Syllabus

General Information:

Instructors:

William White  (white@geology.cornell.edu)  4112 Snee; 255-7466
  Office hours: Tues 1:15-2:15 or by arrangement
Charles Greene  (chg2@cornell.edu)  2130 Snee
  Office hours: Tues & Thurs. 1:00 to 2:00 or by arrangement
Teaching Assistants: Louise McGarry (head TA) 2140 Snee Hall, phone: 255-5166, lpm3@cornell.edu
  Peter Nester  2140 Snee Hall, phone: 255-5166, pn21@cornell.edu
  Herdis Schopka  4144 Snee Hall, phone: 255-9576, hhs22@cornell.edu

Grading:  2 Prelims, Final: 100%
Each of the 3 exams has equal value. No make-up exams will be given; instead, the lowest of
the 3 exam grades will be dropped.

Text: Sverdrup, Duxbury, and Duxbury, An Introduction to the World's Oceans (7th edition)
Class WWW Page:
“http://www.geo.cornell.edu/eas/education/course/descr/EAS154/EAS154home.html”

Schedule (Revised April 5)

Week 1 (Jan. 26-30)
  1. Introduction 1/27 (White)
     Recommended Reading: Sverdrup et al., Prologue
  2. Origin of the Earth & Its Oceans; Floor of the Oceans 1/29 (White)
     Reading: Sverdrup et al., Chapter 1

Week 2 (Feb 2- Feb 6)
  3. Plate Tectonics: Sea Floor Creation & Destruction 2/3 (White)
     Reading: Sverdrup et al., Chapter 2.
  4. Plate Tectonics: Divergent, Transform, & Convergent Boundaries 2/5 (White)

Week 3 (Feb 9-13)
  5. Sediments & Sedimentary Processes 2/10 (White)
     Reading: Sverdrup et al., Chapter 3
  6. Sediments & Climate History 2/12 (White)

Week 4 (Feb 16-20)
  7. Waves 2/17 (White)
     Required Reading: Sverdrup et al. Chapter 9.
  8. Tides 2/19 (White)
     Required Reading: Sverdrup et al. Chapter 10.

Week 5 (Feb 23- Feb 27)
  7. Nature & Composition of Seawater 2/24 (Owens)
     Required Reading: Sverdrup et al., Chapter 4.
  8. Biological Controls on Seawater Composition 2/26 (Owens)
     Required Reading: Sverdrup et al., Chapter 5.
Introduction to Oceanography

Week 6 (Mar 1-5)
9. Geological Controls on Seawater Composition 3/2 (White)

Week 7 (Mar 8 - 12)
13. Beaches and Coastal Processes 3/9 (White)
   Reading: Sverdrup et al., Chapter 11
   PRELIM EXAM 1: Evening of Thursday, March 11

Week 8 (Mar 15 - 19)
15. Thermohaline Circulation (White) 3/16
   Reading: Sverdrup et al., Chapters 6 & 7
16. Wind-Driven Circulation 3/18 (Greene)
   Reading: Sverdrup et al., Chapter 6 & 8
   SPRING BREAK (Mar 20-27)

Week 9 (Mar 29 - Apr 2)
17. El Nino - Southern Oscillation 3/30 (Greene)
   Reading: Sverdrup et al., Chapter 6
18. Climate Change I 4/1 (Greene)
   Reading: Sverdrup et al., Chapter 6

Week 10 (Apr 5 - Apr 9)
19. Climate Change II 4/6 (Greene)
20. Oceans & Climate 4/8 (Greene)

Week 11 (Apr 12 - Apr 16)
21. Global Patterns of Productivity 4/13 (Greene)
   Reading: Sverdrup et al., Chapter 13 & 14
   Reading: Sverdrup et al., Chapter 15

Week 12 (Apr 19 - Apr 23)
23. Microbial Loop 4/20 (Monger)
   Reading: Sverdrup et al. Chapters 14 & 15
24. Ecology of Rocky Shores 4/22 (Greene)
   Reading: Sverdrup et al. Chapter 17

Week 13 (Apr 26-Apr 30)
25. Ecology of Coral Reefs 4/27 (Greene)
   Reading: Sverdrup et al. Chapter 17
26. Marine Conservation: Sea Turtle 4/29 (Morreale)
   Required Reading: Sverdrup et al. Chapter 16

Week 14 (May 3 - May 7)
27. Marine Conservation: Whales 5/4 (Clark)
   Required Reading: Sverdrup et al. Chapter 16
28. PRELIM EXAM NO. 2 5/6 (in class)