Spring 2-1-2016

ECNS 445.01B: International Environmental Economics and Climate Change

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Class Syllabus
for
International Environmental Economics and Climate Change--ECNS 445

The University of Montana
Spring 2016

Instructor: Professor Kellenberg
Office: LA 404
Office Hours: MW, 1:30 PM -2:30 PM (and by appointment)
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Class Time: 9:10 AM – 10:00 AM, MWF
Class Location: LA 138

Note: The following syllabus defines the rules and important dates for the semester. However, I reserve the right to make changes if the need arises.

Course Prerequisite: ECNS 201

Course Description: This course explores the economic impacts and consequences of policies related to climate change and other international environmental issues. The first part of the course will be devoted to reviewing the standard competitive market equilibrium and how public goods and negative externalities, such as pollution, can lead to market failure. We will then spend explore how various types of environmental policies such as standards, emission taxes, subsidies, and tradable permits can be used to address both domestic and international market failure. In the later half of the semester we will explore issues related to climate change, International Environmental Agreements, renewable resources and energy efficient technologies, international waste and recycling trade, environmental regulation and trade and investment policy, and the pollution haven hypothesis.

Learning Outcomes: Students who successfully complete this course will:

1. Have a sound understanding of the assumptions of the competitive market and what those assumptions imply about market efficiency.
2. Be able to explain and identify sources of market failure.
3. Understand the strengths and weaknesses of command and control environmental policies.
4. Understand the strengths and weaknesses of environmental tax and subsidy policies.
5. Understand the strengths and weaknesses of cap-and-trade policies.
6. Understand the efficiency and cost-effectiveness of various climate change policies.

7. Have a basic understanding of important International Environmental Agreements, as well as potential limitations of these types of agreements for solving international environmental problems.
8. Be able to discuss the various motivations regarding the effects of environmental regulations on international trade and foreign direct investment.
9. Have an understanding of how environmental policy can create or limit incentives for technological innovation.

Texts and Readings: The recommended text for the course is Environmental Economics and Management: Theory, Policy, and Applications, 6E by Callan and Thomas. In addition, there will be journal articles (to be announced) throughout the semester that I will assign for you to read. Journal articles will be posted at least a week in advance on our UMOnline class page.

Lecture Notes: Lecture notes will be made available on the UMOnline class webpage prior to each class period. Keep in mind that the posted lecture notes are not complete. I suggest that you print out a copy of the slides before each class period so that you can fill in notes during lecture.

Grading: The overall grade for the course will consist of a participation grade, a policy presentation assignment, and three exams. The breakdown of the overall class grade is as follows:

Exam/Assignment	Overall Grade %
Attendance/Participation	10%
Exam 1	25%
Exam 2	25%
Exam 3	25%
Policy Presentation	15%
Optional Comp. Final Exam	25%

Attendance and Participation

During the term I will take attendance and occasionally present in-class problems or topics for you to work on. These will typically be problems or discussion questions that you can work on in groups. Your participation grade will be based on your attendance and performance on these problems/questions.

Policy Presentation Assignment

Each student will identify a current or proposed policy related to climate change and give a well thought out, but concise 8-minute presentation describing the intent of the policy, the efficiency or cost-effectiveness of the policy, and any potential secondary effects of the policy. You are encouraged to explore policies and issues that are the most interesting to you. They may pertain to a local, regional, national or international policy. Over the course of the semester we will discuss the policy presentation in more detail and

what will be expected from the presentation. However, you should be aware that the grade for the Policy Presentation assignment will have three components:

1. A 1 page Initial Policy concept paper describing your proposed policy to analyze (**Due Friday, Feb. 19**)
2. A 2-page presentation outline describing what you will cover in your presentation. (**Due Friday, March 4**)
3. An 8 minute Policy presentation to the class. You should plan for a 6 minute presentation, 2 minutes for questions, and no more than 8 slides. **(Presentation days are March. 14th, 16th, 23rd, 25th, and 28th and will be assigned early in the semester)**
4. Exams

There will be three midterm exams, each worth 25% of your overall class grade. THERE WILL BE NO MAKE-UP EXAMS. There will be no exceptions to this rule. If you miss a midterm exam or are unsatisfied with a midterm performance, for whatever reason, you may take an ***Optional Comprehensive Final Exam*** to substitute for the midterm exam that you missed or would like to replace.

Exam Drop Policy

Please be aware that I do not allow you to replace one of your midterm exams with the optional comprehensive final exam simply to be "nice". Over the course of the semester there are always people who will unfortunately experience some sort of illness or personal or family hardship. As such, I allow each of you to replace one midterm exam as a form of insurance policy against unforeseen events so that you can tend to any personal or family matters without it affecting your overall grade. DO NOT make the mistake of slacking off early in the semester thinking you can simply take the optional comprehensive final exam to make up for a poor early performance. If something comes up later in the semester that causes you to miss one of the other midterm exams or the Optional Comprehensive Final Exam, then you will have to accept the poor performance on the midterm you missed/failed as part of your overall class score.

Graduate Student Increment (*For Graduate Students only*)

Graduate Students taking the course are required to complete an additional writing assignment for successful completion of the course. Each graduate student must choose a current international environmental or climate change topic of their choice for my approval within the first three weeks of the semester. Upon my approval, each student will write a professional quality literature review paper that fully describes the topic and the literature to date. The literature review paper will contain an introduction, a complete review of the literature, a discussion section that makes substantive suggestions for future research, a conclusion, and a complete reference of cited works. The idea is to move students toward a well thought out potential thesis topic. The paper will be worth 15% of the overall class grade. The paper is due on the last day of class (May 6th). If the paper is turned in late, there will be a 5% penalty for each day past May 6th.

Graduate Student Grading (*For Graduate Students only*): Graduate Student Grading for the course will be adjusted for the inclusion of the literature review paper. The final grade will be based on a participation grade, three exams, the Policy Presentation, and the literature review paper. The breakdown of grades for graduate students is as follows:

Exam/Assignment	**Overall Grade %**
Attendance/Participation	10%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Policy Presentation	15%
Literature Review Paper	15%
Optional Comp. Final Exam	20%

Course Drop Policy: The last day to drop the course is March 28, 2016. After March 28, I will only sign a drop slip if you have one of the documented circumstances approved by the university to drop by petition. *Documented justification is required for dropping courses by petition.* Some examples of documented circumstances that may merit approval are: accident or illness, family emergency, or other circumstances beyond the student's control. The fact that you may not be doing well in the course *is not* a circumstance that will merit approval.

A Word on Cheating and Plagiarism: Do not do it! All students are expected to abide by the University of Montana Student Conduct Code. Any violators of the Student Code of Conduct will be subject to punishment as outlined in the Student Code. For more information, please consult the appropriate website for the Student Code of Conduct (http://www.umt.edu/vpsa/policies/student_conduct.php)

Students with Disabilities: If you are a student with a disability who will require reasonable program modifications in this course, please meet with Disability Services for Students in Lommasson 154 for assistance in developing a plan to address program modifications. If you are already working with Disability Services, please arrange to meet with me during my office hours to discuss reasonable modifications that may be necessary. For more information, visit the Disability Services website at http://www.umt.edu/disability.

Classroom Policies: I reserve the right to ask you to leave the classroom for the day if I perceive that you are being disruptive in any way to me or others in class. I view disruptive behavior to include things like talking on a cell phone, texting, tweeting, emailing, surfing the web, reading a newspaper or doing crosswords puzzles during class time. ***Cell phones must be put away (out of sight and ringers turned off) at all times***.

Course Outline: The following is an approximate roadmap of where we are headed. How far and how fast we proceed through each topic will depend on how quickly the class is picking up the material. As mentioned above, there will be journal articles (to be determined) assigned and posted to the UMOnline class website to complement the book

chapters outlined below. The exam dates are set but the material covered on each exam will depend on our pace. I will let you know at least one week prior to each exam exactly which topics will be covered.

Weeks 1 & 2

Callan and Thomas, Chapters 1-3

- Review of Supply, Demand, and Market Equilibrium
- Public Goods and Market Failure
- Externalities and Market Failure

Weeks 3 & 4

Callan and Thomas, Chapters 4-5

- Command and Control Strategies: The Case of Standards
- Incentive Based Strategies: Emission Charges and Subsidies
- Incentive Based Strategies: Tradable Permits
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***Midterm Exam 1, Wednesday, February 24th ***

Weeks 5 & 6

Readings to be assigned

- An Overview of Climate Change Economics & Policies
- How Much Climate Change is Too Much?
- Evaluating Climate Change Policy Costs and Benefits

Weeks 7 & 8

Readings to be assigned

- Policy Design for International Greenhouse Gas Control
- Price or Quantity Controls for Greenhouse Gases?
- Emission Trading to Regulate Greenhouse Gases
- Liability in International Greenhouse Gas Trading

***Midterm Exam 2, Wednesday, March 16th ***

Weeks 9 & 10

Readings to be assigned

- A Brief History of International Environmental Agreements
- International Environmental Agreements--Theory
- International Environmental Agreements—Empirics
- The Economics of the Kyoto Protocol
- Paris and Beyond?

Week 11 & 12

Readings to be assigned

- The Economics of Natural Disasters
- Developing Countries and Climate Change
- The Role of Renewable Resources in Energy Policy
- Energy Efficient Technologies and Climate Change Policy
- Climate Change Policies and Technical Innovation
- Technology Diffusion to Developing Countries

Weeks 13 & 14, & 15

Callan and Thomas, Chapter 20

Readings to be assigned

- Review of Comparative Advantage and Trade
- The Pollution Haven Hypothesis
- Foreign Direct Investment, Multinational Firms, and the Environment
- The Environmental Kuznets Curve
- The International Trade of Waste
- The WTO, NAFTA, and the Environment
- Climate Change Policy and Trade
- Liberalizing Trade in Environmental Goods and Services

***Midterm Exam 3, Friday, May 6th ***

*** Optional Comprehensive Final Exam, Wednesday, May 11th, 10:10 AM – 11:30 AM ***