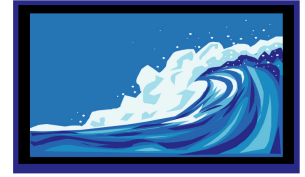


Aquatic Science I – Oceanography Syllabus 2008-2009



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Course Description:

0.5 credit

Open to: 11, 12

Prerequisite: Foundations of Chemistry and Physics, Biology

This semester-long course provides an introduction to oceanography, which is the study of the biological, physical, chemical, and geological features of the earth's oceans. It examines the history and development of ocean basins in the context of the physical phenomena that scientists observe today, such as plate tectonics, tsunamis, waves, tides, and weather patterns. The chemical characteristics and biodiversity of various zones of the ocean will be explored through laboratory exercises. This class is recommended for students who are interested in marine biology or who wish to know more about the integral role of Earth's oceans in day-to-day life.

This class may seem a little non-traditional in its assignments. This is in an effort to make the class beneficial for students of all interest levels, more applicable in the synthesis of big-picture ideas, more independent in choice of assignments, and more globally focused. A blog site has been created for any questions or miscellaneous findings/thoughts that we don't get to in class and that might benefit others. This class is set up so you can just learn more about the oceans, or take it a step further and get your foot in the research/academic door in a higher institution if you so choose.

Policies and Expectations:

Absences and Make-up Work: If you are absent or tardy, it is YOUR responsibility to make up any missed work. If you are unsure what was missed, email or speak to me directly. You are expected to make up the work and submit it the following class that you attend. If you sign up for, but are absent from field trips, credit may be made up if you submit a proposal in writing, explaining how you will make up for the learning lost. The proposal must be relevant and similar in nature to the experience missed, and the proposal must be approved by me before you make it up.

Required Materials: Oceanography: An Invitation, by Pinet (you can leave at home)
Student note taking guide
Student review guide
Pencils are mandatory and pens are optional
Scientific calculator (doesn't need to be graphing)

Communication: If you wish to speak with me about anything outside of class time, please schedule a time with me by either seeing me before/after class or emailing me. The easiest way to communicate with me is via email. If your parents have any questions, please give them my email address or request that I contact them. Please include your parents' email address on the attached form and return to me so I can make them aware of any changes regarding field trips during the semester.

Academic Integrity: This is more than just not cheating and not plagiarizing; it is being honest about one's work and taking responsibility for one's actions in the classroom. Plagiarism is:

- presenting the words or thoughts of other people as your own
- use of any source without giving credit
- use of a quotation without identifying it as a quote

Please see the handbook for plagiarism and cheating consequences.

Food: No food or drink, with the exception of water, is allowed in the classroom unless I say otherwise.

Assignments and Grading: Unless otherwise noted, all assignments are due the NEXT time the class meets. For each day that an assignment is turned in late, 20% or one rubric point, whichever applies, will be penalized. The grading is as follows:

A. REQUIRED ASSIGNMENTS (1700 points)

_____ **Symphony (200 points)**- "*Symphony...is the capacity to synthesize rather than analyze; to see relationships between seemingly unrelated fields; to detect broad patterns rather than to deliver specific answers; and to invent something new by combining elements nobody else thought to pair.*"
-Daniel Pink

Understanding the role of the oceans in our lives is not as simple as learning *about* the ocean, it requires an understanding of *how* the ocean *relates* to the non-oceanic areas of our lives. This is the most critical component to gaining insight into processes such as global warming. Your final assessment of the semester will be a symphony of what you have learned in this class.

_____ **Story (300 points - 3 @ 100 pts/each)**- "*Humans are not ideally set up to understand logic; they are set up to understand stories.*"
-Roger C. Schank

You will write various stories to explain some of the processes that we discuss in class. Just stating a factual piece of information is not always enough to prove you understand it, but explaining that fact in the context of a story tells me if you really do understand it.

_____ **Empathy (200 points)**- "*[Empathy] is the ability to stand in others' shoes, to see with their eyes, and to feel with their hearts.*"
-Daniel Pink

You will choose a geographic region outside of North America and research the role of oceans on that region's cultural development. You will make a presentation to the class as if you were an inhabitant of that region. This will require research into the history of the culture and should include props. You will also need to contact a real person from that region via email/skype/etc to present the personal perspective.

_____ **Journal Review (100 points)**- You will pick a topic of your choice and research an article concerning it from a refereed journal. Write a 2-page review of the article, citing the source and providing a summary of the most interesting information. Use at least one quote from the author. Also, research someone at a higher institution who studies what you are interested in and, if possible, use an article by this person. Include the name of the institution and some basic information for the class on a third page.

_____ **Field Trips (300 points - 3 @ 100 pts/each)**- Due to the nature of the trips, some field trips will occur outside of class time. Multiple field trips will be offered throughout the semester and you are REQUIRED to attend at least THREE of them. Points may be made up for attending additional trips. Since the field trips may occur outside of school time, it is your responsibility to find rides to the trip destinations.

_____ **Labs (200 points - 5 @ 40 pts/each)**- Labs will consist of hands-on experiments, dissections, and virtual field trips. Some labs may be in groups, while others individual.

_____ **Reading Quizzes (300 points - 15 @ 20 pts/each)**- You will get much more out of this class if you read over the text before we discuss the chapters in class. You will be quizzed on these with the ActivExpressions/ActiVotes.

_____ **Attendance/Participation (100 points – 50 @ 2 pts/each)**-There are 50 classes this semester. You receive 2 points for being in class on time and participating constructively. You will be docked 1 point for every unexcused tardy, regardless of how late you show up, and 0 points for unexcused absences. I must have an excused absence slip the class following an absence or else I will assume it was unexcused.

The classroom should be a positive environment. Negative, demeaning, and blurted comments will result in a loss of daily points also.

B. CHOICE ASSIGNMENTS (100-300 points; Only one is necessary, but can do all of them only after required points have been tallied and you want to make some up)

_____ **Demonstration (100 points)**- Create a physical experiment that demonstrates one or more of the processes that we discuss in class. For instance, to demonstrate thermohaline circulation I will be using a small tank and adding salty/fresh/different temperature water and food coloring so the class can see how these different bodies of water interact. You want to make something that can be demonstrated in the front of the room for everybody. I will keep the demo for future classes, unless you really grow attached to it.

_____ **Design (100 points)**- "*Design is the human power to conceive, plan, and realize products that serve human beings in the accomplishment of any individual or collective purpose.*"

–Dick Buchanan

"*Good design...produces something the world didn't know it was missing.*"

–Paola Antonelli

You will design some sort of machine/instrument/tool that would be beneficial for research in the field of oceanography. A sketch should accompany the description.

_____ **Play (100 points)**- "Laughing people are more creative people. They are more productive people. People who laugh together can work together." -Madan Kataria

Humor is a necessity in life! Video-tape yourself/others performing a humorous skit dealing with some aspect of oceanography.

C. EXTRA POINTS

_____ **Problems of the day (15 @ 10 points each)**- Problems of the day will provide small groups the opportunity to score extra points. All groups that correctly answer the question without help from anyone else will receive the points.

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TOTAL POINTS _____ / 1800 = _____ %

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### Important Technical Information

**Class website:** [www.quia.com/pages/maoceanography.html](http://www.quia.com/pages/maoceanography.html)

**Username:** You will create it-make it something YOU WILL REMEMBER!

**Password:** You will create it-make it something YOU WILL REMEMBER!

On a computer, enroll in the appropriate class:

|        |                       |                       |
|--------|-----------------------|-----------------------|
| Class: | 5 <sup>th</sup> Ocean | 7 <sup>th</sup> Ocean |
| Code:  | <b>EHCH633</b>        | <b>RHD346</b>         |

If you do not have a Quia account yet, follow these steps to enroll. (If you do have a Quia account, skip ahead. Your instructions are below.)

Step 1. Create a Quia account. To do this, go to the Quia Web site at <http://www.quia.com/web>. Look right below the Quia logo in the upper left of the window. If there is a line that starts, "You are logged in as," it means the previous user is still logged in. Click the "log out" link.

Step 2. Now, click the orange area labeled Student Zone. When the next page appears, click the button labeled Create my free account. Fill out the form that appears. Select "Student" as the account type. When you are done, press the Create my account button.

Step 3. You should now be in the Student Zone. Type in the class code **EHCH633** (5<sup>th</sup>) or **RHD346** (7<sup>th</sup>) in the text field and press the Add class button. Now you're done!

If you already have a Quia account, follow these steps instead:

Step 1. Go to the Quia Web home page at <http://www.quia.com/web>. Look right below the Quia logo in the upper left of the window. If there is a line that starts, "You are logged in as," it means the previous user is still logged in. Click the "log out" link.

Step 2. Now, click the orange area labeled Student Zone. When the next page appears, enter your username and password in the region labeled Log In and press GO.

Step 3. You should now be in the Student Zone. Type in the class code **EHCH633** (5<sup>th</sup>) or **RHD346** (7<sup>th</sup>) in the text field and press the Add class button. Now you're done!

Now that you have registered for your instructor's course, you can take quizzes, view your results, and read your instructor's feedback.

Follow these steps to view your results:

Step 1. Log into your account. (Remember, go to the Quia Web home page at <http://www.quia.com/web> and click on Student Zone.)

Step 2. Click on the class name.

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**Preliminary Schedule:** \*denotes traditional days

|                                                         |                                                         |
|---------------------------------------------------------|---------------------------------------------------------|
| Aug 27 - Chapter 1                                      | Nov 3 - Chapter 9                                       |
| Aug 29 - Chapter 1                                      | Nov 5 - Chapter 9                                       |
| Sep 3 - Chapter 2                                       | Nov 10* - Chapter 10                                    |
| Sep 5 - Chapter 2                                       | Nov 12 - Chapter 10                                     |
| Sep 8* - Chapter 3                                      | Nov 14 - Chapter 10                                     |
| Sep 10 - Chapter 3                                      | Nov 17* - Chapter 12                                    |
| Sep 12 - Chapter 3                                      | Nov 19 - Chapter 12                                     |
| Sep 15* - Chapter 4                                     | Nov 21 - Chapter 12                                     |
| Sep 17 - Chapter 4                                      | Nov 24* - Chapter 13                                    |
| Sep 19 - Chapter 4: <a href="#">Rocks Lab</a>           | Nov 26 - Chapter 13 / <a href="#">Choice</a>            |
| Sep 22* - <a href="#">Story 1</a>                       | <a href="#">Assignment Due</a>                          |
| Sep 24 - Chapter 5                                      | Dec 1* - Chapter 13                                     |
| Sep 26 - Chapter 5                                      | Dec 3 - <a href="#">Story 3</a>                         |
| Sep 29* - Chapter 6                                     | Dec 5 - <a href="#">Virtual Lab</a>                     |
| Oct 1 - Chapter 6                                       | Dec 8* - <a href="#">Dissection Labs</a>                |
| Oct 3 - Chapter 6: <a href="#">Current Lab</a>          | Dec 10 - <a href="#">Dissection Labs</a>                |
| Oct 6* - Chapter 7                                      | Dec 12 - <a href="#">Dissection Labs</a>                |
| Oct 8 - Chapter 7                                       | Dec 15* - Chapter 14                                    |
| Oct 10 - Chapter 7                                      | Dec 17 - Chapter 14                                     |
| Oct 13 - Chapter 8 / <a href="#">Journal Review Due</a> | Dec 19 - Chapter 14                                     |
| Oct 20* - Chapter 8                                     | Jan 5* - Chapter 15                                     |
| Oct 22 - Chapter 11                                     | Jan 7 - Chapter 15                                      |
| Oct 24 - Chapter 11                                     | Jan 9 - Chapter 15 / <a href="#">Symphony Due</a>       |
| Oct 27* - <a href="#">Story 2</a>                       | Jan 12 - <a href="#">Empathy Presentations</a>          |
| Oct 29 - <a href="#">Phys Ocea Lab</a>                  | Jan 15/16 Exams - <a href="#">Empathy Presentations</a> |
| Oct 31 - Chapter 9 / Midterm                            |                                                         |

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By signing below, I declare that I have read this syllabus and am aware of the class expectations and electronic resources available.

Student \_\_\_\_\_ Date \_\_\_\_\_

Parent \_\_\_\_\_ Date \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_