



# Florida International University

## Department of Biological Sciences

For 2018  
academic year

### MARINE BIOLOGY BACHELOR OF SCIENCE PROGRAM OF STUDY

#### For students admitted prior to Fall semester of 2017

Students are encouraged plan their own course selections; PLEASE READ COURSE DESCRIPTIONS in the UNDERGRADUATE COURSE CATALOG at [catalog.fiu.edu](http://catalog.fiu.edu). Most elective courses have prerequisites that must be taken BEFORE you take the elective course. To see your own progress, you can see and print out your own PantherSoft Degree Audit (PDA) at [my.fiu.edu](http://my.fiu.edu). If you need assistance or have any questions you are encouraged to see an advisor prior to each registration period. There is a dedicated Marine Biology Advising Office at the Biscayne Bay Campus (e-mail [mbioadv@fiu.edu](mailto:mbioadv@fiu.edu)), as well as a Marine Biology academic advisor at Biscayne Bay Campus located at Academic One, Room 300. Faculty in Biological Sciences, including Marine Biology faculty, are also available to provide academic and career advising. All Science and Math courses must be completed with a grade of "C" or better to satisfy the requirements.

#### LOWER DIVISION PROGRAM – MARINE BIOLOGY

- 📖 UCC – University Core Curriculum (Note: Transfer students with an AA degree from a Florida State System Community College or University are exempt from the UCC)
- 📖 Students entering the University with fewer than 60 hours must complete 9 hours of coursework during the summer semester
- 📖 Foreign Language requirements (see page 3)
- 📖 General science requirements (generally offered each semester)

<u>General Science Courses</u>	<u>FIU ( ) = credit hours</u>	<u>MDC equivalent</u>
📖 General Biology I and II	BSC 2010(3)+Lab(1) BSC 2011(3)+Lab(1)	BSC 1010+Lab or BOT 1010+Lab BSC 1011+Lab ZOO 1010+Lab
📖 General Chemistry I and II	CHM 1045(3)+Lab(1) CHM 1046(3)+Lab(1)	CHM 1045+Lab or CHM 1040+Lab CHM 1046+Lab CHM 1041+Lab
📖 Organic Chemistry I and II	CHM 2210(4)+Lab(1) CHM 2211(3)+Lab(1)	CHM 2210+Lab CHM 2211+Lab
📖 General Physics I and II	PHY 2053(4)+2048L(1) PHY 2054(4)+2049L(1) without Calculus or PHY 2048(4)+Lab(1) PHY 2049(4)+Lab(1) with Calculus	PHY 2053+Lab PHY 2054+Lab  PHY 2048+Lab PHY 2049+Lab
📖 Mathematics - Students must complete sub-requirements (A) <u>and</u> (B)		
(A) Calculus I	MAC 2311(4)	MAC 2311
(B) Calculus II	MAC 2312(4)	MAC 2312
or		
Statistics I and II	STA 2122(3) & 3123(3) or STA 3111(3) & 3112(3)	

**Note:** Calculus I and Statistics I together do not satisfy the requirement  
STUDENTS WHO TAKE STATISTICS I AND II MUST ALSO COMPLETE CALCULUS I

## UPPER DIVISION PROGRAM – MARINE BIOLOGY

Required Courses		Credits	Prerequisites (grades of C or higher)
Ecology	PCB 3043 ● ◇ ■	3	BSC 2010 + BSC 2011
Genetics	PCB 3063 ● ◇ ■	3	BSC 2010
Evolution	PCB 4674 ● ◇ ■	3	PCB 3063 + PCB 3043
Marine Biology and Oceanography	OCB 3043 ◇ ■	3	BSC 2010 + BSC 2011
Marine Biology and Oceanography Lab	OCB 3043L ◇ ■	1	(coreq. or prereq.) OCB 3043
Physical Oceanography	OCP 3002 ◇ ■	3	CHM 1045, (PHY 2048 or PHY 2053)
Senior Seminar	BSC 4931 ● ◇ ■	1	Senior standing (≥ 90 credits); (coreq. or prereq.)

□ 4 Upper Division Marine Electives (at least 12 credits from among the following courses)

- Invertebrate Zoology ZOO3205C (4) ◇
- Marine Botany BOT4402C (4) \* ; Phycology BOT4404 (3) ■
- Biology of Marine Mammals OCB4303 (3) ◇ ■
- Marine Microbial Ecology OCB4632 (3) \*
- Fish Biology ZOO4454 (3) ■
- Animal Physiology PCB4723 (3) ■; Comparative Physiology PCB4724 (3) ◇
- Marine Conservation Ecology OCB4070(3) \*
- Coral Reef Biology OCB3264 (3) ■
- Marine Community Ecology OCB4633 (3) \*
- Fisheries Science OCB4711 (3) \*
- Marine Protected Areas PCB4467C (4) ◇ (Discipline specific global learning course requirement)
- Field Methods in Marine Ecology OCB 4104C (4) ◇
- Biological Oceanography at Sea I or II OCB 4004 (3) \* or OCB 4005C (4) \*
- Independent study with a Marine Biology faculty member, requires prior permission of Marine Biology Director BSC 3915 or 4914(3) ● ◇ ■
- Cell Biology PCB 4023 (3) ● ◇ ■
- Molecular Biology PCB 4524 (3) ● ◇
- Bioinformatics for Biologists BSC 4434 (3) ◇ ■
- Immunology PCB 4233 (3) ● ◇ ■
- Population Genetics PCB 4467 (3) \*

Other courses, as approved in advance by the Marine Biology Undergraduate Program Director, may also be used. Prerequisites may be waived with the permission of the instructor only.

□ 4 Upper Division Labs – OCB 3043L plus 3 additional upper division labs. Labs may be selected from any Upper Division Required or Marine Elective courses (co-requisite or prerequisite: the corresponding lecture course). Course numbers followed by the letter C count as both a lecture and a lab.

- PCB 3043L-Ecology Lab ● ◇ ■      OCB 4104C-Field Methods in Marine Ecology ◇    ZOO 3205C-Invert. Zoology ◇
- PCB 3063L-Genetics Lab ● ◇ ■      BSC 4473C-Scientific Diving ●◇ ■ (Does not count as elective)
- PCB 4023L-Cell Bio. Lab ● ◇ ■
- PCB 4467C-Marine Protected Areas ◇

□ Global Learning – One Global Learning foundations course (part of the UCC) and a second discipline-specific Global Learning course offered by any FIU department. See [goglobal.fiu.edu/courses](http://goglobal.fiu.edu/courses) for a list of acceptable courses.





(Note: Transfer students with an AA degree from a Florida State System Community College or University may take one GL foundations course and a second discipline-specific GL course, or two discipline-specific GL courses offered by any FIU department.)

□ 9 credit hours of courses outside the major (see page 3) within the last 60 hours of enrollment


□ 120 total credit hours required for graduation, including a minimum of 48 upper division (3000- and 4000-level courses)

● offered in Summer; ◇ offered in Fall; ■ offered in Spring; \* Not offered this academic year

## GENERAL REMARKS – MARINE BIOLOGY

 Total number of credit hours needed for graduation	120
 Number of upper division credit hours needed	48
 Upper division credit hours with 10 biology or marine courses, 4 labs and Senior Seminar (Note, transfer students with >60 credits, must take at least half of their upper division credits at FIU)	35
 Credit hours needed outside major (see below) in last 60 hours of enrollment	9

**Note:** For the B.S. in Marine Biology, “outside the major” means outside all the Biological Sciences prefixes BCH, BOT, BSC, ENY, MCB, OCB, PCB, ZOO, and outside of the following courses in other departments: CHM 5285 Marine Natural Products, CHS 4600 Marine Chemistry, GLY 4730 Marine Geology, OCE 3014 Oceanography, OCP 3002 Physical Oceanography. Take these 9 credit hours outside the major from upper division courses to help you reach the 48 hours needed for graduation  
Ex. 35 + 9 = 44 upper division credit hours

 Foreign Language requirements - You must satisfy the following two requirements:

- 1) FIU Flent/Flex requirement – 2 years of high school foreign language satisfy Flent/Flex
- 2) College of Arts & Sciences (CAS) requirement – With a grade of C or better, the student may meet the requirement by completing
  - a) the second semester of a two semester sequence of a basic language course for non-heritage learners (Ex. Spanish II) or an intermediate/ advanced language course designed for heritage learners
  - b) any second or third year foreign language course.....or:

The CAS foreign language requirement may also be met by acceptable scores in

- a) the AP exam (minimum score of 4)
- b) the CLEP exam (minimum score of 63 for Spanish, 59 for French) – **University Testing Centers at MMC (GL 120) or BBC (ACI 160)**
- c) the SAT II exam (minimum score of 699)
- d) any other approved tests

### Minor in Marine Biology

BSC 2010 and BSC 2011 with labs, OCB 3043 plus lab, and at least two Upper Division Marine Elective courses. Total upper division credits for OCB 3043 plus lab and Upper Division Marine Electives must number 10 or more. Grades of “C” or better are required for all courses and the labs.