B.S. MARINE BIOLOGY
College of the Environment and Life Sciences

Department: Biological Sciences
Advisor Contact: Dr. Jacqueline Webb (Coordinator) E-mail: urimbio@etal.uri.edu
Website: http://www.uri.edu/cels/bio/marbio/mbio_main.html
Credits: 120

The Major. *The Bachelor of Science* degree in Marine Biology encompasses a rigorous curriculum stressing a strong foundation in biological sciences as well as chemistry, math, physics and oceanography as preparation for further study in graduate school, and for a broad range of careers. All majors start their freshman year with a seminar on Topics in Marine Biology (=URI 101). After a year of Introductory Biology (which may be satisfied by AP credit), students choose four core biology courses, and then Marine Biology elective courses can be taken as soon as prerequisites are met. Students may choose from undergraduate courses and some graduate courses offered by URI's many marine-related programs such as Fisheries, Aquaculture, Marine Affairs and Oceanography.

The Faculty in the marine biology program are actively involved in research on a wide variety of fields, including functional morphology of fishes, behavior of invertebrates, ecology of marine algae and seaweeds, physiological adaptations of invertebrates to extreme marine environments, genomics of marine algae, and developmental and sensory biology of fishes.

Experiential Learning. Students are encouraged to participate in research directed by faculty in Biological Sciences, in other departments in the College of the Environment and Life Sciences, and in the Graduate School of Oceanography (e.g., via the Coastal Fellows Program, the EPSCoR Fellows Program, or the Graduate School of Oceanography's REU-SURFO Program), or to become involved in off-campus research opportunities. Internships in research, outreach and education may take place at various sites, such as the RI Department of Environmental Management, the Mystic Aquarium and Institute for Exploration, the Roger Williams Zoo, Save the Bay, and the Naval Undersea Warfare Center. URI offers credit for work at the Bermuda Institute of Ocean Science (www.bios.edu, Fall semester program) and the SEA Semester program at Woods Hole (www.sea.edu) through the URI Study Abroad Program, where students can spend a semester taking courses and doing research in the field and/or aboard ship.

Advising and Mentoring. After transferring from UC into CELS (having earned 30 credits and a GPA >2.00), each student is assigned to a faculty advisor from the Marine Biology faculty. The Marine Biology Program Coordinator maintains a marine biology listserv and sends out a weekly e-newsletter to all majors and other interested students with information about courses, jobs, internships, and special lectures or seminars and other activities of interest. In addition, Marine Biology Peer Mentors are enthusiastic and knowledgeable about curriculum and other matters and hold walk-in office hours.

Program Requirements. Majors must complete 36 credits in biological sciences including 2 semesters of Principles of Biology (BIO 101, 102), Topics in Marine Biology (BIO 130), and Marine Biology (BIO 360). Of the remaining 23 credits, one course must be chosen from 4 of the 6 core areas (Cell and Development, BIO 302, 311, 341, 453; Ecology and Evolution, BIO 262, 272; Genetics, BIO 352; Molecular Biology, BIO 437; Organismal Diversity, BIO 304, 321, 323, 354, 366, 412, 365; and Physiology BIO 201, 346). Students choose the balance of 36 credits in the major from among the marine biology elective courses (BIO 345, 355, 365, 412, 418, 441, 455, 457, 469, 475, 563, AVS 440, and OCG 420, 576). A maximum of 3 credits of special problems, independent study or research (491, 492, 493, 494, 495 from one of the following programs: AFS, AVS, BCH, BIO, MIC, NRS, PLS, OCG) may be used to fulfill major credit requirements. A minimum GPA of 2.0 is required in BIO courses used to satisfy the major. Students must also complete 2 semesters of mathematics (MTH 131, 132 or MTH 141, 142) or 1 semester each of calculus and statistics (MTH 131 or 141 and STA 308), 2 semesters of general chemistry with lab (CHM 101, 102, 112, 114), 2 semesters of organic chemistry with lab (CHM 227, 228, 226) or 1 semester each of organic chemistry with lab and biochemistry (CHM 124, 126, BCH 311), 2 semesters of physics with lab (PHY 111, 112, 185, 186), and 1 semester of oceanography (OCG 401 or 451). General Education courses in English Communication, Fine Arts and Literature, Foreign Language and Culture, Letters, and Social Science follow the requirements of the College of the Environment and Life Sciences.

BACHELOR OF SCIENCE
MARINE BIOLOGY

B.S. in Marine Biology – Program Requirements	
Core Requirements (13 credits)	*Required (13 credits)*: Principles of Biology I and II (BIO 101, 102); Topics in Marine Biology BIO 130; Marine Biology BIO 360
Additional Core Courses and Marine Biology Electives (23 credits) (including 2 laboratory courses required)	*Choose one course from 4 of the following 6 core areas (a minimum of 12 credits)*: Cell and Development: BIO 302, 311, 341, 453 Ecology and Evolution: BIO 262, 272 Genetics: BIO 352 Molecular Biology: BIO 437 Organismal Diversity: BIO 304, 321, 323, 354, 365, 366, 412; MIC 211 Physiology: BIO 201, 346
	Choose the balance of 36 credits from: Marine Environmental Physiology (BIO 345) Marine Invertebrates of Southern New England (BIO 355) Evolution and Diversity of Fishes (BIO 412) Ecology of Marine Plants (BIO 418) Deep Sea Biology (OCG 420) Environmental Physiology of Animals (BIO 441) Marine Ecology (BIO 455) Marine Ecology Laboratory (BIO 457) Biology of Algae (BIO 365) (465) Tropical Marine Invertebrates (BIO 469)* Coral Reef Ecology (BIO 475)* Directed Research/Special Problems (AFS, AVS, BCH, BIO, MIC, NRS, and PLS 491, 492; BIO 495*; OCG 493, 494) Tropical Marine Biology Research (BIO 495)* Seminar on Marine Mammals (AVS 440) Ichthyology (BIO 563) Marine Microbiology (OCG 576) *Taught at the Bermuda Institute of Ocean Sciences
Mathematics	Calculus I and II (MTH 131, 132 OR MTH 141, 142) ***OR*** One semester of Calculus & one semester of Statistics (MTH 131 or 141 & STA 308)
Chemistry	General Chemistry I and II with lab (CHM 101, 102; 112, 114) ***AND*** Organic Chemistry I and II with lab (CHM 227, 228, 226) ***OR*** Introduction to Organic Chemistry with lab and Biochemistry (CHM 124, 126; BCH 311)
Physics	General Physics I and II with laboratories (PHY 111,112; 185, 186)
Oceanography	General Oceanography (OCG 401) ***OR*** Oceanographic Science (OCG 451)
General Education Requirements	English Communication, 6 cr, including WRT 104, 105 or 106; Social Sciences, 6 cr; 15 credits in Fine Arts and Literature (3-6 cr); Letters (3-6 cr), and Foreign Language and Culture (3-6 cr); Math and Natural Sciences general education requirements are met by the B.S. Marine Biology program requirements.
Remarks	Students must take 2 laboratory courses in Biology in addition to BIO 101, 102, and 360, excluding independent study/research. No more than 3 credits of Research/ Special Problems (491, 492, 493, 494, or 495) may be used towards the major. A total of 36 credits in BIO courses is required. 120 credits are required for graduation. Students must maintain a 2.00 grade point average in BIO courses used to meet graduation requirements.

B.S. Marine Biology Academic Worksheet

Biology Requirements [ ] credits

Required BIO Courses (13 credits)

BIO 101 _____ (4 credits)
BIO 102 _____ (4 credits)
BIO 130 _____ (1 credit)
BIO 360 _____ (4 credits)

Core BIO Courses and Marine Biology Electives (23 credits, minimum)

Core BIO Courses (4 courses required)

Core Area	*Core courses*		
_____	_____ (____credits)	In addition to 101, 102, 360 –	
_____	_____ (____credits)		
_____	_____ (____credits)	Two Lab courses	_____ _____
_____	_____ (____credits)		

Marine Biology Electives* (balance of 23 credits)

_____ (____credits)
_____ (____credits)
_____ (____credits)
_____ (____credits)
_____ (____credits)

*Up to 3 credits of independent study/research (491, 492, 493, 494, or 495) in one of the following programs may be used for marine biology electives: AFS, AVS, BCH, BIO, MIC, NRS, PLS or OCG. Additional research credits count as free electives.

Additional Science Requirements [ ] credits

Oceanography (3 credits)

OCG 401 *or* OCG 451 _____

Chemistry (15 or 16 credits)

CHM 101, 102 _____, _____
CHM 112, 114 _____, _____
CHM 226, 227 *and* 228_____, _____, _____ ***OR*** CHM 124, 126 *and* BCH 311_____,_____,_____

Mathematics (6, 7 or 8 credits)

MTH 131 *or* MTH 141 _____
MTH 132 *or* MTH 142 *or* STA 308 _____

Physics (8 credits)

PHY 111, 185 _____, _____
PHY 112, 186 _____, _____

General Education Requirements [ ] credits

WRT 104, 105 *or* 106	_____	(____credits)	Diversity courses (2) can be
English Communication (1)	_____	(____credits)	fulfilled by courses listed in
*Fine Arts/Literature (1 or 2)	_____	(____credits)	the left column of this section.
*Letters (1 or 2)	_____, _____	(____credits)	_____
*Language/Culture (1 or 2)	_____, _____	(____credits)	_____
Social Science (2)	_____, _____	(____credits)	
Natural Sciences (2)	(CHM 101), (PHY 111)	Courses from "additional science requirements"	
Math (1)	_____ _____	Course from "additional science requirements"	

*A total of 15 credits in these three areas is required.

Free Electives (see reverse) [ ] credits

Total – 120 required for graduation [ ] credits

Free Electives (pleases list courses and credits below)

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Free elective credits (transfer to other side)____________________