

# **Environmental Economics**

## **ECON 3545 – Summer 2016**

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<b>Office</b>	ECON 14
<b>Office Hours</b>	MW 10:00 AM – 11:00 AM, T/H 1:00 PM – 2:00 PM and by appointment, via email
<b>Class Meetings</b>	MTWHF 11:00 AM -12:35 PM, ECON 16
<b>Course Website</b>	The course website is accessed through Desire2Learn where you will find all related course materials.

### **Course Description and Objectives**

The field of economics provides many insights on the use and preservation of our natural environment. In this course we will investigate the unique contributions of economics to studying environmental issues and analyzing environmental policies from an economic perspective. From this course, students should have a clear understanding of how economic theory informs public policy as well as some knowledge of what policies are currently being used in environmental issues.

This course is designed for non-economics majors and as such will require less math than other economics courses (see prerequisites). Instead we will blend learning economic theory and (some) mathematical models with discussion of real world examples.

### **Prerequisites**

A basic understanding of microeconomics is required for this class. Students should have previously taken ECON 2010 (Principles of Microeconomics) or an equivalent class at another institution. This course requires students to know basic algebra at the same level as the aforementioned ECON 2010. There will not be any formal math review as part of this class.

### **Readings & Other Materials**

Tom Tietenberg & Lynne Lewis (2009). *Environmental Economics & Policy*, Pearson, 6th Edition (required). An ebook option is available.

Additional required readings/videos/audio will be assigned throughout the semester. I will provide these assignments either through the course website, or with explicit instructions.

## **Grading**

Your final grade will come from five components:

30%	Midterm 1, July 15 <sup>th</sup>
30%	Midterm 2, July 29 <sup>th</sup>
35%	Final Exam, August 5 <sup>th</sup> (in-class)
25%	Homework
10%	In-Class Participation Assignments

I retain the right to curve assignments and exams, however, any curve will never harm any student in the class (it must be a pareto improvement over the original allocation.) Letter grades will be assigned to a typical scale with A, 90%-100%, B, 80% - 89%, C, 70% - 79%, D, 60% - 69%, and anything below 60 is an F. + or - letter grades will be assigned if you are within 2% of a grade cutoff.

## **Exams**

There are two midterms and one final exam. Your lowest midterm grade will be dropped, but there are no make-up midterms if you miss a midterm. Exams will be focused on the newest topics, but are necessarily cumulative. There is no opportunity to make-up the final exam unless you can prove you have three final exams on the same day and this course is the third exam.

Only basic calculators are allowed during exams; no graphing calculators, cell phones or other devices that can store information or access the internet.

## **Homework**

There are 10 scheduled homework assignments. They are a mix of readings (and videos/podcasts/etc.), and analytical (math) problems. These assignments are available on D2L. You should be ready to discuss your answers in class on the day the assignments are due. Late assignments will be docked by 20% of the possible grade every day the assignment is late. I will drop your lowest homework grade at the end of the semester. Homework due dates may change.

## **In-Class Participation**

You will have in-class participation questions and assignments every day in class (excluding test days). These will be analytical, short answer and multiple choice questions that you will complete and turn in at the end of class. These assignments may or may not be graded for accuracy, but you should consider this in-class practice and take it seriously even if you don't have to be "correct". You can work with other class-members on these assignments. There are 21 non-test days and I will base your participation grade on 19 of these assignments. This means that you can miss two days without any penalty to your grade, but this also means that there will be no "excused absences" and you are, of course, responsible for any material you miss. For the 20<sup>th</sup> and 21<sup>st</sup> in-class assignments you will receive 1% extra credit for your course grade.

## **FERPA**

In accordance with the law, I am not allowed to ever email your grades to you or to distribute them in any way that is identifiable. As such, I will post grades only on D2L, or you may come to office hours to get your grades. Never ask me to email them or bring them to class; I will not do either.

## **Students with Disabilities**

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services at least two weeks before exams so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and <http://www.Colorado.EDU/disabilityservices>.

If you have a temporary medical condition or injury, see guidelines at <http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html>.

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at <http://www.colorado.edu/disabilityservices>.

## **Religious Observance Policy**

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. If you have a conflict, please contact me the first week of class so that we can make proper arrangements. See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html).

## **Classroom Behavior Policy**

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity, and gender expression, age, disability, and nationalities. 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).

## **Discrimination and Harassment Policy**

The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender

expression or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127, or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>.

### **Honor 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](mailto:honor@colorado.edu); 303-735-2273). 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/>.

### **Topics Covered (in rough order):**

Fundamentals of Economics  
What is Environmental Economics? Ch1  
Market Failures Ch 4  
Population Ch 6  
Sustainability Ch 5  
Valuation Ch 2  
Valuation Techniques Ch 3

### Midterm

Economics of Pollution Ch 14  
Stationary Air Pollution Ch 15  
Climate Change Ch 16  
Transportation Ch 17  
Water Pollution Ch 18  
Waste & Recycling Ch 19  
Development and the Environment Ch 20

### Final

Tentative Schedule:

**Week 1**

7/5 – Introduction to Economic Thinking; Syllabus; Micro Review

7/6 – Micro Review cont.; What is Environmental Economics?

**HW 1 Due**

7/7 – Market Failures

7/8 – Market Failures cont.; Population

**HW 2 Due**

**Week 2**

7/11 – Population

**HW 3 Due**

7/12 – Sustainability

7/13 – Sustainability cont.

**HW 4 Due**

7/14 – Policy Criteria; Midterm Review

7/15 – Midterm 1

**HW 5 Due**

**Week 3**

7/18 – Valuation

**HW 6 Due**

7/19 – Economics of Pollution

7/20 – Economics of Pollution cont.

7/21 – Stationary Source Pollution

7/22 – Climate Change

**HW 7 Due**

**Week 4**

7/25 – Mobile Source Pollution

7/26 – Mobile Source Pollution cont.

**HW 8 Due**

7/27 – Water Pollution

**HW 9 Due**

7/28 – Midterm Review

7/29 – Midterm 2

**Week 5**

8/1 – Waste & Recycling

8/2 – Waste & Recycling cont.; Development

8/2 – Development cont.

8/4 – Final Review

**HW 10 Due**

8/5 – Final