

University of Colorado  
Department of Economics

**ENVIRONMENTAL ECONOMICS--EC3545-001**  
(for non-economics majors)

Phil Graves  
Fall 2012, HLMS 199 12:00-12:50pm

Course Content

The study of environmental economics is interesting, thought-provoking, and controversial. This is both a strength and a weakness; the strength is that the inherently interesting nature of the subject matter results in greater student interest and involvement than might be the case for many of the other fields in economics. The weakness, however, is that the emotionally-charged nature of the topic tends to lead to fuzzy thinking--indeed, there is ample evidence that this problem is not unique to the academic setting; many of the worst examples of government spending and legislation have stemmed from perceptions of a "crisis," whether it is an energy crisis, a defense or terrorist crisis, a health-care crisis, or whatever.

As you will see, the economist views environmental problems, like most other problems, as being "resource-allocation problems" (that is, are we allocating our scarce resources in such a way as to get the best combination of environmental goods and ordinary goods that we value). Another way to express this is that economists deal with **choices**. If a problem is not viewed as being a matter of choice, then it is a non-economic problem. The preceding three sentences are far more important--and controversial to many environmental studies majors!--than they might seem at this point..you might wish to read them again. To make a simple analogy, suppose you believe (for religious or other moral reasons) that it is wrong to steal--for you this is not "a matter of choice;" it is not "something to decide upon." Economists also have various beliefs, but in their role as an economist, such issues are viewed as choices, something to decide about on the basis of benefits and costs (note, these benefits and costs need *not* involve dollars!). Depending on our individual beliefs, the costs may be high relative to benefits, or they may be low. If, however, costs are higher than benefits, and we abstain from stealing, we are doing so--from the economist's perspective--as a matter of choice (informed by our moral and other beliefs). But, while the observed behavior might look similar, this is quite different from arguing that there is no choice for such decisions. A perhaps more pertinent example: some of you recycle as much as you can because you believe it is the "right" thing to do, independently of personal costs and benefits; others of you hardly recycle at all feeling that the costs are greater than the benefits. This seemingly simple point, combined with relentless brainwashing in favor of "the environment" beginning--these days--in grade school, will appear over-and-over throughout the course and makes environmental economics difficult to understand or enjoy for some students. However, I'll do what I can to make it enjoyable!

We begin with the application of basic economic and philosophical concepts to an understanding of the environment. This is followed by a relatively brief overview of environmental quality, of the major pollutants, and of how both are characterized. This is to give us a common environmental background. We then turn to an in-depth treatment of how an understanding of economics can usefully guide the analysis of environmental quality, subject to

some philosophical issues already hinted at. With this as background, it is possible to turn to a consideration of appropriate environmental policy. The focus is on applications vital to a voting citizenry and to those going on to work in any area of the environment. My ultimate goal for each of you is to have you better understand (maybe even agree with!) how environmental problems are perceived by decision-makers in the "real world," hence better understand the policy approaches--good and bad--made by those decisionmakers.

### Texts:

There is considerable difficulty in finding an appropriate text for this course--the reasons are many: 1) most "environmental" textbooks have too little economic content to be useful, 2) most "economic" texts have as prerequisites more economic theory than is required for this course, and 3) many books are overly mathematical for the more policy-oriented approach that I wish to pursue. Because of these problems, I have written a book which is closely related to class lecture material:

Graves, P.E. *Environmental Economics: A Critique of Benefit-Cost Analysis* (New York: Rowman & Littlefield, 2007).

There will also be some material presented that is not in the book. You are likely to find that class attendance will be important. Getting notes, if you must miss a class, will be quite helpful, since the concepts in the book will be illustrated with numerous additional examples during class discussion. All notes are not created equal--if you must miss, get somebody's notes who is a good note-taker.

### Administrative Matters:

There will be two midterms (30% each) and the final (40%). The test format is, effective with the Fall 2004 semester, multiple choice--because of ever-increasing class sizes at C.U. As a consequence, some of the historical sample tests on the web will be less closely related to what you will experience than is usual, although the recent exams are representative of those this semester. I will calculate your course grade as the largest number arising from the following alternative calculated scores:

"Score 1":  $.3(\text{1st Mid Grade}) + .3(\text{2nd Mid Grade}) + .4(\text{Final Grade})$

"Score 2":  $.4(\text{2nd Mid Grade}) + .6(\text{Final Grade})$

"Score 3":  $.4(\text{1st Mid Grade}) + .6(\text{Final Grade})$

That is, you can mess up either midterm (or miss one--there are **no makeups** for either midterm) without harming your grade--however, the final is fully comprehensive, so you will be responsible for the information from both midterms on that exam. Moreover, I will add enough points to each exam to have the average grade be an 78 (on the border of C+/B-)...that is, if the raw mean is, say, 72, then 6 points will be added to everyone's exam--if you got a 96 raw grade, that grade becomes 102. After that adjustment, 90-100 will be A, 80-90 B, 70-80 C, 60-70 D,

and below 60 F, with the usual plus or minus if you are within two points of the grade cutoffs. I will let the top 5% or so of students, based on the first two midterms, out of the final, an incentive to really learn the material--and good for those who don't get out of the final because its average will be lower, hence more points get added. Allowing some students to get out of the final results in the midterms coming later in the semester than is usual, so that more of the material is tested upon. The **Comprehensive Final Exam is Tuesday December 18, 7:30pm-10:00 PM (!) in our classroom.** Note that if you have three exams in a day, it is the third exam that university policy allows you to reschedule, so this is likely to be a problem for this course this semester. The Economics Department has recently instituted some grade changes that have made it *extremely* difficult to give incompletes. The grade of IW has been completely eliminated, and the grade of IF is only given when circumstances completely beyond student control result in inability to complete the course requirements. Such cases must be brought to my attention immediately, otherwise a grade of F will be assigned.

Office: Economics 223 (Northwest corner, 2nd floor of the Economics Bldg)

Hours: MW 2:00pm-3:00pm (also before or after class and by appointment at many other hours, if there are schedule conflicts).

Phone: (303) 492-7021 (message machine-but I am not usually in the office on a daily basis). The best, recommended, approach to contact me:

**e-mail: [gravesp@spot.colorado.edu](mailto:gravesp@spot.colorado.edu) or [philip.graves@colorado.edu](mailto:philip.graves@colorado.edu) (e-mail *definitely preferred route of communication--I'm online daily usually 24/7 and at odd hours*).**

**Note: 1) Students with disabilities who qualify for academic accommodations must provide a letter from Disability Services (DS) and discuss specific needs with me, preferably during the first two weeks of class. DS determines accommodations based on documented disabilities (303-492-8671, Willard 322, [www.colorado.edu/sacs/disabilityservices](http://www.colorado.edu/sacs/disabilityservices)). Campus policies (including those involving the new student honor code, plagiarism, classroom behavior policies, and the like) can be viewed at: <http://www.colorado.edu/policies/index.html>. Direct any questions you have about these policies to me.**

**2) 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, it is unlikely that this will be a problem, since I do not take attendance in any event. Should we be voting for a test date that conflicts with religious observances, point this out to me and that date will be eliminated from consideration. See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)**

**3) 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. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender**

**pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at:**

<http://www.colorado.edu/policies/classbehavior.html> and at

[http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

**4) 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](mailto: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 <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>**

The course will follow the book and class lectures, with tests organized as follows:

**Midterm #1 will cover introductory material involving why economists like supply and demand and its extension, benefit-cost analysis. The specific date of the first exam will be voted on in class among a few possible dates, hopefully to get the "socially optimal" test date. The first exam will be, however, approximately mid-way through the semester.**

**Midterm #2 will cover the (many) flaws in the approaches actually taken to implementing benefit-cost analysis, strongly suggesting that benefit-cost analysis is heavily biased against the environment. The second exam date will also be voted upon, though it will come quite late in the semester (usually the last "legal" week for exams, which is the second to last week of the semester).**

**Comprehensive Final Exam, Tuesday December 18, 7:30pm-10:00 PM in our regular classroom--Good Luck!**