

USC SCHOOL	Dornsife College of Letters, Arts & Sciences
ACADEMIC DEPARTMENT	Biological Sciences
GRADUATE PROGRAM	M.S., Marine & Environmental Biology
POSTCODE	938
TERM EFFECTIVE DATE	Spring 2021

PROGRAM DESCRIPTION

A brief description of the graduate program.

The Master of Science degree in Marine and Environmental Biology (MEB) is designed to provide admitted students with a rigorous, quantitative, and focused introduction to the burgeoning fields and breadth of topics in marine environmental biology/chemistry, geobiology, oceanography, conservation biology and population dynamics (depending upon the concentration selected). MEB provides students with independent research experiences that satisfy their own specific interests. The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide a unique facet to the background of a prospective medical student. The program will also provide fundamental tools and expertise for entry into a master's level position in academic, government or private sector research laboratories. It will prepare students interested in governmental and non-government (NGO) environmental regulatory science and forge career pathways into private sector positions in environmental consulting and business.

COMMON BACHELOR'S DEGREE PROGRAM PATHWAYS

A list of common bachelor's degrees that undergraduate students pursue in advance of pursuing a progressive degree option with this graduate program. Some programs are restricted to certain majors while others are open to all students.

Biological Sciences (BA)	Biochemistry (BS)
Biological Sciences (BS)	Environmental Science & Health (BS)

PREPARATORY UNDERGRADUATE COURSES

A list of courses at the undergraduate level that prepare students for the graduate program. Required coursework is listed first, followed by recommended courses. If not applicable, this section will be blank.

Dept. Prefix - Course #	Course Title	Required or Recommended	Units
BISC-120	General Biology: Organismal Biology and Evolution	Required	4
BISC-220	General Biology: Cell Biology and Physiology	Required	4
BISC-320	Molecular Biology	Required	4
BISC-330	Biochemistry	Required	4
CHEM-105a	General Chemistry	Required	4
CHEM-105b	General Chemistry	Required	4
CHEM-322a	Organic Chemistry	Required	4
CHEM-322b	Organic Chemistry	Required	4

UNDERGRADUATE COURSES USED TO REDUCE GRADUATE-LEVEL UNITS

A list of undergraduate-level courses may be used to reduce the number of graduate-level units required for the graduate program. If there are none, that is specified instead.

Dept. Prefix - Course #	Course Title	Units
BISC-403	Advanced Molecular Biology	4
BISC-419	Environmental Microbiology	4
BISC-431	Aquatic Microbiology	4
BISC-435	Advanced Biochemistry	4
BISC-437	Comparative Physiology of Animals	4
BISC-445	Fundamentals of Vertebrate Biology	4
BISC-447	Island Biogeography and Field Ecology	4
BISC-450	Principles of Immunology	4
BISC-455	Molecular Approaches to Microbial Diversity – Catalina Semester	4
BISC-457	Methods in Marine Biology and Biological Oceanography	4
BISC-460	Seminar in Marine and Environmental Biology	2, max 4
BISC-469	Marine Biology	4
BISC-473	Biological Oceanography	4
BISC-474	Ecosystem Function and Earth Systems	4
BISC-483	Geobiology and Astrobiology	4
CE-443	Environmental Chemistry	3
GEOL-412	Oceans, Climate, and the Environment	4
GEOL-460	Geochemistry	4

CORE GRADUATE PROGRAM REQUIREMENTS (# units required)

A list of all required graduate courses for the graduate program. None of these courses may be used toward satisfying undergraduate degree requirements.

If special exceptions for any of these courses are made by the academic department, the course # is marked with an asterisk () and the exception is explained in the "Department Notes" section at the end of this course plan template.*

Dept. Prefix - Course #	Course Title	Units
BISC-582	Advanced Biological Oceanography	4
BISC-585	Scientific Writing and Reviewing	2
BISC-590	Directed Research	4
BISC-529*	Seminar in Marine Biology	1*
	One of the following:	
BISC-530	Advanced Seminar in Plankton Biology	2
BISC-531	Advanced Seminar on the Physiology of Marine Organisms	2
BISC-532	Advanced Seminar in Molecular and Microbial Ecology	2
BISC-533	Advanced Seminar in Remote Sensing and Modeling	2
BISC-534	Advanced Seminar in Population Genetics of Marine Organisms	2
BISC-535	Seminar in Physiology	2
BISC-536	Advanced Seminar in Marine Biogeochemistry	2

PRE-APPROVED ELECTIVE COURSEWORK

Elective coursework is approved at the discretion of the academic department. Note the following details about the total number and units required for elective coursework.

Variable	TOTAL ELECTIVE COURSES REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE
18	TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

TOTAL UNIT COUNTS AND REQUIRED GRADUATE UNITS

32	TOTAL UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE
10	TOTAL GRADUATE UNITS THAT MAY BE WAIVED (IF ANY)
22	MINIMUM NUMBER OF GRADUATE UNITS THAT MUST BE AT THE 500 LEVEL OR ABOVE

NOTES FROM THE DEPARTMENT

This section highlights any unique considerations, exceptions, or requirements for the graduate program. If a program has specific restrictions (courses, majors, etc.), they are detailed below.

*Completion of two semesters required

Dr. Steven Finkel

April 27, 2021

Name of Authorizing Master's Program Dean

Date Approved

Dornsife College Dean of Graduate and Professional Education

Authorizing Dean's Title