



**Course** OCEAN SCIENCE - GEOS-5302-521  
**Professor** Dr. Ignacio Pujana  
**Term** Summer 2006- 05-15-06 to 08-01-06  
**Meetings** TR 05:00-06:50PM JO 3.516

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### Professor's Contact Information

**Office Phone** 972-883-2461  
**Other Phone** 972-883-2401  
**Office Location** FO 2.616  
**Email Address** pujana@utdallas.edu  
**Office Hours** After every class

### General Course Information

**Pre-requisites, Co-requisites, & other restrictions** This course is for students seeking the M.A.T. degree and cannot be used to satisfy degree requirements of geosciences majors.

### Course Description

Overview of geological, chemical, physical and biological aspects of oceanography, marine resources and environmental concerns. This course focuses on a scientific understanding of the world's oceans, the dominant feature of Earth's surface. The student will learn about: Origin of the universe, solar system and oceans; history of oceanographic knowledge; features on the ocean floor and their role in plate tectonics; sediments on the sea floor and how they are used to interpret the history of the oceans; chemistry of seawater; the role of the oceans in controlling weather; what causes tides, currents and waves; and life in the ocean. Last unit describe the problems and issues associated with exploitation of biological and mineral resources from the sea.

### Learning Outcomes

- Describe, in general terms, the geography of the world's oceans.
- Explain how our planet, its oceans and its life forms originated.
- Understand and explain plate tectonics.
- Describe the chemical and physical properties of seawater.
- Know the processes that characterize water movement in the world's oceans.
- Describe the relationship between oceans and climate
- Explain the type and distribution of ocean sediments, the processes by which they are deposited, and how the coastline influences this process.
- Know the organisms that live in the ocean and the factors that control their diversity.
- Describe the natural resources available from the ocean and the ocean's role as a waste disposal site.
  - Understand and appreciate the relationship of the ocean to everything that we do on our planet.

### Required Texts & Materials

**Essentials of Oceanography -3rd edition-or the 4<sup>th</sup> by Tom Garrison.** The old book Essentials of Oceanography - 2nd Edition by the same author is no longer supported.

**Suggested Texts,  
Readings, &  
Materials**

Test materials will be taken both from the textbook, handouts, and lectures. Tests will include approximately 50 multiple choice, fill in the blank, T/F, sketch/diagram, or short answer questions. Four tests will be required (see schedule of lectures) including a mid term and a last test. The first test will assess your knowledge of material covered in Units 1 to 4; the second will be over material covered in Units 5 to 8, the third tests will test Units 8, 9 and 11, and finally the remaining units will be evaluated in the last Test.

A Fifth optional test will be offered to the end of the semester, this test will replace the lowest grade on the previous four. This Fifth test will be comprehensive, hence including all units.

**Assignments & Academic Calendar**

WEEK	DAY		
1	T.-May 16	Unit 1:Introduction and History of Oceanography	Chapter 2
1	Th.-May 18	Unit 2:Origins	Chapter 1
2	T.- May 23	Unit 3:Earth Structure and Plate Tectonics	Chapter 3
2	Th.-May 25	Unit 3: Earth Structure and Plate Tectonics	Chapter 3
3	T.-May 30	Unit 4: Ocean Basins	Chapter 4
3	TH.- June 1	<b>Test 1 Units 1, 2, 3, and 4</b>	
4	T.- June 6	Unit 5: Sediments	Chapter 5
4	TH.- June 8	Unit 6: Water	Chapter 6
5	T.- June 13	Unit 7: Atmospheric Circulation	Chapter 7
5	TH.- June 15	Unit 8: Ocean Circulation	Chapter 8
6	T.- June 20	<b>Mid Term:</b> Units 5, 6, 7 and 8	
6	TH.- June 22	Unit 9: Waves	Chapter 9
7	T.- June 27	Unit 10: Tides	Chapter 10
7	TH.- June 29	Unit 11: Coasts	Chapter 11
8	T.- July 4	Holiday	
8	TH.- July 6	<b>3<sup>rd</sup> Test Units: 9, 10, and 11</b>	
9	T.- July 11	Unit 12: Life in the Ocean	Chapter 12
9	TH.- July 13	Unit 13: Pelagic Communities	Chapter 13
10	T.- July 18	Unit 14: Benthic Communities	Chapter 14
10	TH.- July 20	Unit 15 Uses and Abuses of the Ocean	Chapter 15
11	TH.- July 25	<b>4<sup>th</sup> Test Units 12, 13, 14 and 15</b>	
11	T.- July 27	5:00 pm Final FIFTH OPTIONAL TEST	COMPREHENSIVE

**Course Policies**

<b>Grading (credit) Criteria</b>	<p>Each test contributes equally towards 75 % of your grade the remaining 25% will be from three short papers in accordance with the following guidelines:</p> <ul style="list-style-type: none"> <li>The papers must be in three of the four subfields of oceanography: geological, chemical, physical and biological.</li> <li>Each paper should be about 5 pages with references.</li> </ul> <p>The specific topic of each paper must be cleared in advance with the instructor.</p> <p>You can keep track of your grades by checking the course WebCT page (link available on the UTD homepage). The final grade is based on the following percentile divisions A+: 97.1-100; A: 93.1-97; A-: 90.1-93; B+: 87.1-90; B: 83.1-87; B-: 80.1-83; C+: 77.1-80; C: 73.1-77; C-: 70.1-73, D=60.1-70, F&lt;60.</p>
<b>Make-up Exams</b>	<p>Tests will be taken only during the scheduled in-class period, unless the instructor agrees to reschedule an individual's test as the result of a prior agreement, or a doctor's excuse certifies the student was too ill to attend class the day of the examination. If you have health problems, or extenuating circumstances, please contact the instructor as soon as possible so arrangements</p>

	can be made.
<b>Extra Credit</b>	Attendance may count as much as 5 % of your grade.
<b>Late Work</b>	none
<b>Special Assignments</b>	None
<b>Class Attendance</b>	Highly Recommended
<b>Classroom Citizenship</b>	According with UTD guidelines
<b>Field Trip Policies</b>	No Field trip
<b>Student Conduct and Discipline</b>	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).</p> <p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>
<b>Academic Integrity</b>	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.</p> <p>Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.</p> <p>Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
<b>Email Use</b>	The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each

	<p>individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.</p>
<p><b>Withdrawal from Class</b></p>	<p>The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.</p>
<p><b>Student Grievance Procedures</b></p>	<p>Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i>.</p> <p>In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.</p> <p>Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.</p>
<p><b>Incomplete Grades</b></p>	<p>As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of <b>F</b>.</p>
<p><b>Disability Services</b></p>	<p>The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.</p> <p>The contact information for the Office of Disability Services is:  The University of Texas at Dallas, SU 22  PO Box 830688</p>

	<p>Richardson, Texas 75083-0688 (972) 883-2098 (voice or TTY)</p> <p>Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.</p> <p>It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.</p>
<p><b>Religious Holy Days</b></p>	<p>The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.</p> <p>The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.</p> <p>If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.</p>
<p><b>Off-Campus Instruction and Course Activities</b></p>	<p>Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at <a href="http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm">http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm</a>. Additional information is available from the office of the school dean.</p>

*These descriptions and timelines are subject to change at the discretion of the Professor.*