

Marine Science 307/Geoscience 307
Introduction to Oceanography
Spring 2013

Unique Numbers 55220-55270 (MNS 307) and 27385-27455 (GEO 307)

Instructor: Dr. Dong-Ha Min
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Office hours: Tue. 11:30–1:30 p.m., BIO 114AC



LECTURE: Tuesday & Thursday 10:00 – 11:00 a.m., BUR 106

Your **LAB SECTION** meets weekly in **WEL 5.110**. You must attend the correct laboratory section (the one for which you are registered) in order to get credit.

Teaching Assistants (Office: BIO 405):

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Laboratory Coordinator: Heather A. Herrick heather.herrick@austin.utexas.edu
Office: BIO 12G
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Official course description: Introduction to the sciences of oceanography: geological, physical, and biological. Two lecture hours and two laboratory hours a week for one semester.

Prerequisites: none

Other course statements: May not be counted toward the Bachelor of Arts degree with a major in geological sciences, the Bachelor of Science in Geological Sciences (Option I), the Bachelor of Science in Geological Sciences (Option II), or the Bachelor of Science in Geological Sciences (Option III).

Course Goal

The primary goal of this course is to foster an appreciation for the ocean, its precious resources and complex ecosystem, and fundamental mechanisms governing different processes. Additionally, by enhancing their knowledge of ocean, students will develop critical thinking skills about the important marine and environmental issues facing our society including climate change, natural disasters, overfishing, and water pollution.

Course Objective

This course is primarily designed for non-science majors as an introductory and multi-disciplinary exploration of the marine environment. We will explore the physical, chemical, geological, and biological processes that influence ocean characteristics and discuss how the ocean directly influences human society including its connections with climate, ecology, and coastal economics. Throughout this course, students will be asked to (i) apply their newly learned knowledge to the relevant hands-on lab activities, (ii) demonstrate their understanding through various quiz and test activities, and (iii) write their newly gained perspectives on blogs. By completing this course, students will be able to (i) identify and demonstrate fundamental principles and key concepts of marine science, (ii) express clear view on global to regional scale marine and environmental issues based on scientific facts, and (iii) demonstrate new insights gained for the complex yet sophisticated and interconnected marine systems and organisms. These may help them to make informed decisions in their daily life experiences beyond this class.

Textbook

An Introduction to the World's Oceans, 10th edition, by Sverdrup and Armbrust (ISBN-13 9780073376707). Here are the textbook web sites, where you can find study guides, additional links, etc.

<http://catalogs.mhhe.com/mhhe/viewProductDetails.do?isbn=0073376701>

<http://highered.mcgraw-hill.com/sites/0073376701/>

The online or downloadable version can be accessed from:

<http://www.coursesmart.com/007727279X>

Also, you *must purchase a course packet for the laboratory* at the UT Copy Center in Welch Hall, **WEL 2.228**.

Course web site

The **Blackboard** site for this class (see <https://courses.utexas.edu>) will be used extensively. Copies of lecture and laboratory notes will be posted under the Course Documents folder for you to print and take notes on. We will also post the syllabus, announcements, assignments, blogs, and discussion forum on the site. The grades of pre-lecture assignments, clicker quizzes, blogs, labs, midterm and final exam will be posted on the site.

Pre-lecture assignment

Every week, **beginning January 21**, you will be *required* to complete a **pre-lecture quiz** on Blackboard. Each quiz will consist of about five multiple-choice questions about the chapter(s) you will study that week. One or two of the questions will be asked from one of the previous *Science and the Sea* radio/podcast episodes (<http://scienceandthesea.org>). Each week's quiz will be available on Blackboard (look under "Assignments") beginning at noon on Saturday. ***You must complete each week's quiz by 9:00 pm on Monday***. The assignment is open book and you can take as long as you need to complete it (except that it needs to be done by the deadline). Make sure you click "**submit**" at the bottom of the page when you are done. Without this step your answers are not processed as

“Submitted” but stay as “In Progress.” Please do not forget to complete the quizzes because they offer easy points!!

Support for using Blackboard is provided by the ITS Help Desk (FAC200-B) at 475-9400, Monday through Friday 8 a.m. to 6 p.m.

In-class i>clicker quiz

We will be using an in-class response system called “i>clicker”. You are required to purchase an **i>clicker remote** for in-class quiz participation. i>clicker is a response system that allows you to respond to questions we pose during class, and you will be graded on that feedback and/or your in-class participation. In order to receive this credit, you will need to register your i>clicker remote at the Blackboard **or** at the i>clicker website **within the first two weeks** of class. You must have come to class at least once and voted on at least one question in order to complete this registration properly. Once you have voted on a question in the class, go to the Blackboard course site. Complete the fields with your first name, last name, student ID, and remote ID. Your student ID should be **your UTEID**. The remote ID is the series of numbers and sometimes letters found on the bottom of the back of your i>clicker remote. i>clicker will be used every day in class, and you are responsible for bringing your remote daily. Some students forget to register even after they have purchased and even used the remote in the class, causing extra work and confusion to the instructor. Those who register the i>clickers past the given deadline (i.e. within 2 weeks) will get their credits from the day they have registered and not for the previous sessions. For those who have used i>clickers in the past, all students are required to register at the beginning of each school year. Registrations are kept for the fall and spring semesters and the database is cleared in the late summer just before the start of the school year. Any student that registered in the spring semester or in the early summer is required to register again.

“i>clicker”

You are required to purchase a clicker at the Co-Op (Gen2 remote \$48, older Gen1 \$40) and register it through the Blackboard course site. There is no separate registration fee. Here’s how:

1. Log on to the Blackboard course site.
2. Go to “Blackboard Tools” menu.
3. Click “Register your i>clicker remote ID”
4. Enter your “i>clicker remote ID”

Each week, at various points during lecture, we will ask several questions to which you will respond using your clickers. Your ***participation in these in-class quizzes will be graded*** as follows:

- A. If you bring your clicker, and answer more than 65% (or 2/3) of the questions, you will receive full credit (100 points). If you do not answer more than 65% (or 2/3) of the questions, you will receive half credit (50 points).

- B. If you bring your clicker but it does not work, or if you forget your clicker entirely, you can receive half credit by signing your full name and providing your UTEID on a signup sheet (You may receive zero credit for the particular session if it happens more than 3 times during the semester).
- * Note, you must purchase the clicker and register it. If you do not purchase and register a clicker, you will receive no credit for in-class quizzes.
 - * We will start to use the clickers from the first class meeting.
 - * Remember to bring your clicker and extra batteries (AAA).

Problems with your clicker? Call the ITS Help Desk (FAC 200-B, 475-9400, www.utexas.edu/its/helpdesk/forms/emailform.php), or i>Clicker's tech support line (1-866-209-5698, support@iclicker.com). What if you bought a used clicker but the serial number on the back is missing? What if your clicker seems to have a problem? There is a spare receiver at the ITS Help Desk on which you can test your remote. The CO-OP store also has one.

Course blogs

We will make an **Introduction to Oceanography course blogs** in Blackboard. **Each student** is expected to post **at least 1 blog entry per each month during the 2/01 (Fri)-4/30 (Tue) period (i.e. total of at least 3 entries during the semester). The entries will be graded at the end of each stated month, and the entries have to be spread out over the 3-month period. Late submission will get zero for that time period, although allowed to be posted anyway. The blog entries for each month should be posted before the end of last day for the month to get credit (i.e. by 11:59 pm of last day), although the blogs will be grouped by week (i.e. bracketed from Saturday to Friday each week).**

Students write a **short paragraph (more than 250 words or 20 lines) about their enlightenment/perspectives of new knowledge learned** from the class, textbook, lab, or other sources (e.g. Science and the Sea podcasts, New York Times Science articles, etc.). **The posting is with your own perspectives and brief description of your base material, but is NOT a summary of news itself.** The typical blog entry would consist of a short paragraph or two of text, and any relevant URL link or graphic image with proper citation or source information. See the example blog entry posted in the Blackboard blog site. Make sure you write a title of your entry in the title box, and enter the contents in the text editor. Please "attach image" INSIDE the text editor, instead of outside the editor so your attached graphic can be readily viewed on the posting. Write your text within the text editor instead of attaching a document file. Always **write your name and section# at the bottom of the content**, so TAs can keep track of your postings. Do not write your EID in your posting. You can change the size of the image after you attach it, but consider keeping its size less than 400x600 (or 600x400). The posting will be made with your name, and anonymous posting or comment is not allowed. You are welcome to add comments to other students' posts, but please be courteous and positive in your feedback. Any inappropriate or offensive comments will be removed. You may post more than one entry per month, but **only one entry will be counted for credit for each month.**

Course Requirements and Grading

Your grade for the course will be determined as follows:

- 15% - Midterm exam 1 (1-hour exam on Chs. 1-5)
- 15% - Midterm exam 2 (1-hour exam on Chs. 6-9)
- 20% - Final exam (2-hour exam on Chs. 10-18)
- 08% - Blackboard Pre-lecture assignments (see description above)
- 07% - In-class clicker quizzes (see description above)
- 05% - Course blogs (see description above)
- 30% - Laboratory Average

The lab grade in turn is determined as follows:

- 80% - Lab Assignments (quizzes and weekly lab exercises)
- 20% - Laboratory Practical

More information on lab grading is given in the Lab Manual and will be explained in detail by your TA on the first day your lab section meets.

Final letter grades for the course will be assigned as follows, after rounding numerical grades to half-numbers.

- A : 91 and above
- A-: 87 – 90.5
- B+: 84 – 86.5
- B : 81 – 83.5
- B-: 77 – 80.5
- C+: 73 – 76.5
- C : 68 – 72.5
- C-: 58 – 67.5
- D+: 51 – 57.5
- D : 43 – 50.5
- D-: 35 – 42.5
- F : less than 35

Exceptions to these grades will not be made after the final exam has been graded, unless a grading error, by the professor or teaching assistant, is verified. Extra credit to improve grades will not be allowed.

Missed work

All missed quizzes (pre-lecture assignments and in-class clicker quizzes) will receive a grade of zero. In the case of an anticipated, valid absence from a lab or exam, for example a religious holiday or university-sponsored event in which your participation is required, you **must** inform your TA and arrange for make-up work at least two weeks in advance. An unanticipated absence from the midterm or final exam for documented, valid (e.g., medical, family emergency) reasons can be made up if the instructors are informed within 24 hours.

Do not change lab sections. Meet with regularly assigned lab sections unless prior permission is received to make up or attend another section. If you are unable to attend your scheduled lab section for any reason, you will **only** be allowed to make-up that lab if you have **official documentation** of a legitimate reason (e.g. personal or immediate family emergency, school's official event participation, or religious holy day). This documentation must be approved by Ms. Heather Herrick in BIO 12G before you will be allowed to attend a different lab section or make up a lab. Please see her at least **2 weeks in advance** of the conflict when possible.

The University of Texas Honor Code

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community (University Honor Code: <http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html>).

Academic Integrity

We encourage you to discuss course material in and outside of class; this includes consulting with your neighbors during in-class clicker questions or labs. However any work turned in under your name must represent your own efforts; ***cheating and plagiarism in any form will not be tolerated***. Students are expected to be familiar with definitions of scholastic dishonesty, standards of conduct, and the discipline processes of the University. Please see the Student Judicial Services web site (<http://deanofstudents.utexas.edu/sjs/>) for more information, and don't hesitate to ask us if you have any questions about your own or others' conduct.

University E-mail Notification Policy

(excerpted from <http://www.utexas.edu/its/policies/emailnotify.html>)

It is the responsibility of every student to keep the University informed of changes in his or her official e-mail address. Consequently, e-mail returned to the University with "User Unknown" is not an acceptable excuse for missed communication. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week.

Official University communications sent by e-mail are subject to the same public information, privacy and records retention requirements and policies as other official University communications.

Religious Holy Days

By UT Austin policy, you must notify us of your pending absence **at least fourteen days prior to the date of observance of a religious holy day**. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Accommodations for Students with Disabilities

The University of Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities (Office of the Dean of Students) at 471-6259, or 471-6441 TTY

(<http://www.utexas.edu/diversity/ddce/ssd/>). In other words, students with disabilities who need special accommodations need to get a letter documenting their disability from the Services for Students with Disabilities (SSD) Office of the Office of the Dean of Students. This letter must be provided to the instructors as soon as possible. We will make every effort to accommodate your needs.

Prohibition of Sexual Harassment of Students

It is the policy of the University of Texas at Austin to maintain an educational environment free from sexual harassment and intimidation. Sexual harassment is expressly prohibited and offenders are subject to disciplinary action (<http://www.utexas.edu/student/registrar/catalogs/gen-info/appD.html>). The Office of the Dean of Students has been given the primary responsibility for responding to questions about and receiving complaints of sexual harassment of students.

Emergency Evacuation Policy

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building. **Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.** In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

Lecture schedule, topics, and reading assignments

<i>Date</i>	<i>Topic</i>	<i>Reading (textbook)</i>
Jan. 15	Introduction to the course	
Jan. 17	History of oceanography	Ch. 1
Jan. 22	The water planet	Ch. 2
Jan. 24	Plate tectonics	Ch. 3
Jan. 29	Plate tectonics	Ch. 3
Jan. 31	The sea floor and its sediments	Ch. 4
Feb. 05	The sea floor and its sediments	Ch. 4
Feb. 07	The physical properties of water	Ch. 5
Feb. 12	Midterm exam 1	
Feb. 14	The chemistry of seawater	Ch. 6
Feb. 19	The structure and motion of the atmosphere	Ch. 7
Feb. 21	The structure and motion of the atmosphere	Ch. 7

Feb. 26	Circulation and ocean structure	Ch. 8
Feb. 28	Circulation and ocean structure	Ch. 8
Mar. 05	The surface currents	Ch. 9
Mar. 07	Midterm exam 2	
Mar. 11-15	Spring Break	No Class
Mar. 19	Waves	Ch. 10
Mar. 21	Tides	Ch. 11
Mar. 26	Coasts, beaches, and estuaries	Ch. 12
Mar. 28	Coasts, beaches, and estuaries	Ch. 12
Apr. 02	Environmental concerns	Ch. 13
Apr. 04	Environmental concerns	Ch. 13
Apr. 09	The living ocean	Ch. 14
Apr. 11	Production and life	Ch. 15
Apr. 16	The plankton: drifters of the open ocean	Ch. 16
Apr. 18	The plankton: drifters of the open ocean	Ch. 16
Apr. 23	The nekton: free swimmers of the sea	Ch. 17
Apr. 25	The nekton: free swimmers of the sea	Ch. 17
Apr. 30	The benthos: dwellers of sea floor	Ch. 18
May 02	The benthos: dwellers of sea floor	Ch. 18
May 13 (M)	Final Exam 9am-12pm (location-TBA)	

Note: Schedule subject to change

Laboratory schedule

Week	Laboratory
January 14 - 18	NO LABS
January 21 - 25	LAB 1: Navigation (no labs held on 1/21 for MLK day)
Jan. 28 - Feb. 01	LAB 2: Bathymetry
February 04 - 08	LAB 3: Continental Drift and Plate Tectonics
February 11 - 15	LAB 4: Beach Profiles and Sediment Characteristics
February 18 - 22	LAB 5: Physical and Chemical Properties of Sea Water
Feb. 25 - Mar. 01	LAB 6: Ocean Circulation
March 04 - 08	LAB 7: Waves and Tides
March 11 - 15	NO LABS- Spring Break
March 18 - 22	LAB 8: Marine Biological Processes and Trophic Relationships
March 25 - 29	LAB 9: Plankton and Introduction to Taxonomy
April 01 - 05	LAB 10: Fishes and Adaptations to the Marine Environment
April 08 - 12	LAB 11: Benthos - Bottom Dwelling Invertebrates
April 15 - 19	LAB 12: Fisheries and the Fish Banks Game
April 22 - 26	LAB PRACTICAL
Apr. 29 - May 03	NO LABS

Additional information regarding important University dates/deadlines and final exams is posted in the syllabus section on Blackboard.