

GEOLOGY 117 -- THE OCEANS

Fall Semester, 2006

Instructor: Dr. Michael A. Stewart, 250 Natural History Building
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 Office hours: Friday 1:30-3:00 p.m. by appointment.

Class Meeting: Monday, Wednesday, Friday 12 noon to 12:50 p.m. in 314 Altgeld Hall.

TEXT: Trujillo, and Thurman, *Essentials of Oceanography* (9th Edition), Prentice Hall. If you would like to access an online version of the text at about half the price of the print version, you can go to <<http://www.coursesmart.com/>>.

WEB SITE: <https://compass.uiuc.edu/>

Student Help for Compass: consult@uiuc.edu

<u>Topics</u>	<u>Lecture Topic</u>	<u>Reading [8th edition in bracket]</u>
1	Introduction to Course, Course Logistics, Scientific Method	pp. 1-15 [1-19]
2	Earth I: Nebular Hypothesis & Water's Origin	pp. 15-18, 21-22 [20-22, 25-26]
3	Earth II: Age of Earth, and Geologic Time	pp. 28-31 [32-34]
4	Earth III: Hydrologic Cycle, Shape of Earth, Maps	pp. 8-9, 148-149 [153, 6-17]
5	Earth IV: Ocean Basins: Distribution, Topography	[76-91]
6	Earth V: Earth's Structure and Composition, Isostasy	pp. 18-21 [22-25]
Exam I: Thursday Sept. 20th 7-9 pm Altgeld 314		
7	Plate Tectonics I: Continental Drift, Seafloor Spreading	pp. 34-49, 86-95 [38-43, 44-53, 92-97]
8	Plate Tectonics II: Plate Tectonic Theory	pp. 50-69 [54-73]
9	Sea Floor I: Continental Margin, Ocean Basin,	pp. 72-87 [84-97]
9-10	Sea Floor II: Ridges, Vents & Trenches	
11	Oceanic Sediments and Seafloor Resources	pp. 98-128 [100-130, 155-156]
12	Water: Structure, Properties	pp. 130-140 [134-144]
13	Seawater:	pp. 140-159 [144-163]
14	Heat Budget: Seasons, Transmission of Energy, Sea-Surface Temperatures and Sea Ice	pp. 162-171, 187-190, 390-392 [166-171, 219, 387-390, 192-194]
Exam II: Thursday Oct 18th 7-9 pm Altgeld 314		
15	Atmosphere I: Structure, Composition. Climate Change	pp. 162-168, 190-198 [171-173, 194-201]
16	Atmosphere II: Wind and Atmosphere Circulation, Storms	pp. 168-187 [173-191]
17	Ocean Circulation I: Wind-Driven circulation	pp. 202-228 [206-229, 237-238]
18	Ocean Circulation II: Density-driven circulation and Layering, <i>El Nino</i>	pp. 236-240, 229-235 [238-243, 229-237]
19	Ocean Circulation III: Combined density- and wind-driven	

Topic	Lecture Topic	Reading
20	Waves and Tides I: Wave Origins, Types, Tsunami	pp. 244-273 [246-274]
21	Waves & Tides II: Cause of tides, Tidal Periods	pp. 276-297 [276-298]
22	Beaches And Coast Lines I: Beach Types and Processes	pp. 300-316 [300-315]
23	Beaches And Coast Lines II: Environmental Issues & Estuaries	pp. 316-325, 334-357 [315-324, 326-353]
Exam III: Tuesday Nov 13th 5-7 pm MSEB 100		
24	Life On Earth I: Origin and History of Life on Earth	pp. 22-28, 360-369 [27-31, 356-365]
25	Life in the Oceans I: Productivity, Algal Blooms, Food Webs, and Extremophiles	pp. 386-412 [397-415, 470-474]
26	Life in the Oceans II: Adaptations of Marine Organisms	pp. 370-378 [365-379, 382-397]

Monday Dec. 10th
7:00 – 10:00 pm

FINAL EXAM in Altgeld 314 (The exam will be cumulative.)

Geology 117 on Illinois Compass: The class webpage is an integral part of the course: You will use it to download the syllabus, take self-administered quizzes, download study guides, and access the writing assignment links. To access Illinois Compass, link to <https://compass.uiuc.edu/> and login using your NetID and password. Once you have logged on, look for the Geol 117 page.

Exams: There are three exams (given during evenings) and a final exam. Check the syllabus for the exam dates. The final exam will be given at the time designated by the University (see above). Exams emphasize the material discussed in lecture. Assigned text readings provide useful background and expand on the points, concepts, and issues presented in lectures. Exams will include text readings that are directly relevant to lecture topics.

Prior to each exam, Dr. Stewart will hold a one-hour question-and-answer session to help you prepare for the exam. The date, time, and place of each review session will be announced in class and posted on Compass. Plan in advance to review your notes prior to the session so you can ask questions about any material that you do not understand. Plan to attend the review sessions even if you feel comfortable with the material because questions will certainly arise that you have not considered.

Bring your student ID to all exams. You will need it as identification when you hand in the exam.

Past exams are not made available. The self-administered quizzes on the web site are examples of the types of questions asked on exams. In fact, questions on the quizzes are likely to appear on exams.

Conflict and make-up exams will be available only to those students having valid excuses -- personal travel, convenience, or "not being prepared" are not acceptable excuses. If you want to request a conflict exam, please see Dr. Stewart at least one week before the scheduled exam. If you have a medical or family emergency immediately before an exam, please call Dr. Stewart as soon as possible (e-mails not accepted). A student who misses an exam for whatever reason must contact Dr. Stewart within one day after the scheduled exam. Failure to do so will result in a "0" for the exam. The University regulations on conflict final exams are described after the final exam schedule at the end of the Fall 2006 Timetable. If you believe that you have a conflict with the final exam, be sure to inform Dr. Stewart as soon as possible and no later than December 3rd.

Study hints in preparing for exams: Because exams emphasize material covered in lectures, it is very important that you attend lectures and take good notes. Taking good notes during class, re-writing your notes after class and reviewing them on a regular basis is the best way to absorb and "master" the material presented in lecture. Concentrate on topics in assigned text readings that are covered in lectures, and spend less time on topics that are mentioned briefly (or not at all) in lectures. The questions in the text readings and the summaries at the end of each chapter are useful in preparing for exams. In addition, the self-administered quizzes on the WebCT site should also be helpful in studying.

Students who did well in previous semesters of Geology 117 sections were asked the "secret of their success." Here are their suggestions:

1. Make time for the readings.
2. Make sure to review the lecture notes regularly. Try this in groups with your friends.
3. Answer all the quiz questions and review them before the test.
4. Use the book to help clarify anything from the notes or questions that you do not understand.
5. Don't wait until the day before the exam to start reviewing.

Self-Administered Quizzes: Nearly each week you will take a self-administered quiz posted on Compass. These quizzes are intended to help you 'keep-up' with the lecture material. Quizzes will be made available on Fridays at 1:00 p.m.. You will have until Monday 1:00 p.m. to take the quiz, afterward it will no longer be available to you. You will have ten minutes to complete each quiz, and you will only be able to attempt each quiz twice during the weekend, so first review your notes then take the quiz. You can drop your two lowest quiz scores.

The quizzes are not intended as group projects, rather, I expect you to attempt the quizzes on your own. I rely on your sense of honor and honesty here.

Essays: Each Exam will have a writing component in the form of an electronic 'take home' essay. These essays will be computer based, so you will need access to a computer with an internet connection. More information regarding submission and grading of the essays will follow in class.

Course grading: Grades will be calculated from your scores on the Quizzes, Exams and the Final Exam. The 'value' of each is listed as percentages below:

	Percent
Quizzes	25
First Hour Exam	20
Second Hour Exam	20
Third Hour Exam	20
Final Exam	15
Total	100

Your grades will be available on the Compass grade book. You should check your scores regularly to ensure that our records agree with yours. Please report any discrepancies immediately.

Special Needs: To obtain disability-related academic adjustments, and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit at 1207 S. Oak St., Champaign, call 333-1970 (V/TDD), or e-mail a message to disability@uiuc.edu. The DRES web site address is (<http://www.disability.uiuc.edu/>).