

Instructor: Dr. Wendy Ryan

Email: ryan@kutztown.edu

"Office Hours": I will be available outside of class time to answer questions or help you with assignments. It would be helpful for you to schedule a time for us to meet, particularly if you know that you are having trouble with a specific assignment or lecture topic.

If you have already disclosed a disability to the Disability Services Office (215 Stratton Administration Building, 610-683-4108) and are seeking accommodations, please feel free to speak with me privately so that I may assist you. If you have an injury sustained during military service including PTSD or TBI, you are also eligible for accommodations under the ADA and should contact Disability Services.

Required Text: *Levinton, J.S., Marine Biology: Function, Biodiversity, Ecology, 5th Ed.*
ISBN: 9780190625276

Note that you will not be expected to read and master all the chapters from the required text, but you will be held responsible for targeted parts of each chapter as assigned. Additional guidance will be provided in lecture each week.

Recommended: Gosner, K. L. (1978) Peterson's Field Guide to the Atlantic Seashore
New York: Houghton Mifflin Co. ISBN 061800209X

Course Description: MAR/BIO 226 Marine Biology

A study of the major groups of marine organisms, their adaptations and distribution within the marine environment. Laboratory work will include methods of sampling, identification, and experimental manipulations. Prerequisite: One year of Biology or consent of instructor. Three semester hours.

NOTE: This course is intended to meet requirements for various science majors, including secondary education. **All non-science majors** should contact the instructor to determine the suitability of this course for their programs!

Course Objectives. At the completion of the course the student shall be able to:

1. Identify major groups of marine organisms at the level of Phylum, Class or Order as appropriate.
2. Categorize marine organisms by lifestyle.
3. Discuss specific adaptations (morphological, physiological and/or behavioral) that allow organisms to survive in the marine environment.
4. Describe the trophic level interactions between the plants and animals of various marine communities.
5. List the major physical factors that affect the distribution of marine organisms.
6. Describe ways in which human activities impact marine organisms.

<u>Point Distribution & Graded Assignments</u>			<u>Final Grade</u>
Lecture exam #1	60 points	≥ 93%	A
Lecture exam #2	60 points	90-92%	A-
Field Exam	25 points	87-89%	B+
Applied Practical Exam	25 points	83-86%	B
Cumulative lecture final	120 points	80-82%	B-
P/F Current events	15 points	77-79%	C+
Lab and field work	195 points	70-76%	C
TOTAL POINTS:	500 points	60-69%	D
		< 60%	F

Attendance and participation in all lectures, field trips and other class activities is MANDATORY! Any unexcused absence will result in the reduction of your overall course grade by one letter grade. Excused absences include medical conditions with appropriate documentation, a documented death in the immediate family, and other occurrences subject to the discretion of the instructor. Contact me immediately to notify me of your situation and to make arrangements for making up missed material.

A Note About Exam Content: The exams will be based on lecture material **and assigned readings** from the text, with about 40% of the questions coming directly from the text! Use the **assigned Review Questions from each chapter** to help structure your study of the material in the text. It is recommended that you write out answers to the Review Questions from the text and those on the Study Guide itself as an aid to preparing for the exams. If you have questions about any of the review material please ask for assistance or clarification, either during lecture or office hours. You may find useful review materials on the publisher's website: <https://arc2.oup-arc.com/access/levinton-5e-student-resources>

LATE ASSIGNMENTS will be docked 10% for each day late. Work submitted beyond the specified time but still on the same day will be subjected to a 5% late penalty.

TENTATIVE LECTURE, FIELD TRIP, AND LAB SCHEDULE

WEEK #1

- Mon **9AM Orientation.** Introductions and Student Survey. Course overview and expectations. Explanation of the Field Notebook and Human Impact assignments.
10-Noon Lecture: Overview of Marine Biology and Oceans. *Text Chapters 1, 2 & 4-6*
1:30PM FIELD TRIP and LAB #1: Habitat Characterization - Biotic and Abiotic Features (40 pts) (**Wallops**)
6:30PM Lab #2: Collaborative group assignment -Organism Identification
- Tues **8:15 AM BOAT TRIP and Lab #1** Continued. (**Monitor, Chincoteague Bay**)
1:30PM Lecture: Introduction to Current Event Assignments. Overview of Plankton and Marine Plants. *Text Chapters 8, 10, & 13*
TBA: Organism ID continue
- Wed **9-11AM Lecture:** Marine Primary Productivity. *Text Chapter 12*
11AM: Set up productivity experiment
1:30PM Lab #3 Plankton Identification and experiment (assignment due in lab)
Field Notebook check!
6:30PM Lab #1 Productivity Experiments concluded
- Thurs **8AM Field Trip and Lab #1:** Continued (**Kayak**)
1:30PM Lab #8 Plastics Project
3PM Lab #4: Experimental design (in-class assignment, computer lab)
- Fri **9AM Exam #1 (All material M-Th, including reading, lectures, etc.).**
1:30PM Lab #5 Invertebrate Behavior and Physiology - design
Current Event #1 Due by Sunday at 11PM
Lab#1 due Sunday at 11PM?

WEEK #2

- Sun **Lab #1 due at 11PM**
Current Event #1 Due by 11PM
- Mon **TBA Lecture:** Overview of Marine Invertebrates. *Text Chapters 7 & 14*
- Tues **8:30AM Lab #5 and Collection Trip – (Big Tom’s Cove)** Consult on projects and start!
1:30PM Lecture: Nekton and their Adaptations. *Text Chapters 6 & 9*
- Wed **8:30-Noon BOAT TRIP:** Collection of Invertebrates **(Monitor)**
1:30PM Lab #5 Continued. Conduct projects!
Current Event #2 Due at 11PM
- Thurs **10AM Lab #6:** Fish anatomy and morphology (in-class assignment)
1PM Lab #6 continued
- Fri **9AM Exam #2 (All material F-Th)**
Lab#5 due Sunday at 11PM?

WEEK #3

- Sun **Lab #5 due at 11PM**
- Mon **9AM Lecture:** Benthic Habitats, Salt Marshes & Mangroves. Text Chapter 15-16
1:30 PM Lecture: Coral Reefs and Fishes. Text Chapter 17
- Tues **9AM Lecture:** Intertidal Habitats. Text Chapters 16
1PM Lab #7: Adaptations of Benthic Invertebrates (**Kiptopeke State Park**)
Review for Field Exam
Current Event #3 Due at 11PM
- Wed **9AM Lecture:** Open Ocean, Deep Sea, and Polar Seas. Text Chapter 18 & 19.
1PM Field Exam plus Field Notebooks! (**Monitor**)
5PM Pack up and clean lab
Lab #8 Plastics project due at 11PM
- Thurs **9AM Lecture: Human Impacts** Text Chapters 21 & 22
11AM Lab #9 Structured Class Discussion on Human Impact
1PM Applied Practical Exam (Data projector and DVD player)
- Fri **9AM Cumulative Final Exam** (All course material)