**ECO 450/590 – International environmental economics and policy - FALL 2016**

**Time:** MWF 10:00-10:50 **Location:** 113 Deering Hall

**Instructor:** Mario Teisl, Professor and Director School of Economics

**Office:** 206 Winslow Hall **email:** Teisl@maine.edu **(No FirstClass)**

**Office Hours:** I have many meetings so it is best to schedule an appointment with my Administrative Assistant, Karen Moffett (1-3154; on FirstClass)

**Description:** The class will begin by presenting the basics of environmental economics and policy. We then discuss the economics behind international trade, and its effects on economic growth and development, and their impacts of the environment. We will then examine alternative causes of international environmental problems and explore solutions through the application of international environmental economics and policy. The class finishes by exploring the processes and institutions of international policy development: identifying problems, designing and negotiating solutions, and implementing policies to change national behavior.

3 Credit Hours.

**Prerequisites:** MAT 115 and ECO420 or permission

**Course objectives:** Students, using economic theory, graphs and math, will be able to:

* understand the basics of environmental economics and management
* identify the benefits (economic growth) and costs (environmental quality) of international trade
* explain the economic basis of international environmental problems and the objectives of international environmental policy
* illustrate the constraints faced in developing and applying environmental policy in an international context
* analyze and evaluate the tradeoffs inherent in designing environmental policy

More generally, students should increase their proficiency in critical analysis of economic and environmental problems, and developing logical economic and policy arguments. Students will demonstrate the above on exams, writing assignments and in oral responses in class.

**Learning activities:** The course uses lecture and discussion to demonstrate the economic interpretation of environmental problems. Exams and homework will be used to test student understanding of key economic concepts and arguments, and their ability to use graphical and mathematical tools. Writing assignments will allow students to demonstrate their ability to use and communicate the economic theories and tools to analyze environmental problems and design appropriate policy responses.

**Text(s):** Given the nature of the course, no one book satisfies as a textbook. In fact, I pull readings from many different sources. I will provide you electronic copies of readings on Blackboard (most of these are free from sources like the WTO, World Bank etc.). Note there is likely to be some repetition of concepts in the readings but that occurs when you pull together free materials.

**BlackBoard:** We will use the ECO 450 BlackBoard Website for course announcements, distribution of readings, and course assignments. Your default Blackboard email address is your UMaine gmail address (e.g., XXX@maine.edu); please check this email address dailyduring the semester. Additional BlackBoard resources can be found at UMaine's Information Technologies web page (<http://umaine.edu/it/>). If you run into problems contact <http://umaine.edu/it/contact-us/>.

**Homework assignments:**

All students: Homework assignments will focus on using your economic, graphical and mathematical skills to analyze policy problems. Unless you have made prior arrangements with me, homework is due by the beginning of class on the assigned due date. Homework may be worked on in groups; if you work as a group you need to only turn in one set of answers (include the names of the people in the group!). The date when homework is to be turned in will be given when assigned; late homework will not be accepted.

Those enrolled in ECO 590: Homework for graduate students will be longer, require more quantitative sophistication, and require more thoughtful essay responses than above.

**Class Participation:** Many of our classes will consist of discussions of issues raised in the readings.  It is important that all assigned readings be done before the classes for which they are assigned.  Class participation is important and you are expected to be able to comment intelligently on the assigned readings.

If you are not in class then you are not participating; however, I do understand the occasional need to miss class due to illness etc. Illness or family emergencies are usually the only acceptable reasons for missing class. If such a problem arises, you need to e-mail me before class and provide a written justification (e.g., medical note) so we can discuss alternatives.

Here is the (increasing marginal) cost schedule for missing class

If you miss 1-2 classes you lose 0 points off your final grade

If you miss 3 classes you lose 5 points off your final grade

If you miss 4 classes you lose 10 points off your final grade

If you miss 5 classes you lose 20 points off your final grade

If you miss 6 classes you lose 40 points off your final grade

If you miss more than 6 classes you fail the course

**Special mandatory attendance days!** week of Dec. 12/5 (graduate presenters need an audience!)

**Writing/Oral Assignments:**

Those enrolled in ECO 450: You do not have a writing or oral assignment

Those enrolled in ECO 590: You will be required to do one writing/research assignment. You are to work on the research paper as individuals, not as a class; however, I do encourage you to edit each other’s papers. You will then present your research paper to the class using a lighting format (Plan on each presentation being 10 minutes and 5 minutes for questions and 1 minutes for switching to next speaker). You must send me your PowerPoint presentation by 10am the day **BEFORE** you are presenting; if you develop your slides on an Apple device then you should also send me a PDF of your slides as a back-up.

**Exams.**

All students:There will be two midterms and one final exam. Both mid-term exams will consist of two parts: in-class (short questions, math and economic problems) and take-home (longer essay questions). In the essay questions you should demonstrate your understanding of how international environmental problems are evaluated, developed and implemented. Essays must be typed. The take home potion of the exam will be due one-week after the time it is made available. You are to work on the exam as individuals, not as a class. Exam dates are:

Exam 1: Oct. 7

Exam 2: Nov. 4

Final: TBD

Those enrolled in ECO 590: Exams for graduate students will be longer, require more quantitative sophistication, and require more thoughtful responses than above.

**Grading:** Assignments not handed in by the due date will receive a grade of 0 unless you have made prior arrangements with me. Illness or family emergencies are usually the only acceptable reasons for missing an exam or a problem set deadline. If such a problem arises, you need to e-mail me before the deadline and provide a written justification for missing the exam (e.g., medical note) so we can discuss alternatives.

Except for very *extraordinary* circumstances, failing to follow these rules will lead to a grade of zero for the missed exam/homework. Any exam from which one student is excused will be replaced by a make-up exam and I will schedule a make-up at only one time for each exam. Except for very exceptional reasons, no exams will be delayed or postponed.

Numerical grades will be used for all exams and homework. Letter grades will be assigned only for the overall course grade given at the end of the semester. Your final grade will be determined as:

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| --- | --- | --- | --- | --- |
|  | **Students in ECO 450** | **Students in ECO 590** |  | **When due/occurring** |
| Class participation | 5% | 5% |  |  |
| Homework Assignments | 20% | 15% |  |  |
| Policy Brief |  | 20% |  |  |
| Reading List & Outline |  |  | 1% | 9/16 |
| First Draft |  |  | 7% | 10/14 |
| Second Draft (optional) |  |  | 0% | 11/11 |
| Final Draft |  |  | 12% | 11/25 |
| Presentations |  | 5% |  | Week of 12/5 |
| Exam I | 25% | 20% |  | Oct. 7 |
| Exam II | 25% | 20% |  | Nov. 4 |
| Exam III | 25% | 20% |  | TBD |

**General Calendar**

* Preliminaries: Materials balance, externalities, social welfare, market and government failure, Coase theorem/property rights, time dimensions, optimal pollution, environmental policies
* Growth and the environment, environmental Kuznets curve, basic resource economics, international resource management
* Trade theory,comparative advantage, Heckscher-Ohlin model, factor mobility and trade, benefits/costs of trade, trade history and law, policy tools
* Trade liberalizationand the environment, pollution haven hypothesis
* Finance-related: FDI and international environmental protection, environmental micro-lending, debt-for-nature swaps
* Global Environmental Politics: History, actors in the environmental arena, the rise of non-state actors, international political economy, game theory of international negotiations
* Conflicts: more vs lesser developed, global vs local, democracy vs dictatorship

**Special Dates:** No class on 9/5, 10/10, 11/23-25

Academic Integrity: Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

Disabilities Statement: Students with disabilities who may need services or accommodations to fully participate in this class should contact the Director of Disability Services in 121 East Annex, (voice) 581-2319, (TTY) 581-2325 as early as possible in the semester.

Unanticipated disruption: In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Sexual Discrimination Reporting: The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, your teacher is required to report this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For confidential resources on campus: Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.

For confidential resources off campus: Rape Response Services: 1-800-310-0000 or Spruce Run: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For support services on campus: Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the OSAVP website for a complete list of services at http://www.umaine.edu/osavp/

**Fall 2014 Draft Calendar:**

week 1: Lecture - Basics

Readings –Pearson Chap 2.pdf; Pearson Chap 3.pdf (skip middle of 49 to part 3); Public goods and common property.pdf

OPTIONAL: Preliminaries.pdf (a review of micro; assume you know it)

week 2: Lecture – Externality theory; benefit-cost analysis

Readings – Pearson Chap 5.pdf (page 114 to middle of 119);

Field & Field Chap 5.pdf; Field & Field BC analysis.pdf;

Damages and Abatement (Figure 4 is a simpler MARGINAL translation of the information in quadrant 1, Figure 5.1, page 116 in Pearson Chap 5 - we will use this translation in class)

OPTIONAL: Economic instruments – notes.pdf

week 3/4: Lecture – Environmental toolkit - liability rules; Coase, Standards; Taxes/Subsidies; Permit markets

Readings – Field & Field Chap 9-13.pdf;

 Economic Instruments1.pdf

week 5: Lecture – Multiple damage curves; Policy design with uncertainty in damages, costs; International policy design; Environmental Kuznets curve

Readings – Baumol&Oates – Chap 5.pdf

Russell-choice of instruments.pdf

Economic Instruments2.pdf

EKC.pdf

week 6: Lecture – Ricardo trade model; numerical example

Readings – trade readings1.pdf

week 7: OCT BREAK

Lecture –H-O trade model (fixed proportions); Rybcynski theorem;

Readings – trade readings1.pdf

EXAM 1

week 8: Lecture – Stolper-Samualson theorem; factor price equalization; H-O model (variable proportions);

Readings – Binder 1.pdf

week 9: Lecture – International trade and the environment policy;

Readings – WTO study.pdf (Note that you can skip Section I, Section II E, Section V and VI); Tuna\_dolphin & shrimp\_turtles.doc; Trade and the Environment.pdf; WTO - dispute settlement.pdf; WTO & environment.pdf; WTO \_ Trade and environment.pdf;

week 10: Lecture – International trade and the environment policy – empirical results;

Readings – Environment and trade handbook.pdf (you can skip sections 1, 4, 6 and 7); Evolution of Policy Responses to Stratospheric Ozone Depletion.pdf; Dupont.pdf

OPTIONAL: Trade\_Measure.pdf

week 11: Lecture – Politics of International environment policy (business and NGO influence; env negotiations )

Readings –Ponte.pdf; Political economy.pdf; NGO diplomacy chap 6.pdf; deacon&Mueller.pdf; economics-of-japanese-whaling.pdf

EXAM 2

week 12: Lecture – Politics of International environment policy (local versus global diplomacy; top-down or bottom up; central vs democratic movements; green macroeconomics)

 Readings –Local vs global.pdf; Dictatorship\_democracy.pdf; Green GDP.pdf

week 13: Lecture – Case study: climate change

 Readings – Climate change science and policy.pdf

Climate change economics.pdf

Climate change law.pdf

week 14: Oral Presentations