengthen their academic background by developing the skills and obtaining the experience necessary for entry to mid-level positions in science-related fields. By emphasizing

applied training and internships, rather than research, the MPS will offer students a direct and more efficient route towards careers in government, industry or the public sector.

### *General Degree Requirements*

The MPS curriculum will combine rigorous study in select areas of marine and atmospheric science with interdisciplinary coursework in business, communications, and other professional domains. The MPS degree will require a minimum of thirty (30) credits consisting of twenty-four graduate course credits and a six credit internship with a written report. A grade point average of 3.0 or better must be maintained. All students will be required to take at least one (but no more than four) course(s) outside their division of residence. An oral and written comprehensive examination will be required of all students. In place of a research-based thesis, all MPS students will complete a 3-6 month internship in a business, government, or public sector enterprise where students learn to apply their skills in a "hands-on" setting. The grades for the internship will be based upon the evaluations from the internship mentors and a written report prepared by the student.

### *Further Reading:*

- National Professional Science Masters Organization <http://www.npsma.org/>
- National Research Council: "Science Professionals: Master's Education for a Competitive World" <http://sites.nationalacademies.org/PGA/bhew/masters/index.htm>
- American Association for the Advancement of Science: "The New Masters of Science" [http://www.sciencenews.org/view/generic/id/40906/title/AAAS\\_The\\_New\\_Science\\_Masters](http://www.sciencenews.org/view/generic/id/40906/title/AAAS_The_New_Science_Masters)
- Science Magazine: "An Alternative to the Ph.D. Track" [http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2009\\_07\\_03/career.a0900083](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2009_07_03/career.a0900083)
- Science News: "Professional Science Master's is 21st century MBA" [http://www.sciencenews.org/view/generic/id/44373/title/Professional\\_masters\\_in\\_science\\_is\\_21st\\_century\\_MBA](http://www.sciencenews.org/view/generic/id/44373/title/Professional_masters_in_science_is_21st_century_MBA)

### **1.2 Areas of Concentration**

In the first year of the MPS program, we seek to offer degrees in the following three RSMAS divisions: Marine Affairs and Policy, Marine Biology and Fisheries, and Meteorology and Physical Oceanography. Within each division there will be areas of curricular concentration or "tracks". The following describes the tracks we wish to offer for the Fall 2010 semester.

## **1.2a Division of Marine Affairs and Policy (MAF)**

### *Aquaculture*

Aquaculture is the fastest growing sector of food production, providing over 50% of the seafood for human consumption and continues to grow at approximately 10% per year. It has entirely reshaped the fishery industry and fisheries management strategies worldwide. The Professional Master's Program in Aquaculture will focus on environmental, technological, management, social, economical, legal, and political aspects of sustainable aquaculture. Advanced technology and management strategies are studied, both at the hatchery and grow-out levels. The Program covers all stages of planning and development, from site and species selection to feasibility studies, resource evaluation, advanced hatchery and grow-out technology, market and commercialization. Emphasis is given on environmental sustainability as well as technical and economic feasibility of aquaculture projects. The track focuses on commercially important marine fish species but modern aquaculture technologies of shrimp and mollusk are also covered. The program combines extensive lab courses with substantial hands-on experience at the University of Miami Experimental Hatchery (UMEH) working with broodstock, spawning, larval rearing, live feeds production, nursery, shipping, etc. Furthermore students are offered a field-course organized in collaboration with the Inter-American Tropical Tuna Commission (IATCC) and conducted simultaneously with the Annual Workshop on "Physiology and Aquaculture of Pelagics with Emphasis on Reproduction and Early Developmental Stages of yellow fin Tuna". The two-weeks intensive field-course takes place at the world renowned Achotines Laboratory in Provincia de Los Santos, on the Pacific coast of Panama.

### *Coastal Management*

Over half of the world's population resides in coastal areas, and the relative percentage is growing quickly. Coastal areas generate the majority of the GDP of most of the countries in the world through activities related to ports and shipping, tourism, fisheries, aquaculture, and oil and gas mining. At the same time, the coastal zone – comprised of both nearshore waters and lands – are some of the most fragile habitats that exist. Balancing these numerous economic activities – some of which are incompatible with one another - in a small geographical area with sensitive habitats and high population density is a major challenge that resource managers face in the 21st Century. Similarly, adaptation to global climate change, sea level rise, coastal erosion, and cyclones and hurricanes are additional challenges that coastal managers must seriously address now and in the coming decades. The coastal area also presents additional challenges for resource managers. It is the boundary between the private property regime found in terrestrial areas and the public property regime that exists in ocean space. Management of the different resource bases is often fragmented among different agencies and different levels of government (federal/central, state/provincial, local/municipal) presenting major obstacles for institutional cooperation. The MPS track in Coastal Zone Management will introduce participants to the legal

and governance frameworks in this unique and fragile coastal area. Students will also have the opportunity to select a specialty in an area that links to coastal management, such as fisheries, marine protected areas, port management, aquaculture, or oil exploration. They will also have an opportunity to engage in an internship experience and fieldwork with international, national, state, or local coastal management government institutions, depending on their personal interest. Other internship possibilities also exist with environmental advocacy groups and consulting firms. The program also has long-established links and study experiences in coastal management in Panamá, among other countries.

### **1.2b Division of Marine Biology and Fisheries (MBF)**

#### *Marine Animal Husbandry*

With growing access to marine animals in managed care facilities, the need for animal care and research staff is increasing. As the potential for employment grows, there is a greater focus on employees with strong educational and applied backgrounds. The care of marine mammals has improved dramatically over the last decade, with a greater understanding of marine mammal biology, behavior, and physiology, as well as improved diagnostic tools and techniques. In addition, the role of marine mammal facilities in research has become paramount to a more comprehensive understanding of these marine animals. Thus, the responsibilities of individuals in this industry are diverse, involving roles in veterinary care and diagnostics, public education, program development, animal behavior analysis, and research. Students in this degree track will be a part of the only program in the nation that is designed to prepare them for employment in marine mammal managed care facilities, encompassing a variety of display, education, research, interaction, and rehabilitation programs. Coursework will incorporate topics such as marine mammal medicine and pathology, veterinary diagnostics and laboratory analysis, facility maintenance, legal infrastructure and regulations, public education, and animal training. Students will have the opportunity to interact with medical, training, and research experts in the greater Miami community, as well as participate in an internship program at one of the many local managed care facilities. In addition, students will be required to attend either the International Association for Aquatic Animal Medicine (IAAAM), International Marine Animal Trainers Association (IMATA), or Society for Marine Mammalogy conference in order to fully develop their understanding of the industry and the research it supports.

#### *Fisheries Science*

Fisheries science supports the management of marine resources by providing quantitative knowledge and modeling of the natural and anthropogenic processes that regulate the dynamics and functioning of fishery ecosystems and by developing predictions about the future behavior of such systems. Predictions are often defined under certain management scenarios that are considered of interest to fishery managers and the public. The MPS in Fisheries Management is

a unique academic program that allows students to develop the professional skills to be fishery scientists with curriculum options in three, distinct areas: Fishery Monitoring, Analysis, and Policy. Students will learn to develop surveys and monitoring programs and advanced statistical and mathematical modeling assessments of fish stocks. They will investigate the processes influencing fisheries management and the development of fisheries policy. Coursework will include topics such as Fisheries Ecology and Oceanography, Fisheries Ecosystem Management and Conservation, Fisheries Sampling and Analysis, Fisheries Population Biology, and Biometrics. Graduates with these skills may gain employment in various government agencies (e.g. the National Marine Fisheries Service, Florida Keys National Marine Sanctuary, and Everglades National Park), working in regional and headquarter offices and science centers, Fishery Councils, and NGOs.

### *Oceans and Human Health*

Over 4 billion people populate the world's coastlines, and 90% of future population growth is predicted to occur in tropical and subtropical regions. With greater exposure to and use of coastal and marine resources, there is a growing concern regarding the impact of oceans on human health. The threat of emerging infectious diseases via water and vector-borne bacteria, viruses, and protists is increasing, driven by recreational and occupational exposure to contaminated marine waters. Millions of cases of acute and chronic marine-related diseases result in billions of dollars in health costs and loss of income worldwide. The MPS in Oceans and Human Health will prepare students to identify, assess, and quantify these impacts and develop relevant intervention and management strategies. This degree is multidisciplinary, with courses in marine microbiology and ecology, public health, epidemiology, and environmental engineering. Students will work closely with a consortium of scientists from the University of Miami's "Oceans and Human Health" group, including representatives from the Rosenstiel School of Marine and Atmospheric Science, the Miller School of Medicine, and the College of Engineering.

### *Tropical Marine Ecosystem Science*

The Professional Masters Degree in Tropical Marine Ecosystem Science provides students with advanced training in both the theoretical aspects of tropical marine ecology as well as practical aspects needed to begin a career in this field. Theory focuses on nearshore benthic ecosystems common to tropical and subtropical regions worldwide (coral reefs, seagrasses and mangroves) and emphasizes threats facing these ecosystems. Practical aspects of the course include field methods and techniques, taxonomy and identification of common vertebrates, invertebrates, algae and marine plants, GIS and remote sensing of shallow water marine environments and opportunities to become qualified for both scientific diving (through the American Academy of Underwater Sciences) and small boat operations (through the Department of the Interior's Motorboat Operator Certification Course). This program includes two semesters of courses and a 3-6 month internship at one of a number of nearby state and federal agencies, institutions, and



NGOs in South Florida, in which students apply both the theory and practical aspects of their training to real-world projects. This degree provides excellent preparation for technical positions in marine conservation and management, and marine ecosystem science.

### **1.2c Meteorology and Physical Oceanography (MPO)**

#### *Broadcast Meteorology*

Broadcast Meteorology is a rapidly growing and evolving field and one of the largest employers in the private sector of meteorology. This track option allows students who have an undergraduate degree in meteorology to prepare for both on-camera and behind-the-scenes careers in broadcast meteorology, or develop the knowledge and training necessary to enter the broader field of science journalism. The curriculum integrates graduate level coursework in broadcast journalism from UM's School of Communications (<http://com.miami.edu/>) with advanced courses in Meteorology from RSMAS. Students receive hands-on training in UM's state-of-the-art digital studio and learn the proper techniques involved in preparing and presenting a complete and professional weathercast. The UMTV studio is fully-equipped to deliver professional, on-air graphics with real-time data feeds and visualization software from Weather Central. Students will learn to research, analyze, predict, then graphically and verbally communicate local and national weather forecasts "on camera". UM's cable news broadcast "NewsVision" enables students to apply their knowledge of journalism and weather forecasting in a TV studio and develop their skills in communication, computer graphics, and on-camera delivery. The coursework is designed to provide students with a solid foundation in both meteorology and broadcast journalism to meet the basic requirements of the AMS Certification for Broadcast Meteorology (<http://www.ametsoc.org/amscert/>), and also provide students with a greater understanding of broader environmental issues facing society in the 21<sup>st</sup> Century.

#### *Numerical Meteorology and Oceanography*

The track in Numerical Meteorology and Oceanography designed to allow students to pursue advanced training in the computational aspects of meteorology and physical oceanography. The degree program combines coursework in both the computational and physical science of meteorology and oceanography with hand-on training in high performance computing, data analysis and visualization. The core requirements for the degree are strong courses in geophysical fluid dynamics, atmospheric physics, computational fluid dynamics, climate and coastal modeling, data assimilation, geophysical statistical analysis and visualization, and high performance computing. The curriculum of the program focuses on hand-on experience with state-of-the-art computational models, visualization tools, and high performance computing platforms available at the University of Miami (<http://www.ccs.miami.edu>). Students will be proficient in analyzing various disparate sources of data (e.g., remotely sensed satellite products, in situ observations, model simulations) and in running complex geophysical models. Students

completing the degree are ideally suited work either in government laboratories or private industry that requires expertise in high performance science computation and/or sophisticated data analysis and visualization.

### *Weather, Climate and Society*

The financial consequences resulting from natural and anthropogenic climate change, rising sea levels, and extreme weather events pose important scientific and socioeconomic challenges both in terms of urban planning and managing the financial risks associated with these changes. Employers in government, insurance, energy and a number of other weather-impacted industries are seeking professionals who are fluent in both the fundamentals of business and the physical sciences. The social vulnerability, mitigating strategies, and adaptive capacity in the face of climate change are strongly mediated by legal, socioeconomic, policy, psychological, epidemiological and cultural factors, including housing and construction codes, environmental risk perception and health management/delivery. This theme draws on UM's breadth and depth in interdisciplinary climatological and meteorological research addressing risk management in the human health, fisheries, agriculture, water management, natural hazards and coastal zone sectors. Faculty from RSMAS, Miller School of Medicine and Geography contribute to the climate and society theme with their analysis of both climate trends and hazards, while faculty at the Schools of Law, Architecture and the College of Engineering focus on the legal, material and aesthetic aspects of the built environment that influence the mitigation of vulnerability and development of more resilient urban systems.

### *Weather Forecasting*

The MPS track in weather forecasting is designed to prepare students for meteorological forecasting careers in both government agencies and private industry. The curriculum includes graduate-level course work in the analysis and preparation of weather forecasts; the effective use of numerical models, satellite, Doppler radar, and upper air data and the application of this information to support a variety of specialized end-users including agriculture, utilities, insurance, transportation, construction and others weather-sensitive industries. Student will also develop skills in different areas of service offered by the National Weather Service including Severe Weather, Marine and Aviation Forecasts, Hydrology and Tropical Cyclone Forecasting. Students will receive hands-on instruction using Weather Event Simulators developed for the National Weather Service to train their forecasters. This track also develops skills in writing and public communication in the context of professional weather forecasting.

## **2. Market Analysis**

To work as a scientist, a bachelor degree is typically no longer sufficient to gain entry into the workforce. Students pursue graduate study to gain the skills necessary to get a job, however the research-based M.S. is an inefficient way of accomplishing this goal. First, the research

component takes longer (frequently more than 2 years) and develops skills that are often unnecessary for scientists who are not going to become researchers. Secondly, the students often do not learn skills that are highly desired by employers (e.g., management, policy, economics, programming, writing/communication, etc.).

Professional Masters programs are being developed to fill this need. They combine graduate training in science with courses that develop professional skills and real-world experience via internships. Three other universities (Duke, UC Santa Barbara and Yale) have capitalized on this societal need to develop very successful masters programs in environmental sciences (broadly defined). These three schools each train and graduate 100-200 students every year, paying full tuition. RSMAS, with its unique presence in a tropical environment and access to the sea can be very competitive in recruiting and training students in a similar education program. Furthermore, RSMAS runs a top-quality marine science undergraduate program, from which high-quality students could be lured into a "fifth year" of study resulting in a master degree.

There are currently over 130 Professional Science Masters programs at 70 different institutions in the US. A subset of these programs is listed in Appendix A.

### **3. Assessment of Library Collections**

The materials available from the RSMAS library for the PhD program are more than sufficient for the Professional Masters program. The RSMAS Library holds more than 125,000 volumes and receives over 550 current periodicals titles by subscription, gift or exchange.

### **4. Budget**

The vast majority of courses required for offering the MPS tracks are already offered within RSMAS. While some additional courses may be added to the curriculum, the addition of new curriculum is part of a broader expansion of teaching activity at RSMAS. Under its new financial model, RSMAS is transitioning to a 9-month salary support for its tenure track faculty. This transition will create opportunities for ~50 new courses to be taught at no additional financial cost to UM. Some of these will be directed towards the MPS program. There is expected to be some additional cost associated with the hiring of part-time lecturers to teach applied coursework in areas where we lack expertise (e.g., Broadcast Meteorologist, Licensed Boating Instructor), however these costs will be minimal compared to the tuition revenue generated from the program. In our pilot-phase for the MPS program, we anticipate having only ~10 students in the program for Fall 2010 which will generate approximately \$0.3M in revenue for FY2011. As we grow the MPS program to a size comparable to that at other peer institutions, revenues are expected to increase to ~\$3M annually by 2014 (assuming an average tuition revenue of \$30K per student and 100 students in the program).

## Appendix A: An Abbreviated List of Professional Science Masters Programs

### **American University**

Applied Computing

Biotechnology

Environmental Science and Assessment

### **Arizona State University**

Computational Biosciences

Nanoscience

### **Brandeis University**

Biotechnology

### **Duke University**

Master of Environmental Management

### **Florida State University**

Biomathematics

Financial Mathematics

### **George Washington University**

Molecular Biotechnology

### **Georgia Institute of Technology**

Bioinformatics

Human-Computer Interaction

Prosthetics and Orthotics

Quantitative Computational Finance

### **Michigan State University**

Biomedical Laboratory Operations

Computational Chemistry

Food Safety and Toxicology

Industrial Mathematics

Industrial Microbiology

Integrative Pharmacology

Zoo and Aquarium Management,

### **North Carolina State University**

Environmental Assessment,

Geospatial Information Science and Technology

Microbial Biotechnology

### **Northeastern University**

Bioinformatics

Biotechnology

Marine Biology  
Regulatory Science

**Oregon State University**

Applied Biotechnology  
Applied Physics  
Applied Systematics  
Environmental Sciences

**Pennsylvania State University**

Applied Statistics  
Forensic Science  
Biotechnology

**Rice University**

Environmental Analysis and Decision Making  
Nanoscale Physics  
Subsurface Geoscience

**Rutgers, The State University of New Jersey**

Biotechnology and Genomics  
Chemistry  
Food Science  
Industrial Mathematics  
Statistics and Biostatistics  
Sustainability

**St. Johns University**

Biotechnology

**Stanford University**

Biomedical Informatics

**Texas A & M University**

Biotechnology

**University of Arizona**

Applied Biosciences  
Medical Physics

**University of California—Santa Barbara**

Master of Environmental Science & Management

**University of Central Florida**

Conservation Biology  
Health Care Informatics  
Modeling and Simulation

**University of Connecticut**

Applied Financial Mathematics

Applied Genomics  
Microbial Systems Analysis

**University of Illinois**

Agricultural Production  
Bioenergy  
Food Science and Human Nutrition

**University of Maryland**

Bioinformatics  
Biotechnology Management  
Biosecurity and Biodefense  
Environmental Management  
Information Assurance  
Software Engineering  
Telecommunications Management

**University of Oklahoma**

Professional Meteorology

**University of Pittsburgh**

Financial Mathematics  
Geographical Information Systems (GIS) and Remote Sensing

**University of South Florida**

Bioinformatics and Computational Biology  
Biotechnology

**Yale University**

Master of Environmental Management

UNIVERSITY OF MIAMI  
GRADUATE SCHOOL



Terri A. Scandura, Ph.D.  
Dean of the Graduate School

Graduate School  
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graduateschool@miami.edu

**MEMORANDUM**

DATE: March 3, 2010

TO: Richard Williamson  
Chair, Faculty Senate

FROM: Terri A. Scandura *T.A. Scandura*  
Dean, The Graduate School

SUBJECT: Change of Degree Name for RSMAS

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The Rosenstiel School of Marine and Atmospheric Science (RSMAS) has submitted a request to change the degree name from Masters of Arts to Masters of Professional Science and to create the following associated tracks within the Masters of Professional Science degrees: Aquaculture, Coastal Management, Broadcast Meteorology, Fisheries Science, Tropical Marine Ecosystem, Management, Oceans and Human Health, Marine Animal Husbandry, Numerical Meteorology and Oceanography, Weather Forecasting, Weather, and Climate and Society. On January 21, 2010, the Graduate Council approved the request to change the degree name to Masters of Professional Science as well as the creation of the associated tracks.

UNIVERSITY OF MIAMI  
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March 3, 2010

Dr. Roni Avissar, Dean  
Rosenstiel School of Marine and Atmospheric Science  
Room 105A Science & Admin. Bld.  
Coral Gables Campus, Locator:VK

Dear Dean Avissar:

The School of Communication looks forward to working with the Rosenstiel School in developing a Broadcast Meteorology track to its proposed Professional Masters program in Meteorology. As discussed, the following courses would be offered by the School of Communication to students in this program.

|         |                                  |                 |
|---------|----------------------------------|-----------------|
| CNJ 611 | Newsriting and Reporting Seminar | Fall Semester   |
| CEM 606 | Broadcast Journalism             | Fall Semester   |
| CEM 607 | Broadcast Journalism II          | Spring Semester |
| MSC/CEM | Broadcast Meteorology            | Spring Semester |

It is important that we coordinate course scheduling because some of the journalism courses feature extended contact hours to produce scheduled newscasts and for field and studio instruction.

Attached are copies of syllabi for the above-named courses. (The broadcast meteorology syllabus, CEM 306, was from a course taught at the undergraduate level in spring 2009.)

Please do not hesitate to contact me if you have any questions or need additional information. We look forward to working with your students.

Regards,



Sam Grogg, Ph.D.  
Dean





UNIVERSITY OF MIAMI  
MILLER SCHOOL  
of MEDICINE

Pascal J. Goldschmidt, M.D.  
*Senior Vice President for Medical Affairs and Dean*  
*Chief Executive Officer, University of Miami Health System*

**MEMORANDUM**

**To:** Roni Avissar  
Professor and Dean  
Rosenstiel School of Marine and Atmospheric Science

**From:** Pascal J. Goldschmidt, M.D.  
Senior Vice President for Medical Affairs and Dean  
Chief Executive Officer, University of Miami Health System

**Date:** March 4, 2010

**Subject:** Professional Master of Science Program

*Enthusiastically! PJG*

I have no objections and hence, approve the development of the Professional Master of Science Program at the Rosenstiel School of Marine and Atmospheric Science.

Please do not hesitate to contact me should you need anything else.

PJG/mml

UNIVERSITY OF MIAMI  
ROSENSTIEL  
SCHOOL OF MARINE &  
ATMOSPHERIC SCIENCE



## MEMORANDUM

To: University of Miami Faculty Senate  
CC: Dean Roni Avissar, RSMAS  
CC: Professor Brian Soden, RSMAS-MPO  
From: Peter J Minnett, Professor and Chairman,  
Meteorology and Physical Oceanography *Peter Minnett*  
Subject: Master of Professional Science in Meteorology and Physical  
Oceanography  
Date March 5, 2010

Following discussions in a recent Faculty Meeting, the Division of Meteorology and Physical Oceanography (MPO) at the Rosenstiel School supports the renaming of the Master of Arts degree in Meteorology and Physical Oceanography to a Master of Professional Science in Meteorology and Physical Oceanography and the creation of the associated tracks within MPO for this degree program.

We see this as an interesting and innovative development that can provide important opportunities to students who aspire to a rewarding professional career but who do not feel drawn to a post-graduate degree that involves original research.



To: Faculty Senate

From: David Letson, Professor and Chair, Division of Marine Affairs and Policy

Date: March 10, 2010

A handwritten signature in black ink, appearing to be "D. Letson", written over the "From:" line.

The Division of Marine Affairs and Policy (MAF) supports the renaming of the Master of Arts degree in Marine Affairs and Policy to a Master of Professional Science in Marine Affairs and Policy and the creation of the associated tracks within MAF for this degree program.

Rosenstiel School of Marine and Atmospheric Science  
Marine Affairs  
4600 Rickenbacker Causeway  
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Tel: 305-421-4085  
Fax: 305-421-4675



**MEMORANDUM**

**Date:** 5 March 2010

**To:** Faculty Senate, University of Miami

**From:** Sharon L. Smith, Chair, Marine Biology and Fisheries,  
The Rosenstiel School

*Sharon L. Smith*

**Subject:** Masters in Professional Science tracks

The Division of Marine Biology and Fisheries (MBF) supports the renaming of the Master of Arts degree in Marine Biology and Fisheries to a Masters of Professional Science and the creation of the associated tracks within MBF for this degree program.

Rosenstiel School of Marine and Atmospheric Science  
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