



MEMORANDUM

To: Donna E. Shalala, President

From: Richard L. Williamson 
Chair, Faculty Senate

Date: April 19, 2013

Subject: Faculty Senate Legislation #2012-41(B) – Add a New Track in Exploration Science for a Master of Professional Science (MPS) Degree in the Rosenstiel School of Marine and Atmospheric Science (RSMAS)

At its April 17, 2013 meeting, the Faculty Senate unanimously approved the proposal to add a new track in Exploration Science for a Master of Professional Science Degree (MPS) in the Rosenstiel School of Marine and Atmospheric Science. The MPS is a professional degree, rather than a traditional research-based MS degree. It is designed for students who seek careers that require both applied scientific knowledge and professional skills. As noted in the proposal, the track is set apart from other programs at other institutions, giving it a competitive edge. The program will be jointly administered by the Rosenstiel School and the Abess Center for Ecosystem Science and Policy.

The supporting materials are enclosed for your reference.

This legislation is now forwarded to you for your action.

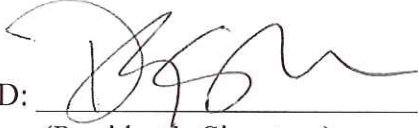
RW/rh

Enclosure

cc: Thomas LeBlanc, Executive Vice President and Provost
Roni Avissar, Dean, Rosenstiel School of Marine and Atmospheric Science
Brian Soden, Associate Dean, Rosenstiel School of Marine and Atmospheric Science
Kenny Broad, Director, Abess Center for Ecosystem Science and Policy; Professor,
Rosenstiel School of Marine and Atmospheric Science
Keene Haywood, Director, Education, Abess Center for Ecosystem

CAPSULE: Faculty Senate Legislation #2012-41(B) – Add a New Track in Exploration Science for a Master of Professional Science (MPS) Degree in the Rosenstiel School of Marine and Atmospheric Science (RSMAS)

PRESIDENT'S RESPONSE

APPROVED:  DATE: April 26, 2013
(President's Signature)

OFFICE OR INDIVIDUAL TO IMPLEMENT: DEAN AUISSAR

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

NOT APPROVED AND REFERRED TO: _____

REMARKS (IF NOT APPROVED): _____



April 8, 2013

TO: University of Miami Faculty Senate

FROM: Kenny Broad, Ph.D. and Keene Haywood, Ph.D., Abess Center for Ecosystem Science and Policy

Re: New Track in Exploration Science for Master of Professional Science Degree

Background

The Exploration Science Program is a proposed new track in the RSMAS Master of Professional Science (MPS) degree program, which currently consists of 12 degree tracks (including a joint degree program with the UM School of Law) and was first implemented in Fall of 2010, following Faculty Senate, Divisional, and School Council approval. This new track represents a unique opportunity that will appeal to those interested in gaining a more sophisticated understanding of field work.

The MPS is a professional degree, rather than a traditional research-based MS degree. It is designed for students who seek careers that require both applied scientific knowledge and professional skills. By emphasizing applied training and internships, the MPS offers students a direct and efficient route into business and industry. In place of a research-based thesis, all MPS students complete a 3-6 month capstone internship in a business, government, or public sector enterprise where students learn to apply their skills in a "hands-on" setting.

Rationale

Increasingly, scientists are working in challenging environments formerly considered inhospitable. In addition to conducting research, they are expected to provide imagery and information to a wider audience that conveys the myriad dimensions of the research process. The skills training necessary to safely conduct these activities has not kept pace with the expansion into these areas. The rationale for adding the Exploration Science track to the existing MPS program is that it will prepare students for field-based work involving expedition and scientific research planning and design, logistics, innovative technology implementation, risk assessment and management. In particular, core courses would address the latest scientific understanding of the physiology of working in extreme environments (i.e., in underwater, high altitude, desert, arctic, regimes, etc.) and the neuropsychology and sociology of risk perception. Electives would provide the specific scientific and practical skills related to the students' interests (e.g., tropical ecology, science communication, paleoclimatology, etc.). Many scientific problems and questions begin with exploratory work and require innovative, interdisciplinary approaches. The MPS Exploration Science program will prepare students for approaching fieldwork in innovative ways and provide skills and knowledge to participate in scientific research in challenging environments. These skills will also include training in communication and emerging technologies to better inform their own activities, help enhance the field research of others, and better engage with the public through citizen science based projects and outreach. There is a growing need for professionals who can bridge field-based science with innovative outreach, exemplified by the increased emphasis put on "Broader Impacts" as part of nearly all NSF research proposals.

The emphasis on complementing scientific research with fieldwork skills enables students to come through the program better prepared for doing successful, productive fieldwork as well as disseminating their work to general audiences, an area that is becoming increasingly important for researchers. This program represents a unique opportunity for the University of Miami to break new ground in an interdisciplinary approach to integrating scientific inquiry and hands-on fieldwork. The Exploration Science track aligns with the mandate of the University of Miami to advance our research agenda and capacity, enhance the educational experience of students, and maximize human capital. The science and technology focus, along with the professional masters' emphasis on hands-on learning and skill development, sets this track apart from other programs at other institutions and gives it a competitive edge.

Track Design

The ES track will be designed similarly to the other MPS track offerings. There is a core offering of four courses for a total of 12 credits that all ES students must take. These include the new courses addressing the latest physiological understanding of human exposure in extreme environments, and of the neurological and psychological aspects of risk perception, as well as the historical and ethical implications of Exploration, Citizen and Participatory Science, and Exploration Technology and Media, in addition to the existing Research Diving class. The remaining 12 credits are made up of electives at RSMAS and any other UM school and focused on a student's particular interest. A final 6 credits are done through an internship with an appropriate organization or program aligned to the student's interest.

Students will matriculate into the program by being accepted into the MPS program and specifying the Exploration Science track. Applicants interested in this track will be vetted by faculty involved with the courses for this track to see what the qualifications and experience are appropriate. The admission requirements will be the same as they are for any student applying to the MPS program. Initially, 4-8 students would be in this track with more possible depending on demand and resources. Recruitment and advertising will take place through traditional RSMAS and UM recruiting channels, but also through list serves, social media, conferences and professional organizations (e.g., the American Association for Geographers), the use of Google Ad Words to help direct people to the website and application form and information found on the MPS website.

Appendices

Attached in a separate document.

Sincerely,

Kenny Broad, Ph.D.
Director, Abess Center for Ecosystem Science and Policy
Professor, RSMAS Division of Marine Affairs and Policy

Keene Haywood, Ph.D.
Director of Education
Abess Center for Ecosystem Science and Policy