



Marine Science 301

Physical Oceanography

Spring 2006

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Webpage: <http://kingfish.coastal.edu/physics/msci301/>

Class Times: MWF 9:00 – 10:50

Texts: **Ocean Circulation**, the Open University Team
 Waves, Tides and Shallow Water Processes, The Open University Team
 Introduction to Physical Oceanography, John Knauss (on reserve)
 WebAssign License

Description: MSCI 301 is a one semester course intended to introduce marine science majors to the concepts of physical oceanography. It is a calculus and physics based course, so students are required to have completed their major requirements for Physics 211/212 before enrolling.

Goals: The goals of this course are for students to learn the concepts of physical oceanography in an inquiry-based, technology-rich setting, and to learn to apply them to real-world problems. To this end, the students should become familiar and comfortable with the concepts of global heat fluxes, the properties of seawater, data collection methods, waves and tides, estuary dynamics, the hydrodynamic equations of motion and how they apply to global ocean circulation. The specific learning objectives for this course are listed separately in the syllabus.

Structure: **Lecture/Lab** - The most obvious difference between this and a traditional course is that the lecture and lab are combined into a single session that meets three times a week for two hours at a time. This allows more flexibility with time and activities. It is important to realize that because of the interwoven nature of these two parts of the class, *you will receive the same grade for both lecture and lab.*

Reading - There will be a reading assignment to be completed before each class. This is an extremely important aspect of the class. I expect you to have completed the reading before class to gain an introduction to the material. Class-time is where we discuss and apply the concepts that you have read about - it is not meant to be the place where you hear about a concept for the first time. There will be online quizzes on the reading due before the beginning of each class. If you miss class or forget the reading assignment for the next class, check the class schedule, read the next section in the book and do the online quiz.

Homework - We will be using WebAssign, the on-line homework system. You may use the link on the course webpage, or you may go directly to <http://www.webassign.net/>. To access WebAssign, you must have access to a computer with a recent edition of a browser (Firefox, Safari or Internet Explorer). If you do not have this at home, you should use one of the computer labs on campus. You must also keep a notebook with your solutions to the WebAssign problems; this will be collected and checked periodically. Your WebAssign

username is your first initial and the first seven (at most) letters of your last name. Your school-name is 'coastal'. Your initial password will be your username, you can and should change this once you log in. You must buy a WebAssign license; these are available at the bookstore. You have a two-week grace period in which you can use WebAssign without a license.

Groups - You will be arranged into working groups of four for the semester. You will stay in these groups and work together during class, and hopefully outside of class. As an incentive to work together and help each other, if the average score of your group is 75% or above for any exam, each group member will receive an extra 5 points on that exam.

Exams: There will be three exams during the semester, plus the final exam during exam week. The exams will be during class-time, and are identified on the course schedule. I reserve the right to change the time of exams should it be necessary. Ample notice will be given.

Attendance Policy: Class attendance is vital to your understanding of the subject. If you miss more than four classes (excused or unexcused) , your final grade will be dropped by a letter grade. If you miss more than eight, you will automatically receive a failing grade for the course. Note that the grading scheme is designed so that if you do all your work and come to class, you can fail every exam, and still get a C in the class. By the same token, if you don't do the homework, and you don't come to class, you can get 100% on every exam, and get an F in class.

Etc. One of the themes of this class is personal responsibility. Your grade in this class will depend on the effort you put into it. If you are having difficulties, come talk to me. I will help you in any way that I can.

If there are special circumstances that the instructor should be aware of, such as a learning disability or a planned unavoidable absence, it is your responsibility to bring this to the attention of the instructor early in the course.

Academic Honesty: Cheating and Plagiarism are serious offenses at any academic institution. They are defined for Coastal Carolina University in the Student Handbook (p. 37-38). For this course, some assignments are meant to be collaborative (labs, group activities), some are meant to be largely your own effort with outside help allowed (homework assignments), and some are meant to be completely your own effort (exams). For this course, a first cheating or plagiarism violation will result in a 'zero' grade for that assignment. A second will result in an automatic failing grade for the course.

Grading:	Exams	50%
	Problem Sets (Homework)	20%
	In-class Work	20%
	Quizzes and etc.	10%

A	90-100		
B+	85-90	B	80-85
C+	75-80	C	70-75
D+	65-70	D	60-65

Revisions: This syllabus describes the course as best it can. The instructor reserves the right to make changes in its content. If changes must be made to it during the semester, students will be immediately notified.