GEOL 1350 Section 001 (Lecture) Section 011 (Laboratory) Introduction to Oceanography

Spring 2017

Instructor: Samantha Carter

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Office Hours: TBD

Section Information: GEOL 1450 Section 001 (Lecture), Section 011 (Lab)

Teaching Assistant: TBD

Office Hours: TBD

Time and Place of Class Meetings: Tuesday & Thursdays 12:30-1:20pm, Room: TBD Geosciences Bldg.
Laboratory, Tuesdays 1:20-2:50pm, Room: TBD Geosciences Bldg.

Description of Course Content: “This course is a general introduction into marine sciences including marine geology, biology, chemistry, and physics. Fieldtrips on nearby lakes are included.”

This course satisfies The University of Arlington core curriculum requirements in Life and Physical Sciences.

Student Learning Outcomes:
1. Students will learn and demonstrate knowledge of principles of geological, chemical, physical and biological oceanography and relationships between these systems.
2. Students will explore relationships between the global ocean and humans.
3. Students will gain a more scientific view of the world.

Required Textbooks and Other Course Materials:

No use of cell phones (or other electronic devices) during class/exams.

Descriptions of major assignments and examinations: Exams and quizzes, in-class activities, homework and laboratory exercises will be used to assess individual student’s learning. In-class activities must be turned in by the end of the class period unless otherwise instructed, and will not be accepted late. These activities will focus on important concepts that will appear on exams and may involve working in class in small groups. There are four exams in this course, the exams will test the previous lectures’ material and reading, but the final exam will be cumulative. Grades will be based on the following:

Exams: Exams will be mostly multiple-choice questions, but the final exam will also contain essay questions. No early exams are allowed. Exams must be taken at the scheduled time. Make-up exams can be only taken in cases of illness or family emergency. A note from the University disciplinary officer or doctor may be required in these cases. Students who do not take an exam receive zero points as a grade on that exam. Make-up exams are not multiple-choice and are scheduled and set by the instructor.
Fieldtrip (required): Fieldtrip is required for one of the laboratory activities. It is conducted during an extended lecture/laboratory time: 4 1/2 hours combined class period, on MARCH 7th, ending at 5:00pm.

Laboratory Activities/Homework: Nine assignments as part of the lab section will be given throughout the semester.

Teamwork: Teamwork is encouraged to stimulate scientific discussion in lecture and lab. Teamwork is allowed in the lab and for the signature project.

Products and Assessment: Grades will be based on the following:
- Lecture Portion: 70% final course grade or 700 points
- Lab Portion including signature project: 30% final course grade or 300 points

Lab Portion Breakdown:
- Laboratories (9): 18% (2% each) or 180 points
- Signature Project: 12% or 120 points

Lecture Portion Breakdown:
- In-class activities (12): 10% (1% each) or 120 points
- Exam (3): 45% (15% each) or 450 points
- Final: 15% or 150 points

All products will be evaluated on the basis of scoring rubrics, which will be distributed with the assignment. Grades will not be released over the phone or by email. Grades must be either obtained in person or from the UTA online database.

Late Policy: Late assignments will be penalized severely: We will subtract 10% penalty for each academic day late. If you know you will be missing class the day an assignment is due, turn it in early.

Grading:
The following will yield letter grades:
- 1020-900 points A; 899-800 points B; 799-700 points C;
- 699-600 points D; < 600 points F

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see “Student Support Services,” below.

Attendance: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established following attendance policy: class attendance is mandatory. Attendance is required and may be taken occasionally. Lack of attendance may influence the final grade. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Other Requirements: see below:

Signature Project: Oceanography Research Project - A signature research assignment in the area of oceanography is part of the core curriculum assessment and is designed to stimulate critical thinking skills, teamwork skills, communication skills, and empirical and quantitative skills. Physical and
biogeochemical measurements (e.g., temperature, salinity, oxygen, nutrients) during the lake fieldtrip will be analyzed as part of the project. Total project length for each team will be three text pages, letter size paper, double-spaced, 12 pt Times New Roman font excluding graphs and references. Each team will present the project in a 10-minute presentation. Identical copy of a term paper from web or other sources (plagiarized papers or web pages) will result in an F.

Critical Thinking Skills: Critical thinking skills in the area of oceanography will be trained through experiments in the classroom, fieldwork on a local lake, and discussion and exercises in lecture and labs. The assessment of the critical thinking skills in oceanography will be done by a signature assignment (field project) that is related to oceanography. The goal is to understand environmental measurement techniques and analysis of ocean data sets, for example stratification, ventilation of water masses, carbon and nutrient cycles.

Communication Skills: Communications skills will be assessed through scientific discussion in lecture, laboratory, and field. An oral presentation as part of the signature project will be used to assess of the communication skills.

Teamwork: Teamwork will be promoted in lecture and lab through discussion and review of the lecture material and through empirical and quantitative laboratory exercises. The teamwork skills will be assessed by the signature project.

Empirical and Quantitative Skills: Quantitative skills are trained in lecture and labs with on-line interactive models. The assessment of the quantitative skills will be performed through classical problem solving (e.g., wave speed and height estimates or calculation of density of sea water) and through on-line tools to learn how natural and man-made perturbations can affect oceanic conditions (e.g., surface temperature, surface and deep sea circulation).

Students will be guided to design experiments (e.g., wave tank and oil spill experiments) and compare quantitative estimates with observations on nearby lakes in the signature project.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Grade Grievances: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. For undergraduate courses, see http://catalog.uta.edu/academicregulations/grades/#undergraduatetext. For student complaints, see http://www.uta.edu/deanofstudents/student-complaints/index.php.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aaofao/).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability).

Counseling and Psychological Services, (CAPS) [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://uta.edu/eos).

Title IX Policy: The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](mailto:jmhood@uta.edu).

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

> I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

> I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents’ Rule 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at [https://www.uta.edu/conduct/](https://www.uta.edu/conduct/).

Lab Safety Training: Students registered for this course must complete all required lab safety training prior to entering the lab and undertaking any activities. Once completed, Lab Safety Training is valid for the remainder of the same academic year (i.e., Fall through Summer II) and must be completed anew in subsequent years. There are no exceptions to this University policy. Failure to complete the required training will preclude participation in any lab activities, including those for which a grade is assigned.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at [http://www.uta.edu/oit/cs/email/mavmail.php](http://www.uta.edu/oit/cs/email/mavmail.php).

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit [http://www.uta.edu/news/info/campus-carry/](http://www.uta.edu/news/info/campus-carry/).
Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week: for semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located [insert a description of the nearest exit/emergency exit]. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

The English Writing Center (411LIBR): The Writing Center Offers free tutoring in 20-, 40-, or 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Our hours are 9 am to 8 pm Mon.-Thurs., 9 am-3 pm Fri. and Noon-6 pm Sat. and Sun. Register and make appointments online at http://uta.mywconline.com. Classroom Visits, workshops, and specialized services for graduate students are also available. Please see www.uta.edu/owl for detailed information on all our programs and services.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381.
Note: Exams will not be rescheduled.

**Important Dates:**
- **Tuesday, Feb 7**
  - Exam 1
- **Thursday, March 2**
  - Exam 2
  - *Lake Arlington Field Trip, 12:30-5:00pm*
- **Thursday, April 6**
  - Exam 3
- **Tuesday, April 25**
  - *Signature Project team presentations*
- **Tuesday, May 2**
  - *Signature Project written team report due (on Blackboard by midnight)*
- **Thursday, May 11**
  - 11:00am-1:30pm Final Exam

“As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.”—Samantha C. Carter

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**Subject Librarians** ............................................. [http://www.uta.edu/library/help/subject-librarians.php](http://www.uta.edu/library/help/subject-librarians.php)
**Course Reserves** ................................................. [http://pulse.uta.edu/vwebv/enterCourseReserve.do](http://pulse.uta.edu/vwebv/enterCourseReserve.do)
**Library Catalog** .................................................. [http://discover.uta.edu/](http://discover.uta.edu/)
**E-Journals** ........................................................... [http://liblink.uta.edu/UTAlink/az](http://liblink.uta.edu/UTAlink/az)
**Connecting from Off-Campus** ................................... [http://libguides.uta.edu/offcampus](http://libguides.uta.edu/offcampus)
**Ask A Librarian** .................................................... [http://ask.uta.edu](http://ask.uta.edu)

**Careers in oceanography** “offer the possibility of adventure and the satisfaction of making meaningful contributions toward understanding our planet.”
Some links to explore:
[http://www.personal.kent.edu/~jortiz/ocean/ocecareers.htm](http://www.personal.kent.edu/~jortiz/ocean/ocecareers.htm)

**Careers in geology** “can offer an engaging lifestyle and a wide variety of opportunities.”
[http://www.personal.kent.edu/~jortiz/ocean/geocareers.htm](http://www.personal.kent.edu/~jortiz/ocean/geocareers.htm)

Consider taking additional classes in Earth and Environmental Sciences such as **Earth Systems, Earth History, Environmental Science** and/or **Global Warming** and explore opportunities in earth sciences at UTA. Please feel free to talk with the Instructor or any faculty or students in the Department of Earth and Environmental Sciences for more information. [http://www.uta.edu/ees/](http://www.uta.edu/ees/)

**Have fun! Oceanography is exciting!**
Grades, etc. are posted at elearn.uta.edu (Blackboard)

<table>
<thead>
<tr>
<th>Week Date</th>
<th>Reading</th>
<th>Lecture Topic</th>
<th>Lab</th>
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<tbody>
<tr>
<td>1 Jan. 17, 19</td>
<td>Syllabus, Prologue, Chap 1</td>
<td>Oceanography as an Interdisciplinary Science, Historical Review of Oceanography; Physiography of the Sea</td>
<td>No lab</td>
</tr>
<tr>
<td>2 Jan. 24, 26</td>
<td>Chap 2</td>
<td>Seafloor Magnetism, Seafloor Spreading: Developing the Theory of Plate Tectonics; Plate Tectonics and the Dynamic Earth</td>
<td>Lab 1. Bathymetry, Marine Charts, and Navigation</td>
</tr>
<tr>
<td>3 Jan. 31, Feb 2</td>
<td>Chap 3</td>
<td>Plate Tectonics and Ancient Oceans; Sea Floor and Sediments</td>
<td>Lab 2. Features of the Ocean Floor and Plate Tectonics</td>
</tr>
<tr>
<td>5 Feb. 14, 16</td>
<td>Chap 5, Chap 6</td>
<td>Marine Chemistry; Wind-driven Surface Circulation;</td>
<td>Lab 4. Physical and Chemical Properties of Seawater</td>
</tr>
<tr>
<td>6 Feb. 21, 23</td>
<td>Chap 7</td>
<td>Deep Sea Circulation - Flywheel of the Climate; Ocean Circulation, Food Webs and Climate (El Niño and Southern Oscillation)</td>
<td>Lab 5. Atmospheric and Surface Ocean Circulation (Coriolis deflection, Ekman transport, winds, surface gyres)</td>
</tr>
<tr>
<td>7 Feb. 28, Mar. 2</td>
<td>No class</td>
<td>Life in the Greenhouse and Climate Change (Thurs) Exam 2 (Chapters 4-7)</td>
<td>Lab 6. Atmospheric and Surface Ocean Circulation (ENSO)</td>
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<tr>
<td>8 March 7, 9</td>
<td>Chap 6</td>
<td>(Tues) Signature project: field trip – no lecture; Oceans: Powering Hurricanes;</td>
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<td>No class March 14, 16</td>
<td>SPRING BREAK</td>
<td>Signature project: data collection (lake field trip)</td>
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<tr>
<td>9 March 21, 23</td>
<td>Chap 8, Chap 9</td>
<td>Waves and Tsunamis; Tides</td>
<td>Signature project: data analysis</td>
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<tr>
<td>11 Apr 4, 6</td>
<td>Chap 15</td>
<td>Pollution &amp; Review (Thurs) Exam 3 (Chapters 8-10 and 15);</td>
<td>Lab 8. Oil spill and clean up</td>
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<tr>
<td>12 Apr 11, 13</td>
<td>Chap 11</td>
<td>Shape of Life, evolution in marine environment; Life in the Ocean: Marine Plants and Animals</td>
<td>Lab 9. The Fish Game</td>
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<tr>
<td>13 Apr 18, 20</td>
<td>Chap 12, Chap 13, 14</td>
<td>Ecological Interactions in Coastal &amp; Open Marine Communities; Life in Extreme Environments;</td>
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<td></td>
<td>Signature project: Team presentations Charismatic Megafauna</td>
<td>Signature project: preparing team presentations</td>
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<tr>
<td>14 Apr 25, 27</td>
<td>Chap 13</td>
<td>(Tues) Signature project: Team presentations Charismatic Megafauna</td>
<td>Signature project: team presentations</td>
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<tr>
<td>15 May 2, 4</td>
<td>No class</td>
<td>Media: Review of Lecture Material</td>
<td>Signature written project due</td>
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<tr>
<td>Finals week</td>
<td>No class</td>
<td>Thursday, May 11th, 11:30pm Final Exam (comprehensive)</td>
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