MRSC A180L: MARINE BIOLOGY LAB

Item	Value
Curriculum Committee Approval Date	02/09/2022
Top Code	040100 - Biology, General
Units	1 Total Units
Hours	54 Total Hours (Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Associate Arts Local General Education (GE)	• OC Physical/Biological Sci - AA (OB)
Associate Science Local General Education (GE)	• OCC Physical/Biological Sci-AS (OSB)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5C Laboratory Activity (5C)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5C Laboratory Activity (5C)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B3 Laboratory Activity (B3)

Course Description

An exploration of the principles of marine biology using, whenever possible, living organisms in natural surroundings. Included will be plankton biology, the taxonomy and habits of common eastern Pacific Ocean marine plants and animals, aspects of intertidal zonation, analysis of fouling communities, and field trips to sea to observe marine birds and mammals. PREREQUISITE: MRSC A180 or concurrent enrollment. ADVISORY: ENGL A098 or ESL A099. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Describe how research scientists have determined some of the important biological principles that have helped us to better understand marine community dynamics.
2. Identify and describe the characteristic marine plant and animal assemblages of various marine communities.
3. Identify representative features of different organism categories and relate anatomical traits to physiological functions.

Course Objectives

- 1. Learn techniques for dissection of fish and invertebrates and then use this skill to discover the feeding habitats and prey items of fish and invertebrates captured during the marine biology research cruise.
- 2. Demonstrate skill at identifying unknown marine animals and plants using identification guides provided by the marine biology lab.
- 3. Demonstrate their knowledge of species diversity and standing stock by identifying specific species of marine birds that inhabit the Bolsa Chica Ecological Reserve and marine invertebrates that inhabit the tide pools at Little Corona Del Mar.
- 4. Participate in a “team” effort to examine the species diversity and standing stock of fish and invertebrates living on the ocean bottom in shallow water off So. Cal. and incorporate an evaluation of water column conditions at the same location.

Lecture Content

See Lab Content

Method(s) of Instruction

- Lab (04)

Instructional Techniques

Weekly lectures and power point presentation; group lab experiments and demonstrations; field trips to local ocean venues; marine biological research cruise; reading assignments (handouts); short videos; dissection of specimens; and examination of live organisms.

Reading Assignments

From assigned text

Writing Assignments

Journal entries, field trip write-up and reports

Out-of-class Assignments

Field trips

Demonstration of Critical Thinking

1. Recognize and describe the primary marine animal and plant groups of the near-shore coastal waters of So. Calif. 2. Dissect marine fish, sharks, and invertebrates, as well as identify their internal organs and find evidence of their prey species. 3. Accurately describe the components of different marine communities. 4. List, describe, and demonstrate the use of several pieces of marine biological equipment used on a marine biology research cruise (including but not limited to: otter trawl, sediment grab sampler, sediment sieves, seabird CTD instrument, secchi disk and forel/ule scales, and a plankton net). 5. Explain and demonstrate the importance of species diversity, standing stock, and distribution of species to the stability and health of a local marine habitat.

Required Writing, Problem Solving, Skills Demonstration

Student will include journal entries for each field trip with an analysis of species observed and estimates of number of individuals observed. Students will also write short descriptions of animals and plants observed during lab exercises and field trips.

Eligible Disciplines

Biological sciences: Masters degree in any biological science OR bachelors degree in any biological science AND masters degree in biochemistry, biophysics, or marine science OR the equivalent. Masters degree required.

Manuals Resources

1. Ellis, R. Marine Biology Lab Manual, Self , 08-01-2013

Other Resources

1. Dissection Kit