

Bergen Community College
Division of Mathematics, Science, and Technology
Department of Biology and Horticulture

Introduction to Marine Biology (BIO-228)

General Course Syllabus
Spring 2016

Course Title:	Introduction to Marine Biology (BIO-228)
Course Description:	This course deals with a basic introduction to marine environments, emphasizing ecological principles governing marine life throughout the world. Topics covered include basic oceanography, marine ecological systems, planktonic communities, deep-sea biology, subtidal and intertidal ecology, estuarine and coral reef communities, human impact, mariculture and pollution. Laboratory sessions will include in-house lab exercises and field experiences.
Prerequisites:	BIO-101 General Biology I and BIO-203 General Biology II
General Education Course:	No
Course Credits:	4 credits
Hours per week:	6.0: 3 hours lecture and 3 hours lab
Course Coordinator:	Robert Dill
Required Lecture Textbook:	Introduction To Marine Biology, Karlesknint, Turner and Small, Current edition.
Laboratory Manual:	Exploring Marine Biology, Laboratory and Field Exercises, Haefner, P.A., Oxford University Press, Lexington, MA, current edition.
SPECIFIC OBJECTIVES:	To acquire an understanding of the general principles of marine biology and the role of marine organisms in global ecosystems. To become proficient in biological methods and techniques which measure various parameters of the marine environment.

Student Learning Objectives

“The student will be able to”:

1. Students will examine the major principles of marine biology and the relationship of marine organisms to all ecosystems. Assessment will be based upon performance on exam questions. Assessment can also be based on research papers.
2. Students will model proper scientific procedure to identify various types of marine organisms. Students will discover the physical, chemical, and biological methods which measure various parameters of the marine environment. Assessment will be based on performance on laboratory practical exams.
3. Students will be able to explain the scientific basis for techniques used in lab, and the field. Students will be required to demonstrate their retention and acquisition of this knowledge by answering exam questions.
4. Students will demonstrate proper scientific laboratory record keeping. Students will be evaluated by grading of lab notebooks.
5. Students will model to practice critical thinking skills, and apply them to lecture material and the analysis of laboratory data. Students will be evaluated by analysis of experimental results in laboratory reports.

Student Assessment Tools:

The above student learning objectives will be generally assessed or evaluated by instructors using a variety of **assessment instruments** including **lecture exams, laboratory exams, quizzes, laboratory reports, written reports, presentations, projects, etc.** The decisions concerning the type or types and number of instruments that are used in a specific section of the course will be left to the instructor of that section. This information, when given by the instructor should be recorded by the student in the **Student Assessment Section** of this document.

COURSE CONTENT:

<u>UNIT</u>	<u>TOPIC</u>	<u>READINGS</u>
1	<u>Introduction To The Marine Environment</u> a. Science and Marine Biology b. Fundamentals of Ecology	Chapter 1, 2
2	<u>Basic Oceanography</u> a. Geology of the Oceans b. Water, Waves and Tides	Chapter 3, 4

3	<u>Classification of Marine Organisms</u>	Chapter 5
4	<u>Marine Microorganisms</u>	Chapter 6
5	<u>Multicellular Producers</u>	Chapter 7
6	<u>Marine Invertebrates</u>	Chapter 8, 9
7	<u>Marine Vertebrates</u> a. Fish b. Reptiles and Birds c. Marine Mammals	Chapter 10, 11, 12
8	<u>Estuaries and Salt Marshes</u> a. Physical Characteristics b. Adaptations of Estuarine Organisms c. Ecology of Salt Marshes	Chapter 14
9	<u>Intertidal Ecology</u> a. Environmental Conditions b. Rocky and Sandy Shores	Chapter 13
10	<u>Tropical Communities</u> a. Coral Reefs b. Mangrove Forests	Chapter 15
11	<u>Coastal Seas and Continental Shelves</u>	Chapter 16
12	<u>The Open Sea</u>	Chapter 17
13	<u>Life in the Ocean's Depths</u>	Chapter 18
14	<u>Human Impact on the Sea</u> a. Fisheries b. Mariculture c. Pollution d. Drugs from the Sea	Chapter 19, 20

LABORATORY SCHEDULE:

Laboratory	1	Temperature, Salinity, Density and Dissolved Oxygen
Laboratory	2	Marine Invertebrate Classification and Identification
Laboratory	3	Benthic Invertebrates
Laboratory	4	Benthic Invertebrates
Laboratory	5	Benthic Meiofauna
Laboratory	6	Aquatic Plants
Laboratory	7	Epibiota of Algae
Laboratory	8	Photosynthetic Pigments of Algae
Laboratory	9	Plankton
Laboratory	10	Fish Morphology and Diversity
Laboratory	11	Internal Anatomy of a Bony Fish
Laboratory	12	Marine Mammals
Laboratory	13	Fouling Communities
Laboratory	14	Sampling and Estuary
Laboratory	15	Sampling the Seashore

Student Assessment:	Lecture Examinations _____	_____ %
	Laboratory Component _____	_____ %
	Student Project/Report _____	_____ %
	Class Participation _____	_____ %
	Other _____	_____ %
	Total	100%

If you have a medical condition or develop a medical condition during this semester, which prevents you from fulfilling the requirements of this course, you must notify your physician. You and your physician must decide whether or not it is appropriate for you to remain in this course. If the decision is to remain in this course, please obtain a letter from your physician indicating that your continued participation in this course is appropriate and present it to the Department Chair.

Faculty Addenda: As per individual faculty member

Lecture Attendance: As per instructor;

Lab Attendance: As per instructor;

Policy Concerning Late Assignments: As per instructor;

Policy Concerning Make-Up Testing: As per instructor;

Safety Information: As per instructor and assigned exercise;

College Policies:

Student Responsibility

Students will be held responsible for reading all pertinent information in college publications regarding withdrawals, course drops, college deadlines, and tuition refunds. Students are responsible for compliance with the rules and regulations as stated in college publications.

Absence of Instructor

Students are expected to wait twenty minutes for a faculty member to come to class. If at the end of twenty minutes, the faculty member does not come, the students should sign an attendance sheet, which indicates the course, date, and time. A student should deliver the attendance sheet to the divisional office (A304) if between 9:00 a.m. and 5:00 p.m. or to the Evening Office (C107) if before 9:00 a.m. or after 5:00 p.m. Students cannot be penalized by faculty for not waiting longer than twenty minutes.

Academic Dishonesty and Plagiarism

Bergen Community College is committed to academic integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. Students are responsible for their own work. Faculty and academic support services staff will take appropriate measures to discourage academic dishonesty. **Plagiarism** is a form of academic dishonesty and may be a violation of U.S. Copyright laws. Plagiarism is defined as the act of taking someone else's words, opinions, or ideas and claiming them as one's own.

Consequences of Violations Academic Integrity

A. Instructor's Sanctions for a Violation

The faculty member will determine the course of action to be followed. This may include:

- Assigning a failing grade on the assignment;
- Assigning a lower final course grade;
- Failing the student in the course
- Other penalties appropriate to the violation;

In all cases, the instructor shall notify the Vice President of Student Services of the violation and the penalty imposed. The student has the right to appeal the decision of the instructor to the appropriate department head.

B. Institutional Sanctions for Violations

When a violation of academic integrity has been reported regarding a student, the Vice President of Student Services may impose disciplinary penalties beyond those imposed by the course instructor, which may include suspension or dismissal from the College. The student shall have the right to a hearing before the Vice President of Student Services or a designated judicial affairs committee. Judicial procedures governing violations of academic integrity are contained in the student handbook.

Class Attendance

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Eating and Drinking

Eating or drinking in classrooms, lecture rooms, laboratories, gymnasium, swimming pool, or passageways is forbidden. Covered beverages only are permitted in the library. Eating and drinking are permitted in cafeteria and vending areas only.

Learning Assistance

Henry and Edith Cerullo Learning Assistance Center

The Tutoring Center, English Language Resource Center, Math Walk-In Center and Writing Center are collectively known as the Henry and Edith Cerullo Learning Assistance Center. The Cerullo Learning Assistance Center is located in the Pitkin Education Building, in Room L-125. The telephone number is (201) 447-7489. The Learning Assistance Center, staffed with peer and professional tutors, offers free individual and group tutoring, supplemental instruction, and online tutoring for subjects offered at the College. The Center provides alternative approaches to problem solving and organizational skills. Tutors help clarify classroom lectures and textbooks and help students prepare for exams. These services build student self-confidence and reduce fear of failure. The Center is equipped with the latest technology and software, including tapes, books, review sheets, exercises and software.

Services for Students with Disabilities

Bergen Community College aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Specialized Services at 201-612-5269 or via email at ossinfo@bergen.edu for assistance.

Sidney Silverman Library

Main Building, Pitkin Education Center, L-wing, 2nd Floor.

Paramus Library Hours: 201 447 7131 or visit

<http://www.bergen.edu/library/calendar/gcal.htm>

Paramus Service Desk: (201) 447-7970

Meadowlands Location: 1280 Wall Street, Lyndhurst 2nd Floor

Meadowlands Library Hours: <http://www.bergen.edu/library/calendar/gcal.htm>

Meadowlands Service Desk: (201) 301-9692

www.bergen.edu/library

Testing Services

The Bergen Community College Office of Testing Services (OTS) is located in Room S-127. OTS serves the college community by identifying, developing, procuring, administering, processing, and/or evaluating examinations, which meet a variety of administrative and instructional needs. To contact the OTS, please call (201) 447-7202. The Office of Testing Services administers makeup tests as a service for students who, for compelling and exceptional reasons, have missed a scheduled classroom examination. Students must receive prior permission from and make arrangements with their course instructors to take these examinations, under specific conditions, in the Office of Testing Services, Room S-127.

WebAdvisor

WebAdvisor is a web interface that allows students to access information contained in Datatel's Colleague, the administrative database used by Bergen Community College. Students may use WebAdvisor to register for classes, to pay tuition and fees, to view their class schedules, to check grades, to check on progress toward degree requirements, etc. WebAdvisor accounts are available for all students enrolled in credit programs. New students are strongly encouraged to attend an in-person registration or advisement session before using a WebAdvisor account. Eligible students without WebAdvisor user names and passwords may access their WebAdvisor account by going to go.bergen.edu and selecting "I'm new to WebAdvisor." Then, follow the on-screen directions. Check the WebAdvisor FAQ for answers to common questions, such as how to reset your password. Students must have a valid e-mail address on file with the College to use WebAdvisor