Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

1. This request is submitted by the Department of Oceanography

2. Course prefix, number and complete title of course: OCNG 611 Global Scale Oceanography

3. Course description (not more than 50 words): A balanced description of the ocean's large-scale circulation and water mass structure based on the interpretation of modern observations, with emphasis on the ocean's role in global climate, and physical-chemical property fluxes in basin to global scale budgets.

4. Prerequisite(s) none

5. Cross-listed with none

6. Is this a variable credit course? ☐ Yes ☑ No If yes, from _______ to _______.

7. Is this a repeatable course? ☐ Yes ☑ No If yes, this course may be taken _______ times. Will the course be repeated within the same semester/term? ☐ Yes ☑ No

8. Has this course been taught as a 289/489? ☑ Yes ☐ No If yes, how many times? 2 Indicate the number of students enrolled for each academic period it was taught. 12 Fall 2006 and 7 Fall 2007

9. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography) M.S. and Ph.D. in Oceanography

10. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

Prefix | Course # | Title (excluding punctuation)
--------|---------|-------------------------------
OCNG 611 | Global Scale Oceanography |

Lect. 03 | Lab 00 | SCH 34 | Subject Matter Content Code 06 | Admin. Unit OCNG | Acad. Year 08 - 09 | FICE Code 003632

Approval recommended by:
Head of Department 10. 31. 07

Chair, College Review Committee 11. 29. 07

Dean of College

Submitted to Coordinating Board by:
Dean of College

Director of Academic Support Services

Questions regarding this form should be directed to Sandra Williams at 845-8836.
OAR/AS – 04/07

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COURSE SYLLABUS

Title:
611 – Global Scale Oceanography
Fall 2008: Monday and Wednesday, time TBA, in room 604

Instructor:
Dr. Alejandro H. Orsi
Department of Oceanography
3146 TAMU
Office: 616 Eller O&M Building
Office Hours: by appointment
Phone: 979-845-4014
Fax: 979-845-6331
E-mail: aorsi@tamu.edu

Course Objective and Description:
To provide a balanced description of the ocean’s large-scale circulation and water mass structure based on modern observations and circulation theories. Discussions rely entirely on the interpretation of direct and indirect measurements of the ocean. This course focus is on the long-term mean flow patterns, intensity and variability of ocean currents at different levels, the associated physical-chemical property distributions and water mass structures, and the property fluxes (volume, heat, freshwater, tracer gases, carbon) relevant to basin to global scale budgets. Emphasis is given to the role of the oceans in global climate.

Prerequisites: OCNG 608, or approval of instructor.

Grading:
It is based on two non-cumulative exams of lecture materials, each accounting for a third of the final grade. The remainder third of the grade is based on individual research papers on selected topics, to be presented in class for general discussion. Course grades are based on the standard scale (A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: below 60%), but curved at the discretion of the instructor.

Attendance Policy: Lectures attendance is strongly encouraged

Course Topics and Schedule
- Introduction to Descriptive Physical Oceanography
- Physical Properties of Seawater
- Typical Global Distribution of Water Characteristics
- Dynamical Processes for Descriptive Ocean Circulation
• Atmospheric Circulation and Surface Forcing

• Transports and Budgets: Mass, Salt and Heat

• North Pacific: Upper Ocean Circulation

• North Atlantic and Southern Hemisphere: Upper Ocean Circulation

• Equatorial and Eastern Boundary Currents: Pacific Ocean

• Upper Ocean Water Masses and Ventilation

• Arctic Ocean and Nordic Seas: Meridional Overturning Circulation

• Southern Ocean: Meridional Overturning Circulation

• Global Summary

• Ocean Variability: Seasonal, Interannual and Decadal

• Instrumentation, platforms and observing methods

**Textbooks and Reading Materials:**


ADA Statement:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B118 of Cain Hall. The phone number is 845-1637. Student Life website (which includes Disabilities) http://studentlife.tamu.edu/

Copyright Policy:
All materials used in this class are copyrighted. These materials include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted.

Plagiarism Policy:
As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, http://student-rules.tamu.edu/, under the section “Scholastic Dishonesty.”

The Honor Code:
The Honor Code, based on the long-standing affirmation that An Aggie does not lie, cheat, or steal or tolerate those who do, is fundamental to the value of the A&M experience. Know the Code. Aggie Code of Honor: “An Aggie does not lie, cheat, or steal or tolerate those who do.” http://www.tamu.edu/aggiehonor