Environmental and Resource Economics (AGEC 350)

Spring 2013

Contact Information

Instructor: Dr. Richard Woodward
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Office hours: TBA

Textbook: Tom Tietenberg and Lynne Lewis, Environmental and Natural Resource Economics, 9th edition. 2012. Addison Wesley. Earlier editions of this text may be used, though it will be the student’s responsibility to ensure that equivalent material is covered.

Supplementary readings and other materials will be required for many classes. These will be made available via the Internet at the class home page:
http://agecon2.tamu.edu/people/faculty/woodward-richard/350/

Prerequisites: Junior classification or approval of the instructor required. Prior exposure to microeconomics is helpful, but not required.

Office hours and contacting Professor Woodward: I can be reached by e-mail throughout the day. If you want to visit in person you can stop by, but it is best to send me an e-mail message, give me a call or talk to me after class to set up an appointment. If you have an urgent question, you can call me at home, 979-703-6470, but please, no later than 9:00 p.m.

Electronic communication and the Internet: It is the students’ responsibility to follow the course’s progress via e-mail and the Internet. I will assume that any announcements made electronically will be received within 24 hours.

Overview of the course

The purpose of American education is to create knowledgeable citizens of American democracy who can contribute to their own and the common good
- David Goodstein

What is environmental and resource economics? Virtually anything that we do involves the use of natural resources. Every time we take a breath, take a bite, or turn on a light we use the environment and natural resources. Decisions that we make individually and as a society can directly or indirectly affect the quality and quantity of the resources upon which we all depend. Environmental economics uses economics to study help us understand why problems of environmental degradation and overuse of natural resources arise, how we might address these problems.

The primary learning objectives of AGEC 350 is to give you the knowledge, skills and tools to allow students to use an economic lens to consider a problem related to the environment and natural resources. To use this lens you will need (1) an understanding of the basic economic framework and analytical tools that economists use; (2) the ability to find and use factual information about the physical processes behind these problems and about how humans affect and are affected by those processes; (3) knowledge of the institutions – the norms, laws and organizations – that affect the environment in Texas, the nation and internationally. AGEC 350, if successful, will fulfill those needs.
By the end of the class, what do I want you to be able to do?
- Talk knowledgeably about how and why economics should be taken into account when considering issues related to the environment and natural resources.
- Read a newspaper article about an environmental problem with an economic lens.
- Carry out a preliminary benefit-cost analysis of a program or policy that has environmental consequences.
- Recommend an efficient policy to address an environmental problem or manage a natural resource.

Topics to be covered:
This list is not complete or final, but we will cover most of the following topics:
- Pollution
- The population problem
- Oil shortages
- Water as an economic resource
- Fisheries management
- Acid rain, air pollution and global warming
- Water pollution
- Economic efficiency and the environment
- Cost-benefit analysis
- Property rights

How the class will work
The Team-Based Learning (TBL) approach will be used in this course. TBL advocates self-directed learning of course content and will facilitate your application of new knowledge within small collaborative teams and full classroom discussions. TBL requires you to be prepared for and attend all classes. Your participation will provide you with the opportunity to learn from your peers as well as work and negotiate within your team.

We live in an age of abundant information. We have nearly immediate access to information in a wide array of forms, from books and magazines, to videos and podcasts. The lecture is yet another way to deliver information. While a good lecture can be very effective, what makes the classroom unique is that it brings students and instructors together where they can learn from each other. TBL capitalizes on this feature. In a TBL class, lectures are very limited and are used almost exclusively to clarify questions that arise rather than simply imparting information. In a TBL class, students work in small groups that last the entire semester. Members of the team learn together and from each other, meaning that coming to class prepared is essential to your success and that of your team.

The course will be divided into five modules. Each module will start with a Readiness Assessment Test (RAT). This will be based on readings and short videos that must be completed before the start of the module. Each RAT is completed twice: first individually (the iRAT), then as a team (the tRAT). This will be the primary activity during the first class period of each module. During the remaining class periods in each module, teams will work through activities, usually requiring some preparation, that allow you to refine your understanding of material and improve your ability to use the economic lens.

What TBL is not:
- It is not normal group work – there will be no group work required outside of the classroom.
- It will not be a drag on your grade—a tRAT score cannot reduce your grade relative to your iRAT score.
- It is not an excuse to slack off – Team rules for participation and peer evaluation will affect your grade. Each team will write a contract and teammates must hold each other accountable.
## Evaluation and grading

The final percentage allocation for each component of the class will be determined in class.

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Number</th>
<th>% of grade</th>
<th>% of grade (final)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Readiness Assessment Tests</td>
<td>5</td>
<td>10-20</td>
<td></td>
</tr>
<tr>
<td>Team Readiness Assessment Tests (RATs)</td>
<td>5</td>
<td>10-20</td>
<td></td>
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<tr>
<td>RAT bonus points</td>
<td>5</td>
<td>10-20</td>
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<tr>
<td><strong>Highest Score:</strong> 1 percentage point final grade.</td>
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<td><strong>Second Highest Score:</strong> ½ percentage point final grade.</td>
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<tr>
<td>Peer evaluation of team members</td>
<td>2</td>
<td>10-20</td>
<td></td>
</tr>
<tr>
<td>Team in-class assignments and short homeworks</td>
<td>lots</td>
<td>10-20</td>
<td></td>
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<tr>
<td>Midterm examination</td>
<td>1</td>
<td>20-30</td>
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<tr>
<td>Final examination</td>
<td>1</td>
<td>30-40</td>
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**Final Grades** (may be curved upward at instructor’s discretion)

A  90% above  B  80-89.9%  C  70-79.9 D  60-69.9%  F less than 60%

### Readiness Assessment Tests (RATs)

Each RAT will consist of two parts, both of which are worth 20 points.

### Exams

- The midterm and final exams will be completed individually.
- The exams are cumulative, though more recent material is emphasized.
- The final exam will be given on the University scheduled date and time.
- Guidance on the types of questions that will be on the exams and a list of review questions will be provided at least one week prior to each exam. Old exams will be made available via the Internet.

### Peer review of teammates

Prior to the midterm exam and at the end of the semester, each student is required to anonymously evaluate each other member of his or her group. On the forms, students will give qualitative feedback to each member and award points to the other members of his or her team. The grade points will then be determined as a percentage of the total number of participation points awarded and scaled so that if everyone on the team were ranked equally, then everyone would receive an 89 on the peer evaluation part of their grade.

### The culture of the classroom:

We’re all in this together. As instructor of AGEC 350 I will strive to

- Be prepared
- Give fair exams and grade in a fair and consistent manner
- Be accessible to students outside of class
- Be understanding and helpful when students are uncertain of the material
- Be open to questions
- Convey a sense of priority, i.e., identify important material
- Give ample time to complete assignments and remind students of due dates.
In return, I ask that the students to

- Be a cooperative and engaged member of your team
- Constructively participate in all classroom activities
- Arrive on time.
- Turn off (not just silence) phones and other devices.
- Refrain from text-messaging, reading a newspaper, surfing the Internet, passing notes, or chatting in a way that distracts others in your team or in other teams.
- Inform me before class if you need to leave class early or if you need to be prepared for emergency communication.
- Communicate in a professional and responsible fashion, informing me and your teammates in the event of absences.

<table>
<thead>
<tr>
<th>Key Dates</th>
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<tbody>
<tr>
<td><strong>(subject to change with prior notification)</strong></td>
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<tr>
<td><strong>Module #1:</strong> Value, Valuation and Efficiency</td>
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<tr>
<td>1/22 R AT #1</td>
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<td><strong>Module #2:</strong> Property Rights, Efficiency, Externalities, &amp; Public Goods</td>
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<tr>
<td>2/5 R AT #2</td>
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<tr>
<td>and Policies</td>
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<td><strong>Module #3:</strong> Pollution Problems and Policies</td>
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<td>3/5 R AT #3</td>
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<td><strong>Module #4:</strong> Renewable and Non-Renewable: Static and Dynamic Efficiency</td>
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<td>3/26 R AT #4</td>
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<td><strong>Module #5:</strong> Energy, Recycling and Fisheries</td>
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<td>4/9 R AT #5</td>
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<td><strong>Final Exam (1-3 p.m.)</strong></td>
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**Scholastic Honesty**

"An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

**Students with Disabilities**

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 Cain Hall or call 845-1637.