

SYLLABUS
BIOL 114 - MARINE BIOLOGY
INSTRUCTOR: Don Samuelson
5 Credits- 3 lecture hours; 5 lab hours per week

TEXTBOOK

A. Required:

An Introduction to the Biology of Marine Life, J.L. Sumich. 1999. WCB, McGraw-Hill.

B. Texts Used for Identification:

Oregon Estuarine Invertebrates, Fish & Wildlife Service, U.S. Department of the Interior
Seaweeds at Ebb Tide, Muriel Lewin Guberlet

Living Shores of the Pacific Northwest, Lynwood S. Smith

Exploring the Seashore in British Columbia, Washington and Oregon, Gloria Snively

Pacific Coast Inshore Fishes, Daniel W. Gotshall

Pacific Coast Subtidal Marine Invertebrates, Daniel W. Gotshall and Laurence L. Laurent

Pacific Coast Nudibranchs, David W. Behrens

COURSE DESCRIPTION

BIOL 114 - Marine Biology, 5 credits

Prerequisite: BIOL 101 or permission of the instructor. General principles of physical, chemical and biological characteristics that constitute the marine environment are presented. All major plant and animal phyla are considered, with emphasis on using keys for identification during laboratory and field exercises. Field trips to various marine waters in Western Washington help the students understand the natural associations of marine organisms and communities within their specialized habitats.

LEARNING OUTCOMES

As students learn about:

- The distribution and cycling of the biologically important inorganic constituents of sea water
- The importance of tides, currents, and up wellings to the Washington costal productivity.
- Community relationships between marine plants and animals within specific habitats
- Marine pollution

- Marine Ecosystems

Students will be achieving the following general education outcomes: critical thinking; and disciplinary learning

Additional general education outcomes will be learned as students:

- Stock and maintain a marine aquarium in the classroom (*using resources; and disciplinary learning*)
- Identify (using taxonomic keys) 100-150 species of marine animals and plants (*using resources; critical thinking, and disciplinary learning*)
- Compare productivity and zonation of marine plants and animals between open coastal, estuarine and protected marine waters, through a team written research report and oral presentation (*critical thinking; literacy; using resources; disciplinary learning; and social and personal responsibility*)
- Maintain a field notebook throughout the quarter (*literacy; and disciplinary learning*)

OTHER INSTRUCTIONAL MATERIALS

A. Films and Videos

1. Sea of Cortez (on Don's shelf)
2. The Intertidal Zone (GHC Library)
3. The Private Life of Plants (GHC)
4. Rivers to the Sea (GHC)
5. Scaling the Salt Barrier (GHC)
6. Sea of Slaughter (GHC)
7. Washington's Wetlands (GHC)
8. Waves and Beaches (GHC)
9. Where the Bay Becomes the Sea (GHC)
10. Great Whales - a film (GHC)

ASSESSMENT

| <u>ITEM</u> | <u>POINTS</u> |
|---------------------------------|----------------------|
| Research Report (outline) | 10 |
| First Draft | 15 |
| Final Written Report | 50 |
| Oral Presentation | 25 |
| Quizzes | 50 |
| Mid-Term Exam | 100 |
| Lab-Mid Term Exam | 50 |
| Aquarium | 50 |
| Specimen Journal/Field Notebook | 100 |
| Lab Final | 50 |
| Final | 100 |
| Participation/Attendance | <u>100</u> |
| | 700 points Total |