Course Title: Introduction to Oceanography  
Catalog No: MAR 105  
Instructor: Staff  
Semester: Fall, 2008

COURSE DESCRIPTION
Life in the ocean is studied against a background of its interaction with the physical, chemical and geological environment. Lectures, laboratory exercises, and field trips explore the fundamental properties that underlie oceanic phenomenon. This course is designed for non-science students.

COURSE OBJECTIVES:
By the end of the course, students will be able to...
1. Apply the Scientific Method in the laboratory/field experiences. Students will employ critical analysis and synthesis of concepts. Students will conduct research in individual and group projects.
2. Explain the internal structure of the earth. Integrate the concepts of Sea Floor Spreading and Continental Drift into a theory of Global Plate Tectonics. Explain the formation of ocean basins, continents, volcanoes and earthquakes in the context of this theory. Explain the distribution of oceanic sediments.
3. Explain why the properties of water that make it a universal requirement for life. Define salinity and the major, minor and trace components in seawater. Analyze graphically, the relationship between temperature, salinity, density, and pressure with depth in the ocean. Identify toxins in the water that destroy marine environments.
4. Define and describe, compare and contrast: surface wind driven currents and deep thermohaline currents. Name the major currents of both types. Define the characteristics of a wave and how wave dynamics apply to the shore. Show how tides are generated during spring and neap tide cycles and how they affect the shore.
5. Identify the organisms in the major marine (plant, invertebrate and chordate) phyla. Explain the strategies that have enabled their adaptations to their specific marine environment. Interpret the distribution of life in the oceans and other marine environments in the context of their adaptations.
6. In writing, describe how these organisms interact in marine ecosystems. Provide examples of environmental problems facing marine environments. Evaluate steps that can be taken to improve these conditions.

ATTENDANCE:
The College expects that each student will exercise personal responsibility with regard to class attendance. All students are expected to attend every class session of each course for which they are registered. Students are responsible for all that transpires in class whether or not they are in attendance. In MAR 105, absence from more than one laboratory will result in a failing lab grade and will result in removal from the class roster (W). A student may be removed from the class roster by an instructor at any time when, in the judgment of the instructor, absence/lateness has been excessive or when a student is disruptive or disrespectful.

REQUIRED BOOKS:
Laboratory: Various hand-outs and supplements (dependent upon Instructor)
GRADING:

Lecture: Two-Three lecture exams will be given. These constitute 20-30% of your course grade.

Laboratory: Your laboratory grade will constitute 30-40% of your course grade. It will be based on 4 laboratory assignments and field trip attendance and participation.

Final Exam: A cumulative final exam will constitute 20-30% of your course grade.

“Project” In some sections an individual research project may be required and will constitute a percentage of your final grade. Individual instructors will provide details in their supplements to the Course Outline.

Withdrawal: The last “official” date to withdraw from the course is posted each semester but some instructors will accept later withdrawals. Please see individual instructor for exceptions.

ADDITIONAL (General) COURSE INFORMATION:

Course and Lab Schedule/Materials:

The following subjects may be covered in your lecture material (in approximately the following order): History (of Oceanography and Local Environment), Long Island Oceanography and Local Waterbodies, The Structure of the Earth, Plate Tectonics, Ocean Basins, Seawater and Chemical Composition of Water, Atmospheric and Oceanic Circulation including the Coreolis Effect, Waves, Tides, Coasts and Beaches, Marine Biology and Ecology and “Use and Abuses of the Oceans.”

The following labs may be completed during your weekly Laboratory sessions (in approximately the following order): Scientific Method, Plate Tectonics, Ocean Contour, Ocean Circulation Sediment Analysis (with associated field trips for data collection), The “Perfect Storm,” Salinity, Temperature and Density, Waves, Capstone (discussion) and Marine Biology.

Additional Notes:

FIELD TRIPS:

This course involves various field trips. As you’ll note from the syllabus, some are held during class/lab hours but 1 (or more) required/optional trips will be offered on Weekends. It is understood that some students have other commitments but you are encouraged to make arrangements to attend the trips. They are the best part of the course, as past students will tell you. If you cannot attend the field trips, make-up projects and/or papers must be completed for each missed trip. Again, the details of these field trips and make-up assignments will be distributed early in the semester.