Elementary Oceanography: Syllabus
GEOL 3030 (92-416)  University of Georgia  Spring Semester, 2009
12:20 - 1:10 pm MWF  Room 200A GG

Professor: Dr. L. Bruce Railsback
Phone: 542-3453  Office: 133 GG  Lab: 201 GG  email: rlsbk@gly.uga.edu

Office Hours: Anytime LBR is in his office or lab, which is most of the time, except for
11:30-1:10 MWF and 1:00-3:15 Tu-Th. Feel free to call or email to set up a meeting
time.

Teaching assistant (grader of exercises): Dan Bulger (Room 124a GG; dbulger@uga.edu)

Textbook: Thurman, H.V. and Trujillo, A.P., 2004, Introductory Oceanography, 10th

Web Page: This syllabus, including the attached schedule, is subject to change as posted
on the course web site on the World-Wide-Web at
http://www.gly.uga.edu/railsback/railsback_GEOL3030base.html
Many essential course materials will be posted on the course web site.

Course Objectives: To acquaint students with the fundamentals of marine geology, of
physical, biological, and chemical oceanography, of paleoceanography, and of the
environmental aspects of oceanography, and to improve their skills in problem-solving
and in written communication.

By the end of the course, students should recognize the oceans as an interactive
system in which chemical, physical, and biological factors are inter-related (see p. 4), and
for which budgets of water, chemical substances, sediments, and even organisms can be
constructed. Throughout their lives, students will enter systems or organizations and have
to discern patterns and relationships in those systems, whether they be universities,
corporations, countries, or families. Students will do the same here by organizing what at
first seems like a vast bowl of water into an intelligible inter-related framework.

Course Requirements and Grading:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Time/Date Due</th>
<th>Proportion of course grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>Monday, February 16, 2009 12:20-1:10 pm 200A GG</td>
<td>21%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>Monday, April 13, 2009 12:20-1:10 pm 200A GG</td>
<td>24%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Noon - 3:00 pm Wednesday May 6, 2009 200A GG</td>
<td>30%</td>
</tr>
<tr>
<td>Eight (±) Exercises</td>
<td>As appropriate</td>
<td>25%</td>
</tr>
</tbody>
</table>

Students who have other commitments scheduled so that they cannot take exams
on these days at these times should not take the class.

Grading:
All exam grades and other grades are recorded as numbers, not letter grades. At the end of
the course, final numerical averages are used to determine final letter grades. Percentages
used to divide letter grades will be at or below the following values: A 92%, A- 90%, B+ 87%, B 83%, B- 80%, C+ 77%, C 73%, C- 70%, D+ 67%, D 63%, D- 60%. These
dividing points can vary from year to year because the dividing points are often lowered to
allow a reasonable distribution of letter grades. There is always at least one "A", and there
are usually several. Previous grade distributions are available from the course web page.

Attendance:
Records of attendance will not be kept, and attendance is not a factor in the grading
scheme. However, previous experience has shown that students who do not attend class
regularly will not be able to do well in the course. Students who do not attend class are
choosing to receive low grades.
Exams: Mid-term exams will consist of short-answer questions, matching questions, and multiple choice questions. Make-up exams are usually essay exams, because essay exams can be much more easily prepared on short notice. Exams can be made up in the documented event of illness or death in family. Car trouble, visits by friends and relatives, weddings, travel plans, and other exigencies beyond serious illness or death in family will not be treated as reasonable excuses for missing exams.

The first part of the final exam will resemble the mid-term exams and will deal with material covered after the second mid-term. The second part of the exam will be an essay question over any part of the course. The possible essay questions will be available before the exam via the course Web page; one question will be selected for the exam at the time of the exam by means of a random process.

Copies of last year's exams are available on the course web page.

Exercises: Exercises are intended to develop further understanding of material discussed in lecture or covered in the textbook. Discussion and comparison of exercises among students is acceptable, but completed exercises that are essentially identical in content will be treated as evidence of excessive collaboration. On the first offense, such exercises will be given half credit (if submitted by two people), one-third credit (if submitted by three people), etc. Further offenses will be treated as violations of the University's code of academic honesty.

An exercise may not be handed in, even for reduced credit, after that exercise has been reviewed in class by the instructor. In a few cases, that review may happen on the day that the exercise is due, thereby precluding any late submission at all of that exercise.

Withdrawal: The instructor reserves the right to submit statements of withdrawal for students who do not take the first mid-term examination. Students withdrawing before the mid-term withdrawal deadline will be given grades of WP.

Classroom etiquette: Class meetings are intended for lecture on and discussion of the subject matter, and for students to ask questions about that material. Students are strongly encouraged to ask questions and to remember that there are no stupid questions.

To allow the students to hear all the lectures and participate in all the discussions for which they are paying, no private personal conversations can take place during class. Failure to adhere to this basic maxim of civilized behavior, or repeated disruption of the class by some other means, will result in removal from the class.

Closing notebooks, putting on coats, and talking while the lecture or discussion ends are rude behaviors. Many students will still be trying to follow the lecture or discussion that they have paid to attend.

Pagers and cellular telephones should be deactivated during class time to avoid disturbing students who are trying to listen to class activities.

Seating: Movable seats in the aisles along the walls, and the fixed seats next to those aisles, are not to be used by students in GEOL 3030. Seats may be assigned as needed.

Accommodations for students with learning disabilities: Students with learning disabilities must inform the professor of measures needed to account for those disabilities by the end of the third class meeting. Students for whom the University provides a note-taker are reminded that note-takers are required to not deliver notes for any lecture that the disabled student does not attend with an excuse of illness or death in family.

Student Athletes: Students wishing that their course grades be released to advisors in the UGA athletics program must give the professor a signed dated letter indicating that wish and indicating the name and address of the person to whom the grades should be sent. The course web page has a sample letter or template.

Expectations: The professor assumes only a high-school level of knowledge of science, so that students from all majors can take the course and do well. The professor also assumes that the students want to learn and are willing to work in order to learn. Learning at the college level requires focused reading, daily review of lecture notes, and assimilation of the material covered. Students who want to learn and are willing to work will do well in the course.

UGA required verbiage: All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for informing themselves about those standards before performing any academic work. The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Schedule and Reading Assignments:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Readings in Thurman &amp; Burton</th>
<th>Tentative Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Syllabus; pp. 1-7; Ch. 1</td>
<td>Jan 9-12</td>
</tr>
<tr>
<td>Geography &amp; Geology of the Oceans</td>
<td>Ch. 3 &amp; 4</td>
<td>Jan 14-23</td>
</tr>
<tr>
<td>Physical Oceanography: Ocean Circulation</td>
<td>Ch. 6; pp. 164-177, 183-191; Ch. 7 &amp; 8</td>
<td>Jan 26-February 11</td>
</tr>
<tr>
<td>Exam 1</td>
<td></td>
<td>February 16, 2009</td>
</tr>
<tr>
<td>Physical Oceanography: Waves &amp; Tides</td>
<td>Ch. 9 &amp; 10</td>
<td>Feb 13-March 2</td>
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<tr>
<td>Biological Oceanography</td>
<td>Ch. 13 to 16</td>
<td>March 4-April 8</td>
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<tr>
<td>Exam 2</td>
<td></td>
<td>April 13, 2009</td>
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<tr>
<td>Deep-sea sediments</td>
<td>Ch. 5</td>
<td>April 10-17</td>
</tr>
<tr>
<td>Chemical Oceanography</td>
<td>pp. 177-183; web pages linked from course page</td>
<td>April 20-24</td>
</tr>
<tr>
<td>Paleoceanography</td>
<td>Material on course web page</td>
<td>April 27-April 29</td>
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<tr>
<td>Final Examination</td>
<td>Noon Wednesday May 6, 2009 in 200A GG</td>
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Textbooks and useful reference books


Important Journals and Series:

<table>
<thead>
<tr>
<th>Journal of Geophysical Research</th>
<th>Chemical Oceanography</th>
<th>Tellus</th>
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<tbody>
<tr>
<td>Deep Sea Research</td>
<td>Limnology and Oceanography</td>
<td>The Sea</td>
</tr>
<tr>
<td>Marine Geology</td>
<td>Journal of Marine Research</td>
<td>Nature</td>
</tr>
<tr>
<td>Journal of Physical Oceanography</td>
<td>Oceanology</td>
<td>Science</td>
</tr>
<tr>
<td>Paleoceanography</td>
<td>Progress in Oceanography</td>
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<tr>
<td></td>
<td>Initial Reports of the Deep Sea Drilling Project</td>
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Oceanographic inter-relationships