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 
   Marine Sciences

2. Course prefix, number and complete title of course:
   MARS 602: Environmental Economics and Oceanography

3. Catalog course description (not to exceed 50 words):
   An introductory fundamentals course for Marine Resources Management students; primary concepts of economics and oceanography with emphasis on their applications to physical and living resources. Writing assignments and case studies.

4. Prerequisite(s):

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

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

7. This course will be:
   a. required for students enrolled in the following degree programs(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)
      recommended for Masters of Marine Resources Management students lacking this background material

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

9. Prefix Course # Title (excluding punctuation)

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Approval recommended by:

Dr. Ernest Estes
Department Head – Type Name & Sign Date

Chair, College Review Committee Date

Department Head – Type Name & Sign
(if cross-listed course) Date

Dean of College Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu

Curricular Services – 3/09

1 of 4 B7
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 Marine Sciences

2. Course prefix, number and complete title of course: MARS 602 Environmental Economics and Oceanography

3. Course description (not more than 50 words): An introductory course with prerequisite material especially for Marine Resources Management students. Fundamental concepts of economics and oceanography with emphasis on their applications to physical and living resources. Writing assignments and case studies.

4. Prerequisite(s): Graduate status, BS or approval of instructor

5. Is this a variable credit course? □ Yes ☑ No If yes, from ________ to ________.

6. 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

7. Has this course been taught as a 289/489/689? ☑ Yes □ No If yes, how many times? 2

8. 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) recommended for Master of Marine Resources Management if student lacking this background material

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

10. Prefix | Course # | Title (excluding punctuation)
     | MARS 602 ENV ECON & OCEANOGRAPHY

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Approval recommended by:
Head of Department
Date

Head of Department (if cross-listed course)
Date

Submitted to Coordinating Board by:
Director of Academic Support Services
Date

Chair, College Review Committee
Date

Dean of College
Date

Dean of College
Date

Effective Date

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

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MARS 602
Environmental Economics and Oceanography

Course materials online at http://loer.tamug.edu/Loup/MARM07/MARM1.htm and in WebCT/BB Vista at http://elearning.tamu.edu (login with netID required)

Professor: Dr. William Seitz, email: seitzw@tamug.edu
Course Material Development: Dr. Patrick Louchouarn, email: loup@tamug.edu
Course Logistics: Dr. Melanie Lesko, email: leskoma@tamug.edu
Telephone: 409/740-4406 or 409/740-4733
Office Hours: TBA and by appointment

Course Description and Prerequisites:
An introductory fundamentals course for Marine Resources Management students; primary concepts of economics and oceanography with emphasis on their applications to physical and living resources. Writing assignments and case studies. Prerequisite: Graduate status or approval of instructor.

Learning Outcomes:
The students will be able to
1. Identify important economic issues relevant to physical and living ocean resources.
2. Recognize and explain physical, chemical and geological influences in and on the ocean.
3. Relate the physical processes to the dynamics of the living resources of the ocean.

Grades: This course will be taught as Pass/Fail
There will be short writing assignments throughout the course emphasizing the interrelationships between economics and the ocean sciences. Students will be assigned to small groups; the composition of the groups will rotate through the course. Students will be responsible for original writings as well as reading and critiquing other students' papers within their group over the same topics. Groups will also rewrite and condense certain papers. Grades for this course will be determined in the following manner:

Written Assignments----------75%
Participation-----------------25%

Readings and Supplementary Materials:
Oceanography:

Environmental Economics:

Topics:
I. Economics
   1. Introduction to ocean economics
   2. Conventional economics
   3. Factor substitution
   4. Environmental implications

II. Oceanography
   1. Introduction to oceanography and the Earth’s Systems and Cycles
2. Defining Boundaries I: The Bottom of the Ocean
   a. The Water Planet and Marine Provinces
   b. Plate Tectonics
   c. Marine Sediments
3. Defining Boundaries II: The Surface of the Ocean
   a. Waves and Tides, Filling up the Ocean and the Physical Properties of Water
   b. Temperature and Salinities - TS Diagrams
4. The Structure of Ocean
   a. The Earth Heat Budget
   b. The Ocean/Atmosphere Coupling
5. The Ocean in Motion:
   a. Horizontal Circulation
   b. Vertical Circulation
6. Climate variability: An Ocean View
7. Chemistry of seawater
9. Ocean Productivity and Energy Transfer
10. Environmental Issues and Concerns

Americans with Disabilities Act (ADA) Policy 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 Counseling office.

ACADEMIC HONESTY: For many years Aggies have followed a Code of Honor, which is stated in this very simple verse: "Aggies do not lie, cheat, or steal, nor do they tolerate those who do." Please refer to the Honor Council Rules and Procedures on the web http://www.tamu.edu/honor for more information.