

# **EC313 Environmental and Resource Economics**

Spring semester 2021

Seminar Leader: Israel Waichman

Course Times: Tue, Thu 15:45-17:15

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## **Course Description**

The course centres on the economic analysis of market failures related to the environment and in particular to the management of natural resources. The key topic throughout the course is global warming and climate change, one of the most pressing issues of our times with potential catastrophic consequences. The course will follow the textbook by **Goodstein and Polasky (2017)** focusing on four key questions. The first question “how much pollution is too much?” can be answered by benefit–cost analysis, safety standard, and sustainability (intergenerational equity) considerations. We will discuss the pros and cons of each approach. The second question “Is government up to the job?” will be discussed in light of two major obstacles to effective government action: imperfect information and the opportunity for political influence over government policy. The third question “how can we do better?” focus on positive aspects of pollution regulation, and in particular of market (incentive)-based regulation (i.e., marketable permits and Pigovian taxes). Finally, we will deal with the fourth question “can we resolve global issues?”. Emission mitigation of greenhouse gasses is a global public good requiring a coordinated effort by a majority of countries (both developed and developing countries). Moreover, in the absence of an international government and due to the sovereignty of states principles, there is a problem of coordinating on (and enforcing) an adequate climate change prevention policy. During the course we will also learn on the use of behavioural experiments in environmental and resource economics

## **Learning Outcomes**

- Understand the nature of environmental and natural resource problems: negative externalities, tragedy of the commons, and insufficient provision of public good.
- Understand the ethical considerations behind the economics analysis of environmental problems.
- Learn how to apply economics principles to solve environmental problems: market (incentives)- based mechanism.
- Understand failures in dealing with environmental problem stemming from the political structure.
- Understand the difficulties in resolving global issues and possible promising instruments.

## **Requirements**

### **Prerequisites**

This is an applied microeconomics course. Students taking this class should have already successfully completed the **Microeconomics for Economics** course.

### **Textbook**

For this course, we will use the following textbook:

**Eban S. Goodstein and Stephen Polasky (2017) Economics and the Environment, 8th edition, John Wiley & Sons, Inc.**

Other reading sources will be distributed during the course.

### **Attendance**

Attendance at ALL classes is expected. More than two absences (that is absences from two sessions of 90 minutes) in a semester will significantly affect the grade for the course.

**SPECIAL CONSIDERATIONS FOR SPRING 2021:** Some students might need to begin the semester remotely due to travel restrictions caused by the pandemic. In addition, all students and instructors must refrain from in-person attendance if they are feeling ill. Instructors should make efforts to offer alternatives to in-person attendance where needed, including remote participation or asynchronous options.

### **Use of cellphones and scientific calculators**

cellphones are not allowed during the classes (not even as calculators). Please leave your cellphone in your bag during the classes. You are expected to bring scientific calculators to all classes

### **Assessment**

Assessment will be based on the following three main components:

- Active participation (this can include exercises and quizzes). It will also include participating in and discussing a topic at the “Solve Climate By 2030” project <http://www.solveclimateby2030.org/>): 20%
- Mid-term exam or an equivalent essay (if an essay, possibly in pairs): 30%
- Presentation of a case study of an economics analysis of an environmental problem (in pairs) and final paper: 50% (30% for the presentation; 20% for a final paper).

### **Policy on Late Submission of Exercises/Papers**

Exercises and essays that are up to 24 hours late will be downgraded one full grade (from B+ to C+, for example). After that, we will accept late submissions only until the end of the week in which they were due (Sun, 23:59), but these cannot receive a grade of higher than C. Thereafter, the student will receive a failing grade for the assignment.

### **Schedule**

Classes start on Tuesday, Feb 2 and run until Tuesday, May 11, with spring break planned for Mar 29 - Apr 5. Completion week is from May 17 until May 21. Attendance is mandatory during completion week.

The schedule provided is provisional in order to allow for flexibility. In fact, I plan to invite a couple of guest lecturers to the course. It is the students' responsibility to keep themselves informed of any changes to the schedule provided here. An up-to-date schedule will be

maintained by the course management on the internet in Google classroom. The password to join Google classroom will be handed out in class.

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|----------------|---|-------------|
| <b>Topic 1</b> | <b>Introduction</b><br><br>Read also: Fullerton D.,and R. Stavins. “How economists see the environment?”Published in Nature (1998) 395, 433-443. Earlier version is available:<br><a href="https://www.belfercenter.org/sites/default/files/files/publication/disc_paper_98_04.pdf">https://www.belfercenter.org/sites/default/files/files/publication/disc_paper_98_04.pdf</a> | Week 1      |
| <b>Topic 2</b> | <b>The core environmental problem:<br/>Negative externalities, tragedy of the commons, and public goods</b>   | Weeks 2-3   |
| <b>Topic 3</b> | <b>How much pollution is too much?” Efficiency considerations</b>   | Week 4      |
| <b>Topic 4</b> | <b>How much pollution is too much?” Safety standard considerations</b>  | Week 5      |
| <b>Topic 5</b> | <b>How much pollution is too much?” Sustainability considerations</b>   | Week 6      |
| <b>Topic 6</b> | <b>The Political Economy of Environmental Regulation</b>  | Weeks 7-8   |
| <b>Topic 7</b> | <b>Market (Incentive)-Based Regulation</b>  | Weeks 9-10  |
| <b>Topic 8</b> | <b>Climate change as a global public good</b>   | Weeks 11-14 |

*Classes missed due to federal holidays will not be rescheduled.*

### **Professionalism**

Being a student is your full-time job and with it come a set of responsibilities and expectations, as with any other job. Maintaining a professional attitude towards your course of study is something that also prepares you for later work life. A professional attitude towards your studies is shown by coming to class on time, being prepared, being courteous to your teachers and fellow students. It is exhibited by writing your essays with care, actively participating in class, avoiding distractions (excessive bathroom breaks, using smartphones to check on irrelevant issues during class etc.), not missing classes except for the most dire of circumstances and in general by adapting to the rules of the course without trying to bargain for personal exceptions.

### **Ethics/Academic honesty**

A core value of the academy is truth and the pursuit thereof. Nothing can shake the foundations of this pursuit as much as academic dishonesty as it undermines the trust that is indispensable to it. This is why I will not excuse any instance of academic dishonesty. Plagiarism, cheating during exams, copying homework assignments (or doing individual assignments with a classmate) all

constitute violations of academic honesty and of the clause on “academic integrity” that each student has signed in the student handbook. They can lead to failing the course and will be reflected in the student’s record (having a record of academic dishonesty can make obtaining scholarships, achieving a study abroad place or admission to another program difficult if not outright impossible).

(this version: January 7, 2021)