CMSS 6372 and ESCI 5490: Environmental and Sustainability Economics  
Department of Physical & Environmental Sciences  
Fall Semester 2016

A. COURSE INFORMATION
Course number/section: CMSS6372.001 and ESCI 5490.001  
Class meeting time: 4:20 – 6:50 M  
Class location: CS 108  
Course Website:

B. INSTRUCTOR INFORMATION
Instructor: Dr. David Yoskowitz  
Office location: HRI 318C  
Office hours: M 3-4:15, W 1:30-3:30, and by appointment  
Telephone: 361.825.2966  
e-mail: david.yoskowitz@tamucc.edu  
Appointments: To schedule an appointment contact me by email or phone

C. COURSE DESCRIPTION
Catalog Course Description  
This course will introduce the fundamental concepts of neoclassical microeconomics and ecological economics and apply them to environmental and sustainability issues.

Extended Course Description  
The natural environment is under continuing pressure from use by individuals, development, and climate change at the same time nature provides a tremendous amount of services that impacts human well-being. The driving question is: How do we manage these resources, given the pressures they face, in a manner that minimizes the impact on ecosystem services. In this course we will introduce the fundamental concepts of neoclassical microeconomics and ecological economics applied to environmental and sustainability issues. We will then apply those concepts to specific management issues.

D. PREREQUISITES AND COREQUISITES
Prerequisites  
None

Corequisites  
None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
Required Textbook(s)  
Optional Textbook(s) or Other References


Guerry, A.D. et al. 2015. Natural capital and ecosystem services informing decisions: From promise to practice. PNAS. 112:7348-7355; doi:10.1073/pnas.1503751112


Taylor, B and M. Zimmerman, (n.d.) Deep Ecology


Supplies
None

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Describe and explain the current issues surrounding resource management from an economic perspective and the tools available to inform decision making. Current issues include valuation of ecosystem services and cost-benefit calculations used by resource managers and the private sector.
2. Determine the appropriate economic method to be used in answering a particular resource management or sustainability issue.
3. Perform a basic economic analysis on a particular resource management or sustainability issue.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

To better achieve the objectives of the class, members will be divided up into pods (groups). Since the members of our class come from different backgrounds, the pods will be balanced to include the various disciplines. The course will be taught in a lecture, discussion, and case-study format. Students will be assigned readings from the bibliography and will be expected to discuss those readings in class.

Projects are required that will entail reviewing scientific literature on a specific area of the student’s choosing from within the broad topic of environmental and sustainability economics. Students will write a prospectus listing a bibliography of materials to be reviewed, prepare a written project report, and present the results of the report orally in class.
### H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Tests (25% each * 2)</td>
<td>50%</td>
</tr>
<tr>
<td>Project and presentation</td>
<td>40%</td>
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<tr>
<td>Class discussion/participation</td>
<td>10%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>

### I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>READINGS</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Aug. 29)</td>
<td>Introduction to environmental</td>
<td>Chapter 1 (textbook)</td>
<td>Read and discuss</td>
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<tr>
<td></td>
<td>economics</td>
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<tr>
<td>2 (Sept. 12)</td>
<td>Valuing the Environment: Concepts</td>
<td>- Chapter 2 (textbook)</td>
<td>Read and discuss</td>
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<td></td>
<td></td>
<td>- Naess, 1973</td>
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<td></td>
<td></td>
<td>- Taylor and Zimmerman, n.d.</td>
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<tr>
<td>3 (Sept. 19)</td>
<td>Optimal Foraging Theory (V.</td>
<td></td>
<td>Read and discuss</td>
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<td></td>
<td>Ramenzoni)</td>
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<tr>
<td>4 (Sept. 26)</td>
<td>Valuing the Environment: Methods</td>
<td>- Chapter 3 (textbook)</td>
<td>Read and discuss</td>
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<td></td>
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<td>- Beseres Pollack et al., 2013</td>
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<tr>
<td>5 (Oct. 3)</td>
<td>Property Rights, Externalities</td>
<td>- Chapter 4 (textbook)</td>
<td>Read and discuss</td>
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<td></td>
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<td>- Lueck, 2002</td>
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<tr>
<td>6 (Oct. 10)</td>
<td>Green Infrastructure (K. Wowk)</td>
<td>- Sutton-Grier et al., 2014</td>
<td>Read and discuss</td>
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<td></td>
<td></td>
<td>- Chapter 5: Natural Infrastructure Finance, WRI</td>
<td></td>
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<tr>
<td>7 (Oct. 17)</td>
<td>Sustainable Development</td>
<td>-Chapter 5 (textbook)</td>
<td>Read and discuss</td>
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<td>- Maler, K.G., 2008</td>
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<tr>
<td>8 (Oct. 24)</td>
<td>Test 1</td>
<td></td>
<td>Weeks 1-7 work</td>
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<tr>
<td>9 (Oct. 31)</td>
<td>Ecosystem Services: Introduction</td>
<td>- Costanza et al. 1997</td>
<td>Read and discuss</td>
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<td></td>
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<td>- Kangas, 2004</td>
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<td></td>
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<td>- Polasky, et al., 2015</td>
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<tr>
<td>10 (Nov. 7)</td>
<td>Coastal and Marine Ecosystem</td>
<td>- Chapter 13 (textbook)</td>
<td>Read and discuss</td>
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<tr>
<td></td>
<td>Services I</td>
<td>- Yoskowitz et al., 2016</td>
<td></td>
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<tr>
<td>11 (Nov. 14)</td>
<td>Disaster Resilience (K. Wowk)</td>
<td>ULI Report, pgs. 1-23</td>
<td>Read and discuss</td>
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<tr>
<td>12 (Nov. 21)</td>
<td>Coastal and Marine Ecosystem</td>
<td></td>
<td>Read and discuss</td>
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<td></td>
<td>Services II</td>
<td></td>
<td></td>
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<tr>
<td>13 (Nov. 28)</td>
<td>Development, Poverty, and the</td>
<td>- Chapter 20 (textbook)</td>
<td>Read and discuss</td>
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<td></td>
<td>Environment</td>
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14 (Dec. 5) Test 2 and student presentations Week 9-13 work

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Participation is a critical part of this course. Students are expected to come prepared to every class for discussion.

K. COLLEGE AND UNIVERSITY POLICIES

• Academic Integrity (University)
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

• Classroom/Professional Behavior
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

• Statement of Civility
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.
• **Deadline for Dropping a Course with a Grade of W (University)**
  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation **WILL NOT automatically result in your being dropped from the class.** Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that **must** be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last day to drop a course.

• **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• **Disability Services**
  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 call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  [http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

• **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi;
this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- Academic Advising
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

The instructor reserves the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. The changes will be announced in a timely manner during regularly scheduled lecture periods or via email.