

Name of Institution
College of Charleston

Name of Program (include concentrations, options, and tracks)
Marine Biology

Program Designation

- Associate's Degree Master's Degree
 Bachelor's Degree: 4 Year Specialist
 Bachelor's Degree: 5 Year Doctoral Degree: Research/Scholarship (e.g.,
Ph.D. and DMA)
 Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and
M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes
 No

Proposed Date of Implementation
Fall 2016

CIP Code
26.1302

Delivery Site(s)
Grice Marine Laboratory
205 Fort Johnson
Charleston, SC 29412

Delivery Mode

- Traditional/face-to-face* Distance Education
*select if less than 50% online 100% online
 Blended (more than 50% online)
 Other distance education

Program Contact Information (name, title, telephone number, and email address)

Craig J. Plante., Program Director
Grice Marine Laboratory
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843.953.9187

Institutional Approvals and Dates of Approval
College of Charleston Graduate School—1972

Background Information

Provide a detailed description of the proposed modification, including its nature and purpose and centrality to institutional mission. (1500 characters)

The program, originally called the Charleston Higher Education Consortium (CHEC) Graduate Program in Marine Biology, was a consortial program involving the College of Charleston, The Citadel, SC-DNR's Marine Resources Research Institute (MRRI), and the Medical University of South Carolina (MUSC). Although program directors in the early years were affiliated with various partners (e.g., Norm Chamberlain, CofC, 1973-1980; Paul Sandifer, MRRI, 1980-1982; Tom Cheng, MUSC, 1982-1985), degrees were always granted through the College of Charleston. The program is now referred to as the College of Charleston's Graduate Program in Marine Biology (GPMB), and administration, staffing, and direct financial support are clearly part of the College's Biology Department.

Since its inception, the GPMB's administrative office has been located off the main College of Charleston campus, at Fort Johnson. In addition, the vast majority of classes are taught at the Grice Marine Laboratory at Fort Johnson. Students' research labs are generally located in the Grice Lab or at the other three labs located on the Fort Johnson campus (NOAA's CCEHBR, Hollings Marine Lab, or SC-DNR's MRRI). However, the GPMB is part of the Biology Department, which is housed on the main (downtown) College of Charleston campus. Apparently, the location of the GPMB was never approved as an off-site site. The intent of this proposal is to formally establish the GPMB as an off-campus site, located at the Grice Marine Laboratory, which is part of the Fort Johnson Marine Science Research Complex. Fort Johnson is located on James Island, SC, 10 - 20 minutes from the main campus by car.

List the objectives of the modified program. (1500 characters)

1. Students will acquire foundational knowledge in marine biology and related sciences.
2. Students will demonstrate ability to clearly and effectively communicate scientific results.
3. All students must conduct a marine biology research project, and orally defend their work and submit a written thesis

Assessment of Need

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable. (1500 characters)

Today, the *purpose* of the Graduate Program in Marine Biology is to offer students a well-rounded, Master's degree level of education in marine biology that will allow graduates to pursue further study or professional employment in marine science. The curriculum is designed to provide students with breadth in their education, while focused research projects develop depth. There is a current need for marine scientists in the southeast region and the nation as whole. The field of marine biology encompasses a broad array of disciplines and occupations that deal in some way with marine life. Examples of scientific jobs in the field include fishery biologist, microbiologist, biological technician, oceanographer, curator, toxicologist, whereas non-science marine biology occupations include naturalist, resource manager, science writer, and teacher.

Slightly above-average growth in marine biology-related jobs is projected, with ~37,000 job openings between 2010-2020, or 1-2% growth per year (Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2010-11 Edition). This will in part be driven by the maturation of the biotech industry, but moreso by increasing numbers of jobs in environmental monitoring, clean-up, and preservation due to the environmental concerns mentioned above. Nonetheless, the job outlook is considered to be "highly competitive" because the supply of job seekers is expected to exceed demand for these jobs.

The predicted healthy job market for marine scientists, the reputation of our program nationally, and the success of our graduates, suggests a continued need for and continued success of the GPMB.

Will the proposed modification impact any existing programs and services at the institution?

Yes

No

List of Similar Programs in South Carolina

Program Name	Institution	Similarities	Differences
Marine Science	University of South Carolina	General focus on marine biology/marine science Research thesis required	More interdisciplinary (incl. geology, chemistry, policy, etc.) Includes both MS and PhD degree options Includes formal teaching requirement
Coastal Marine and Wetland Science	Coastal Carolina University	General focus on marine biology/marine science Similar course credit requirements (30 h)	More interdisciplinary (incl. geology, chemistry, etc.) Includes both MS and PhD degree options Thesis or internship options

Description of the Program

Projected New Enrollment						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2014-2015	51	255	47	235	38	190
2013-2014	50	250	46	230	40	200
2012-2013	47	235	45	225	37	185
2011-2012	46	230	46	230	39	195
2010-2011	47	235	41	205	36	180

Curriculum

Attach a curriculum sheet identifying the courses required for the program.

To graduate, a minimum of 30 semester hours (units) is required. During the first year in the Program, students are required to take 6 core courses*, as follows:

- Biol. 600 Physiology and Cell Biology of Marine Organisms (4)
- Biol. 601 Population Biology and Ecology of Marine Organisms (4)
- Biol. 610 Physical Oceanography (4)
- Biol. 611 Biometry (4)
- Biol. 620 Graduate Core Seminar (Fall) (1)
- Biol. 621 Graduate Core Seminar (Spring) (1)

*Core course requirements may be waived if their content overlaps with prior undergraduate coursework. Petition for such waivers should be presented to the GPMB Director. Additionally, students must complete the following:

1. One unit of seminar (Biol. 650 Seminar in Marine Biology)
2. One course in organismal biology (4 units) from the following list:
 - Biol. 627 Marine Tetrapod Biology (4)
 - Biol. 630 Marine Invertebrate Zoology (4)
 - Biol. 631 Biology of Crustacea (4)
 - Biol. 632 Ichthyology (4)
 - Biol. 635 Marine Botany (4)
3. Three units of course work from the following list:
 - Biol. 502 Special Topics (1-4)
 - Biol. 503 Special Topics in Ecology (1-4)
 - Biol. 510 Field Methods in Marine Ecology (2)
 - Biol. 640 Applied and Environmental Microbiology (4)
 - Biol. 641 Marine Parasitology (4)
 - Biol. 643 Fisheries Science (3)
 - Biol. 644 Aquaculture (3)
 - Biol. 646 Aquatic Toxicology (3)
 - *Additional courses may apply*
4. A minimum of 4 units of thesis credit (Biol. 700 Thesis (1-4) is also required.
5. Attendance at the Fort Johnson Marine Science Seminar Series is expected of all students.

- B. Oral Comprehensive Examination (must pass test of general marine biology knowledge)
- C. Research Thesis and Thesis Defense (must publicly defend thesis research and submit approved, written thesis)

Curriculum Changes

Note: Complete this table only if there are changes to the curriculum.

Courses Eliminated from Program	Courses Added to Program
There are no changes to the curriculum.	

Faculty

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program modification. (1000 characters)

No changes

Resources

Identify any new library/learning resources, new instructional equipment, and new facilities or modifications to existing facilities needed to support the modified program. (2000 characters)

No new resources are required, as this program has been in place for 42 years.

Financial Support

Estimated New Costs by Year						
Category	1st	2nd	3rd	4th	5th	Total
Program Administration	0	0	0	0	0	0
Faculty and Staff Salaries	0	0	0	0	0	0
Graduate Assistants	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Supplies and Materials	0	0	0	0	0	0
Library Resources	0	0	0	0	0	0
Other*	0	0	0	0	0	0
Total	0	0	0	0	0	0
Sources of Financing						
Category	1st	2nd	3rd	4th	5th	Total
Tuition Funding	\$217,155	\$217,155	\$217,155	\$217,155	\$217,155	\$1,085,755
Program-Specific Fees	0	0	0	0	0	0
State Funding (i.e., Special State Appropriation)*	0	0	0	0	0	0
Reallocation of Existing Funds*	0	0	0	0	0	0
Federal Funding*	0	0	0	0	0	0
Other Funding*	0	0	0	0	0	0
Total	0	0	0	0	0	\$1,085,755
Net Total (i.e., Sources of Financing Minus Estimated New Costs)						\$1,085,755

*Provide an explanation for these costs and sources of financing in the budget justification.

Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.

There are no new costs in this program. The program has been running for 40+ years.

Evaluation and Assessment

Will any the proposed modification impact the way the program is evaluated and assessed?

Yes

No

If yes, explain. (1000 characters)

Will the proposed modification affect or result in program-specific accreditation?

Yes

No

If yes, explain; if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

Will the proposed modification affect or lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

Teacher or School Professional Preparation Programs

Is the proposed modified program a teacher or school professional preparation program?

Yes

No

If yes, complete the following components.

Area of Certification

Attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.