NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

OVERVIEW
Economic activity and the natural environment are inseparable. Private decisions and public policies entail tradeoffs between economic and environmental outcomes. Natural resource and environmental economics provides a means to assist us in understanding the causes of environmental problems and developing solutions consistent with society's economic and environmental objectives.

This course provides an introduction to environmental and natural resource economics. Lectures, homework assignments, and in-class discussion/exercises are used to provide insights into economic aspects of a wide range of environmental issues including air and water pollution, forest management, and links between the economy and the environment. Students will learn how to look at environmental and natural resource issues from an economic perspective, and how to apply basic tools of economic analysis when making decisions. Much of the course material is available online, including the syllabus, class schedule, class notes, and homework assignments.

The required course text that will be used extensively in the course is:
An online or electronic copy of the text may be available from the publisher at reduced cost.
Two copies of the course text are on 2-hour reserve in the Management and Economics Library (MEL) on the second floor of the Krannert Building.

COURSE WEBSITE
The course website is accessible through the Purdue University Blackboard Vista system at:
http://www.itap.purdue.edu/tlt/blackboard/index.cfm. All PowerPoint slides, assignments, quizzes, schedule updates/changes, and announcements will be posted to the Blackboard site.

I will send emails using the Blackboard email utility throughout the semester and in the event of any schedule change. Please make sure that your personal Blackboard settings are configured so that you will receive any messages sent in this manner. If you use Gmail or another non-Purdue email address, make sure that emails sent through Blackboard are being automatically forwarded to your other account that is checked at least daily.

PREREQUISITE
The pre-requisite for this class is AGEC 203 or AGEC 204 or EC 251. If you do not have the pre-requisite or an equivalent principles of microeconomics course, please let me know.

ATTENDANCE & ETIQUETTE
Students are expected to attend every class. Course notes and readings available online are not a substitute for attending class and participating in computer lab or web-based exercises that are part of the course.

ADDITIONAL HELP & RESOURCES
I encourage students to come see me individually or in small groups during office hours (or by appointment) if they have questions about the class material, readings, homework assignments, or other topics relevant to the course. I want you all to learn the course material and be successful in this class and beyond, and I will work
with you to help you succeed. If you don’t understand something or find yourself falling behind in the class, I cannot help you if you do not take the initiative to come meet with me. In this class, as in life, you bear the lion’s share of the responsibility for your own success. This is not an easy course, but I will give you the resources you need to be successful. Those resources are your lecture notes (PowerPoint slides and handwritten notes that cover problems from the chalkboard), textbook, online quizzes and homework assignments. You will need to use all of these course materials to be at the top of the grade distribution at the end of the semester.

GRADING POLICY (All dates are tentative)
The final course grade is computed based on the total points earned from:

1) Quizzes covering readings taken on Blackboard before first class assigned 7%
2) In class exercises (2-3 throughout the semester): credit for participation 3%
3) Homework assignments (4 of equal weight): Sep. 13, Oct. 25, Nov. 8, Nov. 29 30%
4) Mid-term Exams (2): Mid-term 1 on Oct. 15, Mid-term 2 on Dec. 3 60%
5) Final Exam (Optional): Averaged with midterm exams, if taken

Final grades will be assigned according to the following +/- scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>GPA Value</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
<td>97.0-100</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
<td>93.0-96.9</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td>90.0-92.9</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td>87.0-89.9</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>83.0-86.9</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>80.0-82.9</td>
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<tr>
<td>C+</td>
<td>2.3</td>
<td>77.0-79.9</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>73.0–76.9</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
<td>70.0–72.9</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
<td>67.0–69.9</td>
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<tr>
<td>D</td>
<td>1.0</td>
<td>63.0–66.9</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
<td>60.0–62.9</td>
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<tr>
<td>F</td>
<td>0.0</td>
<td>&lt; 60.0</td>
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NOTE: 75.0=lowest passing score for the Pass/No Pass grade option

HOMEWORKS (30%)
Four (4) homework assignments will be assigned during the semester. Each will contribute equally to your final grade in the course based on the Grading Policy stated above. The purpose of the homework assignments is to help you master your understanding of key concepts and learn how to apply the analytical tools that are used in environmental and natural resource economics. You may discuss homework assignments with your classmates, but you must write-up and submit your own answers for each problem set.

These assignments will be posted on the course webpage (on Blackboard Vista). Tentative due dates are indicated above and updated due dates will be posted on the online course schedule. Specific instructions will be included with each individual assignment. **Late homework will not be accepted.** Start assignments early so that computer problems or Blackboard Vista service outages on the night or weekend before the due date do not prevent you from completing the assignment on time. By not waiting until the last minute, you will also have time to come see me during my office hours or by appointment if you are having trouble with the homework questions. Missing class on the due date of an assignment is not an excuse, even if you are ill. You must email me (bgramig@purdue.edu) a copy of your completed assignment by class time (2:30PM) on the due date or turn it in early if you know you will have to miss class on the due date.
Homework assignments should be prepared with the same care and attention to detail that you would use when writing a professional memorandum to your employer. Answers should be written in complete and comprehensible sentences. The use of word processing and spreadsheet software is strongly encouraged. When your responses require mathematical calculations to be made, you must show your work to receive full credit. When written responses to homework questions are based on calculations, your responses should correspond to the mathematical calculations you provide.

QUIZZES (7%)
A quiz over each assigned chapter will be posted online on Blackboard (under Assessments) and must be completed by noon on the first class day that a new chapter of material will be covered. For example, we will cover chapter 1 on Wednesday August 25 and by noon on Wednesday you must complete the online quiz for chapter 1 in order to receive credit. Quizzes can be taken early, but cannot be taken late or made-up. We will (tentatively) cover 18 chapters and I will drop the lowest 4 scores when calculating your grade in the course. Dropped quizzes are intended to help you maximize the total quiz points awarded and allow flexibility for missed quizzes because of illness or for any other reason. Quizzes cannot be made up for any reason.

EXAMS (60%)
Two (2) mid-term exams will be given during the semester, as indicated on the course schedule posted on Blackboard. The first mid-term exam will be given during the last class before October Break. The second mid-term will be given during the last class period before Dead Week. An optional final exam will be given during the scheduled final exam period and will be cumulative. If a student opts to take the optional final, their grade will be averaged with their two mid-term grades, so that all three exams contribute 20% toward your final grade. Exams are designed to test your understanding of concepts and application of the tools for economic analysis introduced in the class. Exams include multiple choice and short answer questions that emphasize application of core concepts and problem solving. Each exam will contribute equally to your final grade based on the Grading Policy stated below.

IN CLASS EXERCISES (3%)
2-3 times throughout the semester there will be an in class exercise, like a trip to the computer lab or a discussion or other activity, and attendance and participation points will be awarded on these days.

GRADUATE STUDENTS
This course may be taken for graduate credit as AGEC 596, with the additional requirement of a research paper. For details on this course option, please meet with me individually.

SPECIAL ACCOMODATIONS
If you have a disability that requires special academic accommodation, please make an appointment to speak with me within the first three weeks of the semester. It is important that we talk about this at the beginning of the semester. Please note that university policy requires all students with disabilities to be registered with the Disability Resource Center [http://www.purdue.edu/drc/] in the Office of the Dean of Students [http://www.purdue.edu/odos/] before classroom accommodations can be provided. Please make an appointment with me soon to discuss and address your needs.

ACADEMIC DISHONESTY
University policy on academic misconduct is clear - academic dishonesty in any form is strictly prohibited. Instances of academic dishonesty will be referred to the Office of the Dean of Students for disciplinary action [http://www.purdue.edu/ODOS/osrr/integrity.htm]. Penalties are severe and will mean failure in the course and/or expulsion from the University. The risks associated with academic dishonesty far outweigh the perceived benefits. Academic dishonesty includes citing someone else's work as your own, using unauthorized "crib sheets" during exams, or sharing your answers with someone else. If you are unsure whether an action you are considering constitutes academic dishonesty, seek clarification from your instructor. Other information regarding your rights and responsibilities as a student are
CAMPUS EMERGENCY OR OTHER UNFORESEEN CIRCUMSTANCE
In the event of a major campus emergency or other unforeseen circumstance beyond the instructor’s control, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other changes to the syllabus. There are several ways to get information about such changes in the event of an emergency: check the Blackboard Vista webpage for AGEC/FNR 406; check for university-wide announcements online at www.purdue.edu; call my office at 765-494-4324 or send me an email (bgramig@purdue.edu).

TENTATIVE CLASS SCHEDULE
A detailed daily schedule with any necessary adjustment of dates made on an ongoing basis throughout the semester can be found in the online course schedule on Blackboard. The online schedule will always supersede the tentative schedule in this course syllabus, and will reflect when online quizzes over new textbook reading assignments will be due.

August 25  Chapter 1: Visions of the Future
August 27-30  Chapter 2: Valuing the Environment: Concepts
September 1-8  Chapter 3: Valuing the Environment: Methods
September 10-17  Chapter 4: Property Rights, Externalities, and Environmental Problems
September 20-22  Chapter 5: Sustainable Development
September 24  Chapter 7: Natural Resource Economics (Overview)
September 27-29  Chapter 8: Energy
October 1  Chapter 9: Water (Scarcity)
October 4  Chapter 13: Common-Pool Resources: Fisheries and Other Species
October 6  Chapter 13: Common-Pool Resources: Fisheries and Other Species
October 8  Chapter 13: Common-Pool Resources: Fisheries and Other Species
October 11  Fall Break
October 13  Exam Review session: Student questions and professor’s answers
October 15  Mid-Term 1 (in-class)
October 18-20  Chapter 12: Forests
October 22-29  Chapter 14: Environmental Economics (Pollution Control)
November 1-3  Chapter 15: Stationary-Source Local and Regional Air Pollution
November 5-10  Chapter 16: Climate Change
November 12  Chapter 17: Transportation (Mobile source pollution)
November 15-19  Chapter 18: Water Pollution
November 22-29  Chapter 19: Managing Waste
December 1  Exam Review session: Student questions and professor’s answers
December 3  Mid-Term 2 (in-class)
December 6  Chapter 21: The Quest for Sustainable Development
December 8  Chapter 22: Visions of the Future Revisited