Environmental and Resource Economics (AGEC 350)  
Tuesday & Thursday, 3:55 – 5:10 p.m., AGLS 114

**Spring 2016**

**Contact Information**

**Instructor:**  
Dr. Richard Woodward  
210M AGLS Building  
979-845-5864  
Office hours: Open door policy but scheduled appointments are more reliable  
r-woodward@tamu.edu

**Dr. Woodward’s administrative assistant:**  
Michele Zinn  
211 AGLS Building  
979-845-2333

**TA**  
Ben (Hyungho) Park  
341 AGLS Building  
phh84@tamu.edu


**Supplementary readings and other materials** will be required daily. 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?** 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 economic principles to help us understand why environmental degradation and overuse of natural resources arise, and how we might address these problems.

**The primary learning objectives of AGEC 350** is to give you _an economic lens_: the knowledge, skills and concepts that will you can use 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 should 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 basic 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
- Energy
- Water as an economic resource
- Water pollution
- Fisheries management
- Air pollution and acid rain
- Climate change
- Economic efficiency and the environment
- Cost-benefit analysis
- Property rights

How the class will work: Team-Based Learning

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 traditional lecture is one very good way to deliver information, but it’s got a lot of competition. 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.

Since the central role of the lecture is reduced in TBL, students need to learn the basics before they get to class. To give you an incentive to do that preparation, in each module there will be two Readiness Assessment Tests (RAT) based on readings and short videos that must be completed before the RAT. Each RAT is completed twice: first individually (the iRAT), then as a team (the tRAT). We will also have many teams 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 – Your participation will be evaluated by your peers and that will affect your grade.
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>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Readiness Assessment Tests</td>
<td>10-11</td>
<td>12</td>
</tr>
<tr>
<td>Team Readiness Assessment Tests (tRATs)</td>
<td>10-11</td>
<td>13</td>
</tr>
<tr>
<td>tRAT bonus points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Score: ½ percentage point final grade.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Highest Score: ¼ percentage point final grade.</td>
<td>10-11</td>
<td></td>
</tr>
<tr>
<td>(If there is a tie for 1st place, no 2nd place bonus points are awarded)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer evaluation of team members</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Individual short homeworks and team in-class assignments</td>
<td>many</td>
<td>15</td>
</tr>
<tr>
<td>Midterm examination</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Final examination</td>
<td>1</td>
<td>30</td>
</tr>
</tbody>
</table>

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)
RATs are multiple-choice tests over the material that you need in order to be ready to start building on the foundation. Your lowest iRAT and tRAT scores will dropped in calculating the final grade.

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 a 90 on the peer evaluation part of their grade.

Team in-class assignments and short homeworks
On many days there will be short graded exercises, usually completed by teams. Occasionally you will be responsible for short homework assignments. In order to obtain credit for these assignments you must be in class at 3:55 p.m. The lowest 2 scores will be dropped when calculating your final grade.

Exams
- The midterm and final exams will be completed individually.
- The final exam is 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.

Make-up policies and absences
- Student rules regarding absences are strictly adhered to: http://student-rules.tamu.edu/rule07
- In the event of an unexcused absence, the student will receive a zero for any work graded on that day.
- In the event of an excused absence on the day of the midterm exam, the final exam grade will count for the midterm.
- In the event of an excused absence on the day of a RAT or other graded work, that component will not be counted in the average. Students must provide satisfactory documentation for all absences, which for one-day absences may consist of the Explanatory Statement for Absence from Class form.
- Failure to complete the peer-review process will cause a zero for that review, regardless of the scores that the student’s peers give to him or her.
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.
• Respect each student’s opinions, priorities, strengths and weaknesses.

In return, I ask that the students to

• Communicate in a professional and responsible fashion, informing me and your teammates in the event of absences.
• 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. No electronic devices may be used during exams or RATs
• Refrain from activities that disengage you from the class or distract others. This includes using electronic devices for text-messaging, reading, browsing, etc. and chatting with neighbors 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.

Key Dates
All dates are posted and updated on the Calendar page of the class homepage.
Dates below are subject to change with prior notification.

RATs
There will be a readiness assessment test approximately once per week

Midterm Exam
Tuesday, March 1

Final Exam
Monday, May 9, 1:00-3:00 p.m.
(Students needing to reschedule must submit a request in writing on or before Tuesday April 21)

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 Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu