

MARINE BIOLOGY B.S.**2020-21**

Name: _____

Date: _____

Quarter offered: F=Fall, W=Winter, S=Spring, (-)= Not offered

ID#: _____

Letter Grade Policy: All courses must be taken for a letter grade.**★Courses appearing in more than one category can fulfill only ONE requirement. ★****LOWER DIVISION REQUIREMENTS****Calculus:** MATH 11A (FWS) ____ + 11B (FWS) ____**OR** MATH 19A (FWS) ____ + 19B (FWS) ____**Gen Chem:** CHEM 1A (FWS) ____ + 1B (FWS) ____ + 1C/N (FWS) ____**Biology:** BIOL 20A (FWS) ____ + BIOE 20B (FWS) ____ + BIOE 20C (FWS) ____**Physics:** PHYS 6A/L (FWS) ____ + 6B (WS) ____ **OR** PHYS 6A/L (FWS) ____ + 6C (FS) ____**OR** PHYS 7A/6L (-) ____ + 7B (-) ____**Biostatistics:** STAT 7/L (FWS) ____**UPPER DIVISION REQUIREMENTS (11 total including 2 lab/field courses: _____ + _____)****Genetics:** BIOL 105 (FWS) ____**Evolution:** BIOE 109 (FWS) ____**Ecology:** ONE of the following...

BIOE 107 Ecology (FWS) ____

◇BIOE 108 Marine Ecology (W) ____

Marine: ONE from the following...

◇BIOE 120/L Marine Botany (S) ____

◇BIOE 122/L Invertebrates (W) ____

◇BIOE 127/L Ichthyology (F20) ____

◇BIOE 129/L Marine Mammals (S) (lab optional) ____

Marine Environment: ONE from the following...

OCEA 101 Marine Environment (W) ____

OCEA 130 Biological Oceanography (S) ____

Major Qualification Policy:

- 1) CHEM 1A
- 2) CHEM 1B
- 3) BIOL 20A
- 4) BIOE 20B
- 5) BIOE 20C

Must complete all six courses with a "C" or better; no more than 1 non-passing grade in the first 5 qual courses is accepted.

- 6) MATH 11A or MATH 19A

Topical Electives: THREE from the following...

◇BIOE 108 Marine Ecology (W) ____

◇BIOE 120/L Marine Botany (S) ____

◇BIOE 122/L Invertebrates (W) ____

◇BIOE 127/L Ichthyology (F20) ____

◇BIOE 128L Large Marine Vertebrates Field (S) ____

◇BIOE 129/L Marine Mammals (S) (lab optional) ____

BIOE 136 Environmental Physiology (S) ____

BIOE 155 Freshwater Ecology (F) ____

BIOE 155L Freshwater Ecology Lab (-) ____

◇BIOE 158L Marine Ecology Lab (-) ____

◇BIOE 161 Kelp Forest Ecology (F21) ____

BIOE 161L Kelp Forest Ecology Lab (F21) ____

BIOE 163/L Ecology of Reefs, Mangroves, & Seagrasses (W) ____

BIOE 165 Marine Conservation Biology (F) ____

EART 102 Marine Geology (W) ____

EART 105 Coastal Geology (W) ____

OCEA 118 Marine Microbial Ecology (S) ____

OCEA 130 Biological Oceanography (S) ____

Field Quarter:

____ BIOE 159ABCD Marine Ecology Field Quarter (-)*

*See course equivalencies on reverse

THREE additional EEB General Electives: THREE from list on reverse... _____**◇ DISCIPLINARY COMMUNICATION (DC) REQUIREMENT:** _____ + _____

Note: Fulfilled by TWO approved BIOE courses. Review approved courses on our website. DC courses must be taken at UCSC.

Concurrent enrollment in BIOE 129L required to use BIOE 129 for DC Requirement.

COMPREHENSIVE (SENIOR EXIT) REQUIREMENT: _____

For details see:

<https://www.eeb.ucsc.edu/academics/undergrad/majors-academic-planning/majors-academic-planning-exit.html>

Ecology & Evolutionary Biology GENERAL ELECTIVES

2020-2021

Quarter offered: F=Fall, W=Winter, S=Spring, (-)= Not offered

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BIOE 107 Ecology [Marine Biology only] (FWS) ____	BIOE 171 Disciplinary Communications for Biologists (-) ____
◊BIOE 108 Marine Ecology (W) ____	◊BIOE 172 Population Genetics (S) ____
BIOE 112/L Ornithology (F21) ____	BIOL 100 Biochemistry (WS) ____
◊BIOE 114/L Herpetology (S22) ____	BIOL 101 Molecular Biology (FS) ____
◊BIOE 117/L Systematic Botany of Flowering Plants (W) ____	BIOL 110 Cell Biology (FW) ____
BIOE 118 Plants and Society (S) ____	BIOL 115 Eukaryotic Molecular Biology (W) ____
◊BIOE 120/L Marine Botany (S) ____	BIOL 120 Developmental Biology (S) ____
◊BIOE 122/L Invertebrates (W) ____	EART 100/L Vertebrate Paleontology (-) ____
BIOE 124/L Mammalogy (-) ____	EART 101/L Invertebrate Paleobiology (-) ____
BIOE 125 California Ecosystems (WS) ____	EART 102 Marine Geology (W) ____
◊BIOE 127/L Ichthyology (F20) ____	EART 105 Coastal Geology (W) ____
◊BIOE 128L Large Marine Vertebrates Field (S) ____	ECON 166A Game Theory and Applications I (F) ____
◊BIOE 129/L Bio of Marine Mammals (lab optional) (S) ____	ECON 166B Game Theory and Applications II (-) ____
BIOE 131/L Animal Physiology (lab optional) (W) ____	*ENVS 104A/L Intro to Environ. Field Methods (S) ____
BIOE 133/L Exercise Physiology (S) ____	*ENVS 108 General Entomology (F) ____
BIOE 134/L Comparative Vertebrate Anatomy (F) ____	*ENVS 115A/L GIS & Environmental Applications (F) ____
BIOE 135/L Plant Physiology (F) ____	*ENVS 120 Conservation Biology (W) ____
BIOE 136 Environmental Physiology (S) ____	*ENVS 122 Tropical Ecology & Conservation (-) ____
◊BIOE 137/L Molecular Ecology (F) ____	*ENVS 123 Animal Ecology & Conservation (F) ____
BIOE 138 Modeling Evolution and Ecology (W) ____	*ENVS 129 Integrated Pest Management (-) ____
BIOE 139 Mathematical Modeling and Data (-) ____	*ENVS 130A/L Agroecology & Sustain. Agriculture (F) ____
BIOE 140 Behavioral Ecology (F) ____	*ENVS 130B Principles of Sustainable Agriculture (W) ____
◊BIOE 141L Behavioral Ecology Field Course (W21) ____	*ENVS 131 Insect Ecology (-) ____
BIOE 142L Animal Behavior in the Wild (F) ____	*ENVS 160 Restoration Ecology (S) ____
◊BIOE 145 Plant Ecology (S) ____	*ENVS 161A Soils & Plant Nutrition (W) ____
◊BIOE 145L Field Methods Plant Ecology (S) ____	*ENVS 162 Plant Physiological Ecology (-) ____
BIOE 147 Community Ecology (S) ____	*ENVS 163 Plant Disease Ecology (F) ____
BIOE 149 Disease Ecology (-) ____	*ENVS 167 Freshwater & Wetland Ecology (W) ____
◊BIOE 150 Ecological Field Methods (-) ____	*ENVS 168 Biochemistry & the Global Environment (F) ____
◊BIOE 150L Ecological Field Methods Lab (-) ____	METX 119 Microbiology (FS) ____
BIOE 155 Freshwater Ecology (F) ____	METX 119L Microbiology Lab (FWS) ____
BIOE 155L Freshwater Ecology Lab (-) ____	OCEA 118 Marine Microbial Ecology (S) ____
◊BIOE 158L Marine Ecology Lab (-) ____	OCEA 130 Biological Oceanography (S) ____
◊BIOE 161 Kelp Forest Ecology (F21) ____	*PSYC 123 Cognitive Neuroscience (F) ____
BIOE 161L Kelp Forest Ecology Lab (F21) ____	
BIOE 163/L Ecology of Reefs, Mangroves & Seagrasses (W) ____	
BIOE 165 Marine Conservation Biology (F) ____	

*Permission of department is required to enroll in these courses; be sure to check timing of offerings on department website

ONE of the following 5-unit courses may also be used as an upper-division general elective (optional):

- ____ BIOE 183W Undergraduate Research in EEB (2 units) + BIOE 183L (3 units) (FWS)
- ____ BIOE 193 Independent Research in EEB (FWS)
- ____ BIOE 195 Senior Thesis (FWS)
- ____ ENVS 183 Environmental Studies Internship (5 unit)

FIELD QUARTERS (OPTIONAL):

- ____ ◊BIOE 151ABCD Ecology & Conservation in Practice (S21) = 3 Topical or EEB General Electives
- ____ ◊BIOE 153ABC Arctic Ecology (-) = 1 Topical Elective + 2 EEB General Electives
- ____ ◊BIOE 159ABCD Marine Ecology Field Quarter (-) = Varies, see website for equivalencies.
- ____ ENVS 107ABC Natural History Field Quarter (S21) = 2 EEB General Electives