

**Natural Resource Economics for Non-Majors
ECON 3535**

**Fall 2006
Dr. William Breffle**

Lectures: MWF 12:00 noon Hellems 199

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Website: spot.colorado.edu/~breflew (a list of filenames will come up)

Course description:

Natural resource economics considers the efficient and equitable use of society's scarce natural resources. The course discusses the application of economic theory to natural resource problems, such as externalities, which are not dealt with in much detail in most other courses. Topics include:

- Sustainability with population and economic growth
- Natural resource scarcity
- Benefit-cost analysis
- Steady-state models pertaining to the allocation and management of renewable resources
- The economically-efficient depletion of non-renewable resources.

This class will focus more on the concepts rather than the technical or mathematical aspects of natural resource economics, although portions of the text are highly technical.

Prerequisite course:

Principles of Microeconomics: ECON 2010. If you did poorly in this class, you might struggle in natural resource economics and should consider taking another class.

Required textbook:

Tietenberg, Tom. (2006) Environmental and Natural Resource Economics (7th edition)
New York: Harper Collins College Publishers.

Other readings:

1. Professional journal articles related to topics covered in class (required):
spot.Colorado.edu/~breflew/ECON3535_readings.pdf

A number of these articles are old. That is because many of these articles are seminal articles that shaped how economists currently think about certain natural resource issues. There is a broad literature in natural resource economics, but

much of today's research is still shaped and guided by original, groundbreaking papers. This is a good starting point for this class.

2. 2006 natural-resource-related media articles:
spot.Colorado.edu/~brefflew/ECON3535_media.pdf

These readings will be posted on the course website at the links above. To download them, you will need Acrobat Reader. They will also be on reserve at the library for you to check out and return.

Grades:

Final grade will be based on three exams (90 points each) and summaries of required readings (30 points), for a total of 300 points. Due to the size of the class, exam questions will be multiple choice (30 points), true/false (30 points), and short answer (30 points).

There will be ten required readings (in addition to textbook chapters) during the semester. For each, you should prepare a one-page single-spaced summary. Each summary will be worth three points, for a total of 30 points during the semester.

Because this is a topic-related class, there will be no comprehensive final exam. Each exam will cover new material, including the third (i.e., last) exam, which will be given during the regularly-scheduled final exam period.

Make-up exams will not be allowed, with the exception of the circumstances described below – no other exceptions. Summary essays will not be accepted late. Exam dates and essay due dates will be announced in class. You can use the course outline below to anticipate when an exam will be. We will spend roughly a week on each chapter.

Expected Grade Distribution	
Letter Grade	Number of points
A+	285 plus
A	270 – 284
A-	255 – 269
B+	240 – 254
B	225 – 239
B-	210 – 225
C+	195 – 209
C	180 – 194
C-	165 – 179
D	150 – 164
F	Less than 150

Course outline and readings:

1. Background and introduction
Readings: Tietenberg Chapter 1; Rosenberg (1973)
2. The role of economics
Readings: Tietenberg Chapter 2; Kennedy (1994) (excluding Section 4)
3. Natural resource management based on benefit-cost analysis
Readings: Tietenberg Chapter 3; Breffle, Morey and Lodder (1998)
4. Market failure
Readings: Tietenberg Chapter 4
5. Sustainable Development
Readings: Tietenberg Chapter 5

Exam #1

6. Natural resources and growth
Readings: Tietenberg Chapter 6; Repetto (1992)
7. Overview: depletable and renewable natural resources
Readings: Tietenberg Chapter 7
8. Depletable, non-recyclable resources: energy resources
Readings: Tietenberg Chapter 8; Sheraga (1994)
9. Depletable, recyclable resources: minerals, paper, etc.
Readings: Tietenberg Chapter 9
10. Depletable, replenishable resources: water
Readings: Tietenberg Chapter 10; Howe, Schurmeier, and Shaw (1986)

Exam #2

11. Renewable, private-property resources: food
Readings: Tietenberg Chapter 11; Howe (1997)
12. Renewable, storable resources: forests
Readings: Tietenberg Chapter 12; Hyde (1981)
13. Renewable common-property resources: fisheries
Readings: Tietenberg Chapter 13; Munro/Roy (1996)*
* Summarize both articles in one page

14. Resource Scarcity

Readings: Tietenberg Chapter 14; Slade (1982) (excluding Section 2)

Exam #3 Tuesday December 19, 1:30 pm

Extra credit

As mentioned above, a file containing numerous media articles related to natural resources will be posted on the class website. All students are encouraged to browse through these articles to obtain a better understanding of how the theory and examples from class pertain to the “real world” and how the media portrays it.

For extra credit, you may earn one point for every article you review and write a one-page summary essay (one page per article). You can submit these throughout the semester, and they will be held by the instructor until the end. The highest number of extra credit points that can be earned is 15, which equals 15 news articles.

Note: my file only contains 17 articles, but you can find others in newspapers and elsewhere that are relevant to what we learn in class. Also, the four “turning water into gold” articles at the front of the media file should be reviewed together and are worth four (4) points instead of only one.

Additional information

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.colorado.edu/disabilityservices.

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, exams are to be taken or essays turned in during the first office hours immediately following the return to school. See full details at www.colorado.edu/policies/fac_relig.html.

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. See policies at www.colorado.edu/policies/classbehavior.html and at www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at www.colorado.edu/policies/honor.html and at www.colorado.edu/academics/honorcode/.

The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combination of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Sexual Harassment (OSH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the OSH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at: <http://www.colorado.edu/sexualharassment/>.