

## APPENDIX Q

### **Request to Establish a Doctor of Philosophy in Marine Biology at The University of North Carolina at Wilmington**

#### **Introduction**

The Board of Governors gave UNC-Wilmington authorization to plan a Ph.D. in Marine Biology (CIP # 26.0607) in Long-Range Planning XII 2000-2005. The request to establish the new program was recommended by the UNC Graduate Council at its April 2001 meeting. The University requests permission to establish the new doctoral program, effective May 2002.

#### **Program Description**

The proposed doctoral program in marine biology will build upon UNCW faculty strength and research expertise in four major areas of specialization: coastal and estuarine biology, crustacean biology, marine mammalogy, and, molecular biology and the systematics of marine organisms. The doctoral program will be developed within the broader context of the life sciences. Excellent resources in chemistry, physics and physical oceanography, geology, computer sciences, and mathematics and statistics support current master's programs in marine biology and marine sciences and will be valuable resources for the doctoral program. The proposed Ph.D. is consistent with the mission of UNCW to "enhance the state's leadership in marine studies." The program has been planned in accordance with the needs of the state to know more about several areas that are important including environmental protection, the productivity of marine life and fisheries, and effective management of coastal resources.

The Center for Marine Science (CMS) at UNCW currently supports and promotes research and instructional activities involving students and faculty from various disciplines including Marine Biology, Oceanography, Coastal and Estuarine Systems, Marine Geology, Aquaculture, Chemistry, and Marine Biotechnology. These research activities will provide a strong interdisciplinary infrastructure for the new doctoral program. The university has steadily employed a research-active faculty and, as a result, students in the undergraduate and graduate programs in marine biology and marine science are also actively involved in research. According to the 1998 Gorman report, the undergraduate program in marine biology ranked 5<sup>th</sup> in the nation. The proposed doctoral program will prepare marine biology scientists for employment in academia or public and private research laboratories.

The proposed program will require 78 credit hours beyond the baccalaureate degree. This will include core courses, research courses, seminars, and a practicum in teaching college biology. A unique feature of the course of study is that students will be required to take 15 hours of electives and they will select these from appropriate coursework in marine biology and sciences offered by ECU, Duke University, UNCCH,

NCSU, or UNCW. The interaction with faculty and students from other programs will be an attractive feature of the UNCW doctorate.

### **Program Need**

Within the University of North Carolina, NCSU offers a Ph.D. with an emphasis on Marine, Earth, and Atmospheric Sciences and UNCCH offers a Ph.D. in Marine Sciences. Duke University, ECU and Wake Forest offer doctorates in related areas of marine sciences or biology. The UNCW Department of Biological Sciences will administer the new program. UNCW currently offers a B.S. and an M.S. in Marine Biology and an MS in Marine Science. Six students have graduated from a cooperative Ph.D. program offered by UNCW and NCSU. Over the past three years, the total upper division enrollment in the nationally ranked B.S. in Marine Biology has averaged 136 students. The average total enrollment for the graduate programs in marine biology and marine sciences for the past three years has been 47 students. University administrators plan to admit 5 students in the first year of the program, 2002-2003, and increase enrollment each year to reach a steady-state enrollment of 30 doctoral students in six years.

### **Resources**

The Department of Biological Sciences at UNCW employs 40 faculty members and 27 of these have graduate faculty appointments. In support of the Ph.D. program, the University has established a newly endowed Frank Hawkins Kenan Distinguished Professorship in Marine Sciences. During the first four years of the program, the department will hire two additional faculty members per year and the Kenan Professor. Funding for new faculty will come from internal reallocations, when funds are available, and enrollment growth funds.

The UNCW campus is located adjacent to the Atlantic Ocean and the Cape Fear River system, which provide ready access to excellent environments for both teaching and research. In addition to teaching and research laboratories that are located on the main campus, UNC Wilmington operates the cooperative Center for Marine Sciences at a new facility at Myrtle Grove. The CMS provides research laboratories for faculty and students, boats for research and field trips, and support for research in the deep-water ocean, near-shore waters, barrier islands and estuaries. As a part of the National Undersea Research Program, UNCW has a grant from the National Oceanic and Atmospheric Administration and this is housed at the Center for Marine Sciences. The presence of this program provides increased opportunities for marine biology graduate students to participate in projects of regional and national significance including access to environments such as the Aquarius undersea habitat in Key Largo, Florida.

Faculty in the four research groups in marine biology at UNCW have received funding from NSF, NIH, NMFS, ONR, and US ACE. In 1999-2000, the Biology Department had \$3.3 million in extramural research funding and faculty received \$1.2 million in new funding in 2000-2001. In that same year, the department enrolled 56

graduate students who were fully supported as teaching assistants (32) or research assistants (24). External grants and contracts will be used for equipment acquisitions as well as for support for graduate student research. Library purchases have been well coordinated and holdings have been enhanced for doctoral research. The new program is a high priority for UNCW and the Chancellor and Provost have committed funds to plan and establish the new doctorate. However, the current budget crisis may require the university to rethink the implementation schedule.

### **Collaboration**

With the strength of a research-active faculty and excellent marine science facilities, the University of North Carolina at Wilmington is well prepared to establish a Ph.D. in Marine Biology. If the program is authorized, UNCW administrators will continue to work with colleagues from established and nationally ranked Marine Science programs within UNC and NC to enhance the shared delivery of doctoral instruction, the shared use of facilities and equipment, and a collaborative approach to research. UNC and the state will benefit from proactive leadership from each of the participating universities in order to leverage faculty expertise at East Carolina University, Duke University, the University of North Carolina at Chapel Hill, North Carolina State University, and the University of North Carolina at Wilmington in support of marine sciences. Collaboration will be monitored and advanced through the Marine Sciences Advisory Council that also includes Elizabeth City State University as a member representing marine sciences in northeastern NC. The combined strength of existing and future marine sciences agreements should protect and enhance teaching, research and public service efforts in Dare County, Morehead City and Myrtle Grove and throughout the southeastern coastal region as indicated by the investment of state resources for the public good.

### **Recommendation**

It is recommended that the Board of Governors approve the request to establish a Doctor of Philosophy in Marine Biology at the University of North Carolina at Wilmington, effective May 2002.