

Introduction to Oceanography

EAS 4300 / 6124 FALL 2012



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SYLLABUS

INSTRUCTORS:

Prof. Emanuele Di Lorenzo
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Prof. Taka Ito
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CLASS:

ESM 212, MWF 12.05 - 12:55 PM

TEXT:

Introductory Oceanography by Thurman
(available at bookstore or web)

TA:

Yisen Zhong (TA)
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OTHER REFERENCES: (not required and available in the library TBA): Open University Series: Ocean Circulation; Seawater: Its Composition, Properties and Behavior; Waves, Tides and Shallow Water Processes; The Ocean Basins: Their Structure and Evolution; Ocean Chemistry and Deep Sea Sediments; Pond and Pickard, Introduction to Dynamical Oceanography, 2nd edition;

COURSE PHILOSOPHY AND GOALS: This course is an introduction to the ocean sciences, with particular focus on the role of the ocean in the geological, biological, chemical, physical, climatic, and human aspects of the Earth system. The class will cover the following topics: the origin of the ocean basins, marine sedimentation, properties of seawater, ocean circulation, waves, tides, shallow water processes, aspects of marine ecology, biological productivity, coastal processes, ocean habitats and their biota. We will also cover some interdisciplinary aspects of oceanography like El Nino, Global Warming, The Carbon Cycle, Iron and Biogeochemical Cycles, Life in the Deep Ocean and Hydrothermal Vents, Oceanography from Space, Deep Ocean Explorations. Several classes will be devoted to topics in "Energy from the Oceans". A detailed outline of the lectures is available on the course website. There are NO previous course requirements. However the students are expected to be familiar with basic scientific approaches, concepts and methods. Simple quantitative skills in homework and on exams are required. You are expected to be able to read, interpret and construct graphs and maps. Use of the class website and simple personal computer skills (e.g., email, word processing) will be important. If you have any trouble in accessing the web, word processing and email please

come and see me during the first week of class.

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HOMEWORK: There will be one homework assignment for each of the 13 chapters of the book covered during the semester. The homework will be assigned on Monday and due the following Monday. No late homework will be accepted without prior arrangements. It's great to work outside of class with friends, but material turned in must be your own thoughts and in your own words. You will also be asked to turn in an essay on one of the special interdisciplinary topics.

EXAMS: There is going to be a MIDTERM and FINAL EXAM. Exams will emphasize a general understanding of the topic, rather than the ability to memorize details. Diagrams from the textbook that are shown in class are likely to be used during exams. There may also be some short-answer, multiple-choice, and true-false questions. Review sessions are scheduled a week before each exam. Make-up exams will only be given in exceptional situations and must be cleared with instructor ahead of time.

GRADING: 20% Homework, Class Participation 15%, 25% Midterm, 40% Final

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