Introduction to Marine Life in the Sea (BI/FW 111, 1-credit)

Hatfield Marine Science Center

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Course description:

A field-focused learning experience, this inquiry-based course is a basic overview of the marine life and environment on the Oregon coast, including rocky shores, sandy beaches, mud flats, bays, estuaries, and watersheds. Through lectures, lab and field exercises, students will examine important marine organisms in their habitat; exploring their ecological niches and adaptations to their environment along the Oregon coast.

1 credit unit P/NP: Lecture (9hrs), Labs (8hrs). Labs will include field observations.

Schedule Type: Lecture, Laboratory, Activity, Experiential/Cooperative Education (Field Trips), Project

Prerequisites: High school biology and chemistry

Location: Hatfield Marine Science Center

Dates: Winter Quarter, pre-trip meeting and lecture in Corvallis and 2 full day periods (Saturday-Sunday). Course, or related courses, could be offered multiple times over the quarter. Date: 2/16-17

Course Fee: $50 for transportation, housing and meals.

Course justification:

This lower division experiential course supports the interest of students planning to major in a marine science field and allows undeclared major students to explore the scope of this discipline at OSU. The course is designed to introduce first and second year undergraduates, teachers and non-degree students to the breadth of marine science course offerings and research at Oregon State University’s Hatfield Marine Science Center and surrounding state and federal agencies. Using an experiential based format and the close proximity to the marine environment, this course will provide a unique hands-on learning environment for students to understand marine life and the interdisciplinary nature of the marine sciences.

Course Objectives:

This is an introductory course with an experiential field/laboratory emphasis designed for non-science and potential science majors. The goal of the class is to introduce, inspire and educate undecided or non-science major students about marine organisms and major ocean habitats while informing students about the interdisciplinary nature and value of marine science. The class combines formal lectures, labs and “hands on” field experiences to study marine organisms described in the course.
Category II proposal

The grade for the course will be determined by student lab/field journals, lab/field participation, group discussions and group projects. Students will keep a lab/field journal for recording observations, notes, questions and drawings in the lab and during field observations. Field participation and discussions by students are expected during field observations designed to expose students to local organisms and their ecological relationships. Group projects: Groups of 2-3 students will present their experience in the course and how it may relate to their future directions in education and career. Students will be instructed in the use of Guinn Library resources and have the opportunity to access the facilities at the Oregon Coast Aquarium and Oregon State University's Hatfield Marine Science Center.

Assessment:

Student evaluation for the course will be based on quizzes (20%), lab/field journal (25%), field participation (25%), discussions (10%) and group projects (20%).

Tentative schedule:

*Week prior: Pre course orientation and lecture (1.5 hours)
  - To Bring List (journal, camera, clothes, boots, money, sleeping bag)
  - Logistics (transportation, housing, meals)
  - Expectations
  - Reading Assignment
  - Lecture: Marine Biology Overview: Ecology, Habitats and Organisms

Saturday:

  7:30       Leave Corvallis for HMSC
  7:30-9:00  Arrive at HMSC
  9:00-10:00 Quiz and lecture: Marine Science Research (Welcome, introductions, lab tour, Library, view estuary)
  10:00-11:00 Lecture: Estuaries and Mudflats
  12:00-2:00 Field Observations: Estuary/Mudflat (HMSC)
  2:00-3:00  Wet lab and Quiz
  3:00-5:00  Field Observations: Rocky Intertidal (Seal Rock/Boiler Bay)
  6:00       Marine Science Theme Film (DH or VC auditorium)

Sunday:

  8:30-10:00 Quiz and Lecture: Rocky Intertidal
  10:00-12:00 Field Observations: Docks
  1:00-2:00  HMSC Visitor Center Lab
  2:00-4:00  Group projects
  4:00-5:30 Group Presentations
  5:30-6:00 Final Lecture: The Value of Undergraduate Internship Opportunities
  6:00       Leave for Corvallis

*Mandatory for students enrolled, but open to larger community

Student Learning Outcomes:

a. Define multiple research fields within marine science and examine how these interdisciplinary relationships are addressing different research questions.
b. Identify and describe major marine habitats and taxa.
c. Describe and explain basic trophic relations in the marine environment
d. Illustrate adaptations of major marine organisms in marine habitats: Rocky Intertidal, Estuary and Mudflats, Open Ocean.