

EC313 Environmental and Resource Economics

Seminar Leader: Israel Waichman
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Office Hours: by appointment
Course Times: Mon 14:00-17:15

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 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 standards, 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?” focuses on the positive aspects of pollution regulation, particularly market (incentive)-based regulation (i.e., marketable permits and Pigovian taxes). Finally, we will address the fourth question, “Can we resolve global issues?” Emission mitigation of greenhouse gases 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 principle of state sovereignty, 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 behavioral experiments to study issues in Environmental and Resource Economics.

Learning Outcomes

- Understand the nature of environmental and natural resource problems: negative externalities, the tragedy of the commons, and insufficient provision of public goods.
- Understand the tools that economics provides to understand, analyze, and solve environmental economics problems.
- Understand the ethical considerations behind the economic analysis of environmental problems.
- Learn how to apply economics principles to solve environmental problems: market (incentives)- based mechanism.
- Understand failures in dealing with environmental problems 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 completed the “Microeconomics” 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 appear in the schedule according to the topics below.

Use of cell phones and scientific calculators

The use of cell phones is not allowed during the classes. Please leave your cell phone in your bag during the classes.

You are expected to bring scientific calculators to all classes.

Academic Integrity

Bard College Berlin maintains the highest standards of academic integrity and expects students to adhere to these standards at all times. Instances in which students fail to meet the expected standards of academic integrity will be dealt with under the Code of Student Conduct, Section 14.3 (Academic Misconduct) in the Student Handbook.

Accommodations

Bard College Berlin is committed to inclusion and providing equal access to all students; we uphold and maintain all aspects of Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the ADA Amendments Act of 2008, and Section 3 of the German Disability Equality Act of April 27, 2002 (Federal Law Gazette I p. 1468). If you have a disability, or think you may have a disability, please contact the Disability Accommodation Coordinator, Atticus Kleen, (accommodations@berlin.bard.edu) to request an official accommodation.

Requests for accommodations should be made as early as possible to ensure adequate time for coordination and planning. Please note that accommodations are not retroactive and may require advance notice to implement.

If you have already been approved for accommodations with the Disability Accommodation Coordinator, please arrange to meet with me outside of class so that we can develop an implementation plan.

Students may face extenuating circumstances related to various personal or external factors, which impact their academic performance. While these circumstances often do not fall within the legal framework of Disability Accommodations, Bard College Berlin is committed to supporting students experiencing such circumstances. A student needing a short extension or a replacement assignment because of an extenuating circumstance is encouraged to make arrangements directly with instructors if possible. If further support is needed, please visit the [Bard College Berlin Accessibility page](#). Questions about this process can be directed to James Harker (j.harker@berlin.bard.edu) or Maria Anderson-Long (m.andersonlong@berlin.bard.edu).

Attendance

Attendance at all classes is a crucial part of the education offered by Bard College Berlin. To account for minor circumstances, two absences from twice-per-week courses or the equivalent (e.g. one absence from a once-per-week course) should not affect the participation grade or require documentation.

Bard College Berlin may not offer credit for any course in which a student has missed more than 30% of classes, regardless of the reasons for the absences. The full Bard College Berlin attendance policy can be found in the Student Handbook, Section 2.8.

Assessment and Grade Breakdown

Assessment will be based on the following three main components:

- Active participation (this can include exercises and quizzes). 40%
- Mid-term exam or an equivalent essay (if an essay, possibly in pairs): 30%
- Final exam: 30%

Policy on Late Submission of Papers

Essays that are up to 24 hours late can be downgraded up to one full grade (from B+ to C+, for example). Instructors are not obliged to accept essays that are more than 24 hours late. Where a professor agrees to accept a late assignment, it should be submitted by the new deadline agreed upon by both parties. Thereafter, the student will receive a failing grade for the assignment. Grades and comments will be returned to students in a timely fashion. Students are also entitled to make an appointment to discuss essay assignments and feedback during instructors' office hours.

Students will receive feedback for their course work during and at the end of the semester. Students are entitled to make an appointment with an instructor to discuss seminar participation, or may be asked to meet with the instructor at any stage in the semester regarding class progress.

Schedule

The Spring semester runs from Monday, January 26 and runs until Friday, May 15, with the Spring break planned from Monday, March 30, - Sunday, April 5, 2026.

- Normal course sessions end on Friday, May 8.
- Completion week is from Monday, May 11 through Friday, May 15.
- Students are required to be on campus during completion week.

The schedule provided is provisional in order to allow for flexibility. 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 in our Google classroom system. Lecture slides and problem sets will be posted in Google classroom (password will be given in the first class).

Tentative course structure (and course readings):

1. Introduction

Mandatory reading:

Goodstein & Polasky (textbook). ch.1

Fullerton D., and R. Stavins. (1998) How economists see the environment?. *Nature* 395, 433-443.

2. The ethical foundation of environmental and resource economics

Mandatory reading:

Goodstein & Polasky (textbook). ch.2,

3. The core environmental problem: Negative externalities, tragedy of the commons, and public goods

Mandatory reading:

Goodstein & Polasky (textbook). ch.3

Hardin (1968) The Tragedy of the Commons, *Science*, 162, 1243-1248

Recommended reading (book):

Barrett, S. (2007). Why cooperate?: the incentive to supply global public goods. Oxford University Press.

4. A very brief introduction to game theory. The strategic representation of the tragedy of the commons and the public good provision problem.

5. How much pollution is too much?" Efficiency considerations (and the Coase Theorem)

Mandatory reading:

Goodstein & Polasky (textbook). ch.4

Coase, R. H. (1960). The problem of social cost. In: *Classic papers in natural resource economics* (pp. 87-137). Palgrave Macmillan, London.

6. Introduction to Cost Benefit Analysis

7. Efficiency considerations: Measuring the Market and Non-Market Benefits of Environmental Protection

Mandatory reading:
Goodstein & Polasky (textbook). ch.5

Recommended reading (extension):
Costanza, R., R. d'Arge, R. de Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, et al. 1997. The value of the world's ecosystem services and natural capital. *Nature* 387(6630): 253–59

8. How much pollution is too much?" Safety standard considerations

Mandatory reading:
Goodstein & Polasky (textbook). ch.7

9. Market (Incentive)-Based Regulation

Mandatory reading:
Goodstein & Polasky (textbook). ch.15-16

10. Climate change as a global public good

Mandatory reading:
Heyward, M. (2007). Equity and international climate change negotiations: a matter of perspective. *Climate Policy*, 7(6), 518-534.

Recommended reading (extension):
Fehr, E., & Gachter, S. (2000). Cooperation and punishment in public goods experiments. *American Economic Review*, 90(4), 980-994.

Final exam in completion week (May 11 to May 15)

Classes missed due to federal holidays will not be rescheduled.

(this version: Jan 2, 2026)