

**OCEANOGRAPHY - GEOLOGY 12**  
**TTh (Section #5152) - Spring 2010**  
*Sonjia Leyva*

**INSTRUCTOR INFORMATION:**

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**REQUIRED MATERIALS:**

- Essentials of Oceanography ALC (Loose-Leaf) by Trujillo & Thurman (ISBN: 978-0-321-61683-8), in addition to handouts & videos.
- Lecture Notes by Sonjia Leyva, available at the bookstore or at <http://www.geophile.net/College/Oceanography.htm>
- Ruler (standard & metric), color pencils, plus other materials (will be discussed in class)

**METHODS OF EVALUATION, GRADING, ATTENDANCE:**

**Exams** - There will be two exams - one midterm and one final; each exam is worth 100 points. **Make-up exams will be given only to those who can verify a valid excuse for missing an exam.** The make-up will be given at a time that is mutually agreeable to both the student and myself, but must be arranged prior to the initial exam. **Failure to take the make-up exam within two weeks of the original exam date will result in the missed exam counting in as a zero.**

**Weekly Quizzes** – The first ten minutes of class will be devoted to a short 20 point quiz which will cover what we will be covering in class that day. **It is therefore important to come to class on time, every time.** Students arriving late but before the end of the quiz will be allowed to take the quiz, but must stop with everyone else. Students arriving after the end of the quiz will not be allowed to take it. **No exceptions!**

**Homework/Activities** - There will be several in-class activities during the course of this class. You are responsible for bringing in the necessary supplies. In addition, you may be responsible for answering a few of the “end-of-chapter” review/critical thinking question. Each assignment is worth 20 - 30 points each. You will be graded on neatness, completeness of activity, and ability to follow directions. **Late work will not be accepted.**

**Presentations** - Each student will participate in a group presentation to be given in class during the semester. Guidelines and topics for these presentations are outlined on the attached pages. Each presentation is worth 100 points.

**Attendance** - Students are expected to attend each class session and to arrive on time. It will be difficult to make up missed class sessions. However, if you miss a class session of valid reasons (illness), it will up to you to make arrangements to complete the activity. **Students who miss a class due to an unexcused absence will NOT be allowed to make up the work.** Make-up labs/assignments will be given only to those who can verify a valid excuse for missing the assignment. The make-up lab/assignment will given at a time that is mutually agreeable to both the student and myself. **Failure to take the make-up lab/assignment within one week of the original lab/assignment date OR before the last week of class will result in the missed exam/lab/assignment counting in as a zero.**

|                     | Points Possible                      | Total Points Possible | % of Grade |
|---------------------|--------------------------------------|-----------------------|------------|
| <b>Exams</b>        | 2 exams at 100 points each           | 200                   | 25.0%      |
| <b>Quizzes</b>      | 10 quizzes at 20 points each         | 200                   | 25.0%      |
| <b>Activities</b>   | 10 activities at 20 - 30 points each | 200                   | 25.0%      |
| <b>Presentation</b> | 2 at 100 points each                 | 200                   | 25.0%      |
|                     |                                      | 800                   | 100%       |

Your grade is based on your percentage score out of 800 points.

You may do up to 20 points of extra credit work to raise your total points earned (please see attached list). All extra credit is due the last day of class – not the day of the final.

|              |                      |
|--------------|----------------------|
| A = > 90%    | > 720.0 points       |
| B = 80 - 89% | 640.0 - 719.9 points |
| C = 70 - 79% | 560.0 - 639.9 points |
| D = 60 - 69% | 480.0 - 559.9 points |
| F = < 60%    | < 480.0 points       |

## TENTATIVE SCHEDULE

| Week | Date | Topic   | Chapter |
|------|------|---|---------|
| 1    | 2/23 | Lecture: Introduction   | 1       |
|      | 2/25 | Lecture: Exploring the Oceans   |         |
| 2    | 3/02 | Lecture & Activity: Plate Tectonics (maps due 3/18)                         | 2       |
|      | 3/04 |   |         |
| 4    | 3/16 | Lecture: Marine Provinces & Video   | 3       |
|      | 3/18 |   |         |
| 5    | 3/23 | Lecture: Marine Sediments   | 4       |
|      | 3/25 |   |         |
| 6    | 3/30 | Lecture: Seawater<br>(Seawater Data assignment due 4/08)                    | 5       |
|      | 4/01 |   |         |
| 7    | 4/06 | <b>PRESENTATIONS</b>  |         |
|      | 4/08 |   |         |
| 8    | 4/13 | Lecture: Seawater   | 5       |
|      | 4/15 | MIDTERM EXAM  |         |
| 9    | 4/20 | <b>SPRING BREAK!</b>  |         |
|      | 4/22 |   |         |
| 10   | 4/27 | Lecture & Activity: Atmospheric Circulation<br>(Orbica assignment due 5/20) | 6       |
|      | 4/29 |   |         |
| 11   | 5/04 | Lecture: Atmospheric Circulation Video (review due 5/11)                    | 6       |
|      | 5/06 | Lecture: Oceanic Circulation  | 7       |
| 12   | 5/11 | Lecture & Activity: Oceanic Circulation<br>(Orbica assignment due 5/20)     | 7       |
|      | 5/13 |   |         |
| 13   | 5/18 | Lecture & Activity: Waves (Video Review due 5/27)                           | 8       |
|      | 5/20 |   |         |
| 14   | 5/25 | Lecture & Activity: Tides (Tidal Patterns (due 6/3)                         | 9       |
|      | 5/27 |   |         |
| 15   | 6/01 | Lecture & Activity: Coastal Processes (Beach Sands due 6/8)                 | 10      |
|      | 6/03 |   |         |
| 16   | 6/08 | <b>PRESENTATIONS &amp; last day to turn in extra credit! NO exceptions!</b> |         |
|      | 6/10 |   |         |
| 17   | 6/15 | <b>FINAL EXAM - 10:15 a.m. to 12:15 p.m.</b>                                |         |

Want to get a good grade? Here's how:

- Attend every class.
- Take notes and review them after class and before exams.
- Read the textbook.
- Ask questions. **You** are responsible for studying.

## Presentations

Each student will participate in a group presentation to be given to the class during the semester. Placement into groups will be done by a lottery, as will the assignment of topics. The topics are outlined in your textbook and will not be discussed in my lectures. Your group will be leading the class in learning about your chosen subject.

The presentations are expected to be 10 - 15 minutes in length. The format of the presentation is up to the group. You may use the chalkboard, overheads, a PowerPoint presentation, poster board, or any other method you deem worthy. Recall that your primary goal is to teach your fellow students. When preparing your presentation, keep in mind that you need to be clear and concise, have a logical flow of ideas, keep your text legible (e.g., use a large enough font so that the people in the back can see), use relevant information, and be professional.

Your presentations will be graded as follows (rubric included on next page):

- 40% Accuracy of content.
- 20% Visual quality of presentation
- 20% Quality of presentation
- 20% "Self Grades" - each member of the group will grade the other members on the quality of their participation to the project. So if one member flakes out and the others have to pick up the slack, this is their chance to let it be known.

|   |                      |
|---|----------------------|
| 1. Exploration via submersibles                                   | Week BEFORE midterms |
| 2. Sea Turtles  |                      |
| 3. Bermuda Triangle   |                      |
| 4. Use of diatoms   |                      |
| 5. History of the Mediterranean Sea                               |                      |
| 6. K-T event  |                      |
| 7. Deep Sea Drilling  |                      |
| 8. OTEC systems   |                      |
| 9. Galveston Hurricane  |                      |
| 10. SOFAR channel   |                      |
| 11. Ben Franklin and the Gulf Stream                              |                      |
| 12. Lituya Bay, Alaska tsunami                                    | Week BEFORE finals   |
| 13. Rogue Waves   |                      |
| 14. Tidal Bores   |                      |
| 15. Moving the Cape Hatteras Lighthouse                           |                      |
| 16. Exxon Valdez Oil Spill  |                      |
| 17. Deep Scattering Layer   |                      |
| 18. Red Tides   |                      |
| 19. Peruvian Anchoveta Fishery                                    |                      |
| 20. Killer Whales   |                      |
| 21. Coral Bleaching   |                      |
| 22. How long would an organism's remains remain on the sea floor? |                      |

## Student Presentations

**Scoring:**

- Good** (all criteria met or exceeded) = full points
- Fair** (most criteria met, a few mistakes) = 1/2 of possible points
- Poor** (few criteria met, lots of mistakes) = 1/4 of possible points
- None** (not done) = no points

|   | <b>Points possible</b> |
|---|------------------------|
| <b>Accuracy of content (40 points)</b>                            |                        |
| Understanding of material being presented                         | 20 points              |
| Quality of research   | 10 points              |
| Accuracy of material being presented                              | 10 points              |
|   |                        |
| <b>Visual quality of presentation (20 points)</b>                 |                        |
| Text easy to read and not cluttered                               | 5 points               |
| Quality of images or props  | 5 points               |
| Logical flow of ideas   | 5 points               |
| Stays within time limits (-2 point for each minute over/under)    | 5 points               |
|   |                        |
| <b>Quality of presentation (20 points)</b>                        |                        |
| Delivery (speaks clearly, not rushed, pronounces words correctly) | 5 points               |
| Speaks to class, not to the projection screen                     | 5 points               |
| Material relevant to topic  | 10 points              |
|   |                        |
| "Self Grades" - see attached evaluations (10 points)              | 10 points              |
| Class Evaluations (Average of all evaluations - 10 points)        | 10 points              |
|   |                        |
| <b>Total</b>  | <b>100 points</b>      |

## EXTRA CREDIT

You have the opportunity to earn extra credit if you wish. **All work must be turned in the class period before the final exam.** You may earn up to 20 points extra credit by doing any combination of the following assignments listed below.

### FORMAT for Reports (for #1 - #3):

- 1 to 2 pages, typed, 1.5 spacing, standard margins and fonts and concise.
- The quality of your English composition is important.
- Don't forget to use correct essay form - Intro paragraph with thesis statement, three examples, and conclusion paragraph.
- Don't forget to cite your references in the appropriate format.
- Make sure your name is on your report.
- Please remember that I am concerned about the environment. I do not want plastic covers, extra cover pages, or any other type of binder. Save paper and you save trees. Save plastic and you save petroleum.

1. In essay format, discuss three ways that you can help clean up the oceans or coasts. (5 points)
2. Find 3 articles that deal with geological issues and write a summary of each article. Combine the 3 summaries into a paper that is no more than 2 pages long. Articles may be found in the Los Angeles Times, Discover Magazine, Newsweek, Time Magazine, California Geology (in the Library), etc. Use published papers, not Internet articles. Provide your opinion or analysis. A bibliography and copies of your articles are required as well. (15 points)
3. Write a book report on any one of the books listed below. (15 points)
  - a. "Control of Nature" by John McPhee
  - b. "Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America" by John M. Barry
  - c. "Entropy: Into the Greenhouse World" by Jeremy Rifkin
  - d. "Manmade Disaster: The Story of the St. Francis Dam Disaster" by Charles Outland
  - e. "The Johnstown Flood" by David McCullough
  - f. "Cadillac Desert: The American West and its Disappearing Water" by Marc Reisner
  - g. "Earthquake: The Destruction of San Francisco" by Thomas Gordon and Max Witts
  - h. "The Day the World Ended" by Thomas Gordon and Max Witts (This is the story of the eruption of Mt. Pelee and the destruction of St. Pierre.)
  - i. "Salt: A World History" by Mark Kurlansky
  - j. "Isaac's Storm: A Man, A Time, and the Deadliest Hurricane in History" by Erik Larson
4. Do one of the Virtual Classware assignments located at <http://www.sciencecourseware.com/>. Click on either "Virtual Courseware for Earth and Environmental Sciences" or "Geology Labs Online" and choose one of the following: Global Warming, Virtual Earthquake, Virtual Dating, or Virtual River. Upon completion of the assignment, you will be awarded a certificate that you will need to print out and turn in. You may do more than one of the exercises. (10 points)
5. Your textbook has a website with self tests, and you may do ONE self test (either multiple choice, true/false, identification, etc) PER chapter, for every chapter we cover in class. Email me the results, but also either print out or email a copy to yourself as well. See your class syllabus for the URL of your textbook's website. (1 point per chapter)