



Northeastern University

Office of the Provost

New Degree Proposal Routing Form

TITLE OF PROPOSED PROGRAM: Ecology, Evolution, Marine Biology PhD name change	
THIS PROGRAM WILL BE DELIVERED: <input checked="" type="radio"/> ON CAMPUS <input type="radio"/> ONLINE <input type="radio"/> HYBRID	
DEPARTMENT(S) AND COLLEGE(S): Marine & Environmental Sciences (COS)	
(LEAD DEPARTMENT/COLLEGE IF APPROPRIATE): College of Science	DATE PREPARED: 10/17/2017
NAME OF PRIMARY ACADEMIC CONTACT(S), CAMPUS ADDRESS, E-MAIL, AND PHONE NUMBER: Jonathan Grabowski; Marine Science Center; j.grabowski@northeastern.edu; 781/5817370	

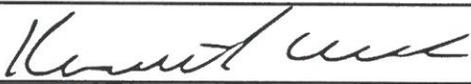
Preliminary Proposal - Authorization to Proceed with Planning

College Dean(s) – Please sign indicating that preliminary proposal has been discussed with Provost.

DATE PROPOSAL RECEIVED:	RECOMMENDATION(S) AND DATE:
SIGNATURE OF COLLEGE DEAN(S):	

Formal Program Proposal

College Deans(s) – Please sign indicating that approval has been obtained from all appropriate committees and offices within your college.

DATE PROPOSAL RECEIVED:	DATE SUPPORTING OR NON-SUPPORTING MEMO FORWARDED TO PROVOST: 10.02.17 The proposal was approved on September 26, by the College of Science's Graduate Curriculum Committee vote 5–approved, 1–abstained, and 0–denied. EEMB voted on 06/10/2016 22–approved, 0–denied.
SIGNATURE OF COLLEGE DEAN(S): 	

Vice Provost for Budget, Planning, and Administration

DATE PROPOSAL RECEIVED:	FINAL REVIEW AND DATE:
SIGNATURE OF VICE PROVOST:	

Vice Provost for Undergraduate or for Graduate Education (as appropriate)

DATE PROPOSAL RECEIVED: 10/20/17	DATE REFERRED TO GRADUATE COUNCIL OR UNDERGRADUATE CURRICULUM COMMITTEE (AS APPROPRIATE): 10/17/17
ACTION TAKEN, DATE, AND VOTE: Approved 10/25/17 8-0-0	
SIGNATURE OF VICE PROVOST: 	

Proposal for changing the Northeastern University Ecology, Evolution, and Marine Biology (EEMB) PhD Program to a PhD in Marine and Environmental Sciences with concentrations in (a) Ecology and Evolutionary Biology, (b) Sustainability Sciences, (c) Geosciences, and (d) Marine Sciences.

July 2017

Program change description

Current name: PhD in Ecology, Evolution and Marine Biology

Proposed name: PhD in Marine and Environmental Sciences with concentrations in (a) Ecology and Evolutionary Biology, (b) Sustainability Sciences, (c) Geosciences, and (d) Marine Sciences. The Department of Marine and Environmental Sciences voted unanimously to change its existing PhD in Ecology, Evolution, and Marine Biology to adopt the above name on June 9, 2016.

Overall Rationale: We are proposing to change the name of our PhD program for the following reasons: (1) The name change would broaden the disciplines covered by our program to better capture the expertise of our current department and to encompass the future faculty that we envision hiring in the coming years. The revised name would better position us to compete for top students applying to PhD programs across a broader range of marine and environmental science topics that are increasingly relevant to society. (2) The proposed name aligns perfectly with our department's name, thereby creating stronger synergies between our undergraduate and graduate programs. (3) The proposed name would better position our current and future faculty hires to recruit PhD graduate students. Many students, particularly those in the physical sciences, view our current program name as too narrow; the bottom line is that our current program name is too limited in its ability to reflect our true research capabilities. For example, we currently have, and anticipate hiring more, faculty in specific areas (e.g., geosciences, sustainability sciences) who are unable to recruit the top students in their disciplines because students have expressed reservations about receiving a PhD in Ecology, Evolution and Marine Biology. The proposed name change would fully address this concern, thereby setting up all of our current and future faculty members to successfully recruit the best and brightest graduate students available.

Justification for specific concentrations: Concentration (a) "Ecology and Evolutionary Biology" is similar to our existing program except that it does not include Marine Biology. This program will appeal to current and future students most interested Ecology and Evolution. We have several faculty that currently have and are recruiting new students in this area. Concentration (b) "Sustainability Sciences" is not currently represented by our current program name. However, we have several faculty that have students working in this area. For faculty

working in the area of social-ecological coupling, this concentration would greatly facilitate their ability to recruit the best graduate students. This concentration would allow our department to highlight better the numerous avenues of research we have ongoing in sustainability science, which aligns with Northeastern University's commitment to sustainability. Concentration (c) "Geosciences" would enhance the ability of the current and future geosciences faculty in our department to attract the best geosciences students. As mentioned above, prospective students in the physical sciences currently view our program as too narrow, and the yield rate for these prospective students has been low in recent years. Concentration (d) "Marine Sciences" will encompass the marine biology students that are currently in our program, but broadens the scope of this area to include chemical, physical and geological marine sciences. Once again, the scope of our current program name is too narrow relative to our true research capabilities.

Proposed Curriculum Revisions

The Ph.D. degree requires completion of 30 SH of course work (Including 20 SH of graded coursework). Currently, we require students with a Bachelor's Degree to complete 20 graded SH, 8 ungraded research SH, and 2 SH of Colloquium (EEMB 7100). We are proposing removing the requirement that students complete 2 SH of colloquium. Instead, we propose to have students complete two 2 SH seminar courses (the seminar in their concentration and one of the three from the other concentrations – see below for details). Students are also required to complete at least 3 SH course in statistics (e.g., Biostatistics). Students will round out their 20 hours of graded coursework with 13 SH of electives. They will also complete 8 SH of ungraded research and 2 SH of Readings in their discipline. Students will enroll in this readings course in their third semester while preparing for their Oral Examination. The topics for this course will be determined by their committee, with each committee member assigning one topic area and associated readings (e.g., textbooks and journal articles).

Students entering with a Master's Degree are required to complete both of the seminar courses described above as well as the statistics course and the readings course in their discipline. Students that have extensive experience in statistics may have their advisor appeal to the graduate committee to waive the statistics requirement.

Coursework for the 4 specific concentrations:

The overall Ecology and Evolutionary Biology concentration curriculum consists of:

2 SH – MESC71XX, Seminar in Ecology and Evolutionary Biology

Students will complete One of our other three seminar courses:

2 SH – MESC71XX, Seminar in Sustainability Sciences*

2 SH – MESC71XX, Seminar in Geosciences*

2 SH – MESC71XX, Seminar in Marine Sciences*

Students will complete at least **3 SH** of coursework in statistics:
ENVR5500/1, Biostatistics and lab*

To round out their 20 hours of graded coursework, student will complete **13 SH** of electives (see Program Requirements Form for detailed list of electives).

Students without a Master's Degree upon entering will complete the following research requirement:

8 SH – MESC8984, Research

Students entering our program with a Master's degree are only required to complete the two seminar courses and the statistics course requirement.

All students will complete the following ungraded course requirement:
2 SH – MESC89XX, Readings in Ecology and Evolutionary Biology*

*all courses with an asterisk are in the process of being created

The overall Sustainability Sciences concentration curriculum consists of:
2 SH – MESC71XX, Seminar in Sustainability Sciences

Students will complete One of our other three seminar courses:
2 SH – MESC71XX, Seminar in Ecology and Evolutionary Biology*
2 SH – MESC71XX, Seminar in Geosciences*
2 SH – MESC71XX, Seminar in Marine Sciences*

Students will complete at least **3 SH** of coursework in statistics:
ENVR5500/1, Biostatistics and lab*
SOCL 7210, Statistical Methods of Sociology
SOCL 7215, Advanced Quantitative Techniques

To round out their 20 hours of graded coursework, student will complete 12 SH of electives (see Program Requirements Form for detailed list of electives).

Students without a Master's Degree upon entering will complete the following research requirement:

8 SH – MESC8984, Research

Students entering our program with a Master's degree are only required to complete the two seminar courses and the statistics course requirement.

All students will complete the following ungraded course requirement:
2 SH – MESC89XX, Readings in Sustainability*

The overall Geosciences concentration curriculum consists of:

2 SH – MESC71XX, Seminar in Geosciences

Students will complete One of our other three seminar courses:

2 SH – MESC71XX, Seminar in Ecology and Evolutionary Biology*

2 SH – MESC71XX, Seminar in Sustainability Sciences*

2 SH – MESC71XX, Seminar in Marine Sciences*

Students will complete at least **3 SH** of coursework in statistics:

ENVR5500/1, Biostatistics and lab*

To round out their 20 hours of graded coursework, student will complete 12 SH of electives (see Program Requirements Form for detailed list of electives).

Students without a Master's Degree upon entering will complete the following research requirement:

8 SH – MESC8984, Research

Students entering our program with a Master's degree are only required to complete the two seminar courses and the statistics course requirement.

All students will complete the following ungraded course requirement:

2 SH – MESC89XX, Readings in Geosciences*

The overall Marine Sciences concentration curriculum consists of:

2 SH – MESC71XX, Seminar in Marine Sciences

Students will complete One of our other three seminar courses:

2 SH – MESC71XX, Seminar in Ecology and Evolutionary Biology*

2 SH – MESC71XX, Seminar in Sustainability*

2 SH – MESC71XX, Seminar in Marine Sciences*

Students will complete at least **3 SH** of coursework in statistics:

ENVR5500/1, Biostatistics and lab*

To round out their 20 hours of graded coursework, student will complete 12 SH of electives (see Program Requirements Form for detailed list of electives).

Students without a Master's Degree upon entering will complete the following research requirement:

8 SH – MESC8984, Research

Students entering our program with a Master's degree are only required to complete the two seminar courses and the statistics course requirement.

All students will complete the following ungraded course requirement:
2 SH – MESC89XX, Readings in Marine Sciences*

Current faculty with Expertise in each concentration:

Ecology and Evolutionary Biology:

Jennifer Bowen

William Detrich

Tarik Gouhier

Jonathan Grabowski

Brian Helmuth

Randall Hughes

David Kimbro

Kathleen Lotterhos

Rebecca Rosengaus

Steven Scyphers

Geoffrey Trussell

Steve Vollmer

Sustainability Sciences:

Jonathan Grabowski

Brian Helmuth

Randall Hughes

David Kimbro

Steven Scyphers

Geosciences:

Richard Bailey

Jennifer Bowen

Malcolm Hill

Justin Ries

Martin Ross

Aron Stubbins

Samuel Munoz

Marine Sciences:

Joseph Ayers/

Loretta Fernandez

Brian Helmuth

Amy Mueller

Samuel Munoz

Mark Patterson

Aron Stubbins

Geoffrey Trussell