

ECON 8320
Environmental & Natural Resource Economics, Fall 2012
M 4:30-7:00 PM; Sparks Hall 304

Professor: Kurt E. Schnier
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Office Hours: Wednesday 12:30 – 1:30 AM (or by appointment)

Course Prerequisites: ECON 2106 or ECON 8100 or PAUS 8141 or MBA 7400.

Required Text:

- *Environmental and Natural Resource Economics, 8th Edition* by T. Tietenberg and L. Lewis. 2009. Oxford University Press. ISBN 978-0-321-48571-7

- Readings and handouts will also be provided on WebCT. Journal articles are available using the Pullen Library electronic journal portal.

Course Description:

This course outlines the economics of natural resource management and environmental policy. Emphasis will be placed on the use of economic theory as well as the policies and institutions that guide resource management and environmental policy. Attention will be given to common-pool resources, public goods, environmental valuation, cost-benefit analysis, renewable resources, non-renewable resources and sustainable development. Upon completion of this course you will be able to critically assess contemporary resource management and environmental policy.

Attendance:

Regular class attendance is essential to learning the material in this course and to develop a robust dialogue within the classroom. In the case that you have more than two unexcused absences during the course, I reserve the right to lower your final course grade by a half a letter grade for each unexcused absence.

Effective Fall 2001, all instructors must, on a date after the mid-point of the course (to be set by the Provost),

1. *Give a WF to all those students who are on their rolls, but no longer taking the class and*
2. *Report the last day the student attended or turned in an assignment*

Students who are on financial aid should pay particular attention to this rule as your attendance record may affect your aid package. Attendance will be monitored three ways: (1) by randomly selecting names to check enrollment on each class day, (2)

recording who is present on quiz and exam days and (3) recording who is present on days that quizzes and exams are returned.

Grading:

Your grade for this course will be based on your performance on four quizzes, two exams and a topics paper project. The quizzes and exams will consist of problems, essay questions and definitions. The percentage distribution is as follows:

Quizzes	30.0%
Midterm	30.0%
Final	30.0%
<u>Topics Paper</u>	<u>10.0%</u>
Total	100%

You are expected to be present for each examination and quiz. If you will miss an examination/quiz, then you must contact the instructor **before** the exam/quiz, or have someone else contact the instructor for you **before** the exam/quiz. If you have a valid excuse for missing an exam then you will need to provide a written excuse with your signature. If you do not contact the instructor **before** the exam/quiz or you do not have a valid reason for missing an exam/quiz, your grade on the exam/quiz will be a zero.

(Quizzes 30%)

Quizzes are scheduled in order to provide you feedback on your course progress between the midterm and the final. Quizzes will be given in the last 30 minutes of the scheduled class period. Four quizzes will be given over the course of the semester. Quiz dates are: **September 9th, September 24th, November 5th, and November 26th.**

(Exams 60% Total)

There will be two exams scheduled for **October 15th (midterm exam) and December 10th (final exam date - 4:15 - 6:45).** Should you miss an exam and do not have an acceptable excuse you will receive a score of 0 on the exam.

(NO cell phones or PDAs will be permitted for use on the quizzes and exams - you must use a calculator)

Topics Paper (10% of grade)

You are required to write a topics paper as part of this course. The purpose of the topics paper is for you identify a topic in environmental and natural resource economics that is of interest to you and to read, review and synthesize the current state of the academic literature on this topic. You will be required to identify your topic before **September 24th** and to notify me of your topic selection. The paper is due on **November 12th** and it may not exceed 10 pages in length, but be a minimum of 5 pages.

(Extra Credit)

Extra credit opportunities will be offered both in and out of the classroom. More information on these opportunities will be given in class.

Quiz/Exam Review:

In the case that you feel that an exam/quiz question has been graded in error, you must submit your request for a re-grade in writing no more than **two class periods** after the quiz/exam has been returned. In the case that an error has been made it will be promptly rectified, however, I do reserve the right to re-grade the entire exam.

Your Grade

Your grade for each quiz and exam will be calculated as a percentage of the highest grade earned on that quiz or exam. In addition, all extra credit earned in the course will be added after your preliminary course grade is calculated to ensure that extra credit only has a positive benefit on your grade and does not directly impact the grades of others within the course. Grades will be determined as follows,

A: 100%-93%	A-: 92%-90%	B+: 89%-87%	B: 86%-83%
B-: 82%-80%	C+: 79-77%	C: 76%-73%	C-: 72%-70%
D+: 69%-67%	D: 66%-63%	D-: 62-60%	F: Below 60%

Make-up exam policy:

Make up exams will be proctored in the Department of Economics and must be scheduled with the professor and staff within the Department of Economics. All make-up exams **MUST** be taken **prior to the next class period**. In the case that the exam is not taken prior to the next class period your exam grade will be lowered an entire letter grade for each extra class period, unless other mitigating circumstances arise which preclude you from being able to take the exam prior to the next class period; acceptable excuses will be decided on by the professor.

Academic Honesty:

Students are expected to abide by the academic honest codes outlined in ***On Campus: The Undergraduate Co-Curricular Affairs Handbook*** Section 409.

Important University Dates:

Labor Day Holiday: 09/03/12

Thanksgiving Break: 11/19/12 – 11/24/12

Preliminary Course Outline (the components and order of this outline may be modified as the instructor sees fit)

Lecture #1 (08/20/12): Review of Microeconomics and Consumer Theory

Lecture #2 (08/27/12): Externalities and Market-based Solutions

09/03/12 – School Holiday

Lecture #3 (09/10/12): Property Rights and Coase Theorem (**quiz #1**)

Lecture #4 (09/17/12): Public Goods and Common-pool Resources

Lecture #5 (09/24/12): Valuing the Environment (**quiz #2**)

Lecture #6 (10/08/12): Cost-Benefit Analysis; Discounting; Net-Present Value

Lecture #7: (10/15/12): **MIDTERM EXAM**

Lecture #8 (10/22/12): Strategic Interaction and Game Theory

Lecture #8 (10/29/12): Non-renewable Resources

Lecture #9 (11/05/12): Renewable Resources (**quiz #3**)

Lecture #10 (11/12/12): Environmental Risk (**Topics Paper Due**)

11/19/12 – Thanksgiving Break

Lecture #11 (11/26/12): Dynamic Resource Management (**quiz #4**)

Lecture #13 (12/03/12): Trade and the Environment

Learning Objectives:

1. The student should be able to understand and apply the basic theory from the prerequisite class in microeconomics (see Learning Objectives for ECON2106) to environmental policy.
2. The student should be able to define a consumer utility function, indifference curve and how they relate to market demand.
3. The student should be able to explain a positive and negative externality and the asymmetries that arise between social and individual objectives.
4. The student should be able to explain the role that property rights play in determining environmental outcomes.
5. The student should be able to differentiate the difference between a common-pool resource and public good as well as their market-based solutions.
6. The student should be able to compare and contrast the different methods which can be used to value the environment.
7. The student should be able to define net-present value and calculate this value for a given economic decision.
8. The student should be able to define and apply the principles of cost-benefit analysis.
9. The student should be able to define the basic concepts of strategic interaction (e.g., elements of the game, dominant strategies, equilibrium outcomes) and apply them in a given economic context.
10. The student should be able to define what economists mean by risk and uncertainty, expected utility, and value of risk-reduction and be able to derive the costs and benefits of changes in risk.
11. The student should be able to explain how to economically allocate scarce natural resources over time.
12. The student should be able to explain how economists use markets to solve environmental problems. In particular, the student should be able to explain, through the lens of economic theory, how regulations, environmental taxes, and marketable permits function.
13. The student when faced with a specific environmental problem, should be able to identify key attributes of the problem that are amenable to study using economic methods and concepts.

NOTE: THE COURSE SYLLABUS PROVIDES A GENERAL PLAN FOR THE COURSE; DEVIATIONS MAY BE NECESSARY.