

Instructors:

Professor Doron Nof, 419 OSB
OFFICE HOURS M 2:00 – 3:00 PM

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Professor Joel Kostka, 317 OSB
OFFICE HOURS M 2:00 - 3:00 PM

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Course Description:

Oceanography combines various aspects of physical, chemical, biological and geological sciences in studies of ocean processes. For example, the ocean and atmosphere are coupled together as a large heat engine which controls global climate. The structure of the sea floor and the physical properties of the overlying water affect the growth and distribution of organisms on the ocean bottom and in the ocean water column.

By the end of the semester you will hopefully appreciate the fact that there is more to the study of the ocean than marine biology. Unfortunately, there is no good text for physical oceanography. Consequently, a text will be used only during the second half of the semester (geology, chemistry and biology) which will be taught by Dr. Kostka. The textbook for the second half of the course will be the SECOND EDITION of *Invitation to Oceanography* by Paul R. Pinet. Make sure that you purchase the SECOND EDITION of Pinet! Older text editions will not be used in this course and will not be helpful. Although for the first half of the course there is no text, a review of the lectures will be available through Target Copy Center.

Lecture and Course Outline:

The first half of the course will start January 6th and end on February 26th. Martin Luther King holiday is January 20th. Spring break is March 10-14 and finals week is April 28 – May 2.

A. First Half of the Semester (taught by Dr. Doron Nof)

Physical oceanography

1. Fractal structure of the coastline
2. Pressure
3. Crossing of the Red Sea
4. Coriolis force
5. Circulation of the upper ocean
6. Crossing of the Red Sea
7. Abyssal circulation
8. Gulf Stream rings
9. El Niño
10. Microstructure of the ocean
11. Waves and tides

B. Second Half of the Semester (taught by Dr. Joel Kostka)

Biological, Chemical and Geological Oceanography

Week	Topic	Please Read
1	Introduction; History; Planet Oceanus	Chapters 1 and 2
2	Plate Tectonics; Marine Sediments	Chapters 3 and 4
3	Properties of Seawater	Chapter 5
4	Marine Ecology; Plankton demonstration	Chapter 9
5	Biological Productivity; Deepsea Habitats	Chapters 10 and 13
6	Coastal Habitats; Saltmarsh Demonstration	Chapter 12
7	Nutrient Pollution; Global Change	Chapter 15

Course Objectives:

This course is designed for lower-division, undergraduate non-science majors. It may be used to fulfill a portion of the Natural Science requirements of the Division of Undergraduate Studies. Specific course objectives are: (1) Gain an understanding of the structure of the sea floor, the water masses and currents in the different ocean basins, and the processes which control the distribution and abundance of

organisms in the sea. (2) Gain a basic understanding of how oceanographic research is performed and how the results contribute to our understanding of planet earth. (3) Gain an understanding of the scientific method as it is applied to oceanography.

Class Attendance:

We expect that you will attend scheduled classes because much of the material presented in class is not contained in the textbooks. Testing will cover both textbook and lecture material. You are expected to stay for the entire class period (i.e., until the instructor announces its termination) unless you have to leave because of an emergency.

Course Evaluation:

Each section of the class will determine 50% of your total grade (Nof's part is 50%, Kostka's part is 50%).

During the first half of the semester there will be:

1. Two period-long examinations, one on January 29th and the other on February 26th.
2. Two short (10 – 15 min) unannounced (pop) quizzes will be given at the end of some classes. The material of the class during which each quiz is held will be included in the quiz.
3. Homework exercises will be given periodically.

During the second half of the semester there will be:

1. One period-long examination approximately 4 weeks before the end of the semester
2. Two short (10 – 15 min) unannounced (pop) quizzes will be given at the end of some classes. The material of the class during which each quiz is held will be included in the quiz.
3. Homework assignments
4. A final examination will be given during finals week (April 28 – May 2). This final will include only the material from the second half of the semester.

Students are required to deliver homework exercises at class time on the date homework is due and to take all examinations. The homework exercises will be graded and returned. At the end of the second half of the semester, the cumulative homework score will be treated as equivalent to one examination score. If it is greater than the lowest examination score, the cumulative homework score will be substituted for the lowest examination score. Make-up examinations and quizzes will not be given. The homework score will be substituted for a zero-valued examination score, however. The total exam grade will constitute 75% of the final grade and the four pop quizzes will constitute the remaining 25%. Note that, as mentioned, one long exam score can be replaced with the total average of the homework grade and that the lowest quiz score will be dropped.

Final grades will be assigned using a modified "curve" method based on the statistics of normal distributions of scores. There are no previously defined quotas for any grade, however, and we hope you all attain high scores. After examinations have been scored, grades will be posted using social security numbers (in numerical order). If you do not want your grade posted in this fashion, please inform the instructor and an alternate arrangement will be made.

Help:

Teaching assistants are Cathrine Sandal (644-7466), sandal@ocean.fsu.edu, 424 OSB, office hours T Th 11:00 – 12:00; Michael Teasdale (644-2599), 505 OSB, office hours M W 10:00 – 11:00, teasdale@ocean.fsu.edu; Jerome Perry (644-6753), jperry@mailier.fsu.edu, 315 OSB, office hours M F 11:00 – 12:00. They will be available to answer questions you may have about course lecture material, homework assignments, or examination question responses. If you have conflicts with the scheduled office hours, you can schedule a special meeting with any TA.

The large size of the OCE 1001 classes can appear intimidating to new students. All of us have taken courses of this nature and we understand the kinds of problems that can develop this semester. We are here to help you learn, and we encourage you to talk to us if you experience problems. Please do not wait until the end of the semester if you are not doing as well as you might wish to in this course.

Final Exam

Friday 5/2 3:00 – 5:00 PM

Note that this date is fixed and cannot be changed.