BIOL G104: MARINE LIFE

Item	Value
Top Code	040100 - Biology, General
Units	3 Total Units
Hours	54 Total Hours (Lecture 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)
Local General Education (GE)	• GWC Physical Universe*** (GB1)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5B Biological Sciences (5B)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5B Biological Sciences (5B)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2)

Course Description

This course will examine the diversity of marine life including their natural history, behavior, habitats, physiology, and ecology. It will introduce students to marine conservation and management issues, including the concepts of global warming, types of pollution, the consequences of greenhouse gases, and fisheries management. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Course Outcomes
2. Describe the core concepts of biology as they pertain to marine biology.
3. Explain how physical and chemical properties influence oceans and ocean basins.
4. Identify the diversity and adaptations of organisms found in each marine environment.
5. Distinguish differences among major marine environments.
6. Outline human impact on marine ecosystems.

Course Objectives

- 1. explain the physical and chemical properties of the oceans as they affect life in the sea.
- 2. describe the many types of life found in the sea, including plants, invertebrates, fishes, reptiles, birds and mammals.
- 3. explain the distribution patterns (intertidal through pelagic realms) of the various life forms in the sea.
- 4. describe and explain the effects of the various oceanic environments on the organisms of the sea.
- 5. describe the influence of humans on the chemical, physical and biological make-up of the worlds oceans.
- 6. demonstrate understanding of the biota of the sea, including planktonic forms, benthic organisms and pelagic forms.
- 7. describe, either orally or in written format, the patterns of distribution of marine life, particularly within the Southern California area.
- 8. describe the ways in which marine biological investigations are conducted.

Lecture Content

1. The geological, chemical and physical factors in the sea2. The unity and evolution of undersea life3. The world of marine plants4. The basis for our animal classification system5. A survey of invertebrate animals6. Introduction to marine vertebrates7. Marine vertebrates: the fishes8. Marine vertebrates: reptiles and birds9. Marine vertebrates: mammals10. Introduction to ecological principles11. The pelagic environment12. Ocean Depths13. Estuarine communities14. The biology of sand beaches and dunes15. The ecology of rocky shores16. The ecology of coral reefs17. The ecology of the benthos18. Resources from the sea19. Human influence on the oceans20. Current issues (global warming, aspects of pollution, greenhouse gases, etc.)

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Reading Assignments

A. Required Reading such as: Marine Biology, Castro and Huber, 4th edition 2005

Writing Assignments

Short-answer quizzes are given irregularly, testing knowledge as well as problem solving proficiency. These are written cause and effect relationships that are constantly made in this course, as well as practice in assessing rates and causes of change with time in annual, seasonal and geological periods.

Out-of-class Assignments

Outside reports and projects are assigned to individual students as part of the coursework. Topic outline required for approval by instructor.

Demonstration of Critical Thinking

Each question in each of the six one-hour exams and one final exam is validated and rewritten until it tests reliably for the specific learning level for which it is designed. Practice problems and questions are given for each unit of work as additional homework.

Required Writing, Problem Solving, Skills Demonstration

Short-answer quizzes are given irregularly, testing knowledge as well as problem solving proficiency. These are written cause and effect relationships that are constantly made in this course, as well as practice in assessing rates and causes of change with time in annual, seasonal and geological periods.

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. Earth science: Masters degree in geology, geophysics, earth sciences, meteorology, oceanography, or paleontology OR bachelors

degree in geology AND masters degree in geography, physics, or geochemistry OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Castro/Huber. Marine Biology, 7th edition ed. WCB, 2007

Other Resources

1. Course syllabus (handout) and scantrons (for exam). 2. Accessory handouts for individual units.