

ECON371 (Economics of the Environment)

Course syllabus

This version: November 18, 2019

- Tuesday/Thursday 12:30-2:00pm, Buchanan A104
- Instructor: Patrick Baylis (contact via Canvas mail)
 - Office hours: Wednesdays, 2:00pm-3:30pm, Iona 113
- Teaching Assistant: Maria teNyenhuis (contact via Canvas mail)
 - Office hours: Thursdays, 3:00pm-5:00pm, Iona 333

1 Course details

Description: This is an intermediate economics course focusing on the economics of environmental problems and the solutions to those problems. We will learn to use economic tools to better understand and evaluate environmental questions relating to pollution, environmental amenities, sustainable development, and climate change. The course will consist of three parts: the first will focus on categorizing environmental problems and understanding their economic causes, the second will focus on investigating possible solutions to those problems, and the third will explore a variety of topics in environmental economics.

Student learning outcomes:

1. Define and understand the concepts of social optimums and efficiency as benchmarks for describing how goods and services are allocated in society.
2. Identify market failures and their causes, describe how they can result in inefficient equilibria, and interpret their effects across a range of settings.
3. Describe and apply methods to estimate benefits and costs of environmental problems and their solutions.
4. Solve mathematical problems to compare and contrast market-based solutions to environmental problems.
5. Articulate some of the important intellectual contributions to the field of environmental economics.
6. Extend concepts from class to discuss other kinds of environmental problems using the tools and methods learned in this course.

Related courses: Related courses offered by the School of Economics include Economics 370 (Cost Benefit Analysis), 374 (Land Economics), 471 (Non-renewable Resources) and 472 (Renewable Resources).

Prerequisites: ECON101 (Principles of Microeconomics) and ECON102 (Principles of Macroeconomics)

Course structure: The course will follow a lecture format, with participation by students encouraged. Student participation will also be elicited through the use of the iClicker system (see below).

Learning activities: Students will learn the course material by completing the assigned readings, attending lecture, and completing the assessments.

Course materials: The textbook for the course is Keohane and Olmstead *Markets and the Environment* (2007), abbreviated KO (cost for the physical book should be less than 40 CAD). Readings will correspond to the chapters/pages used in the second edition. I've asked the bookstore to make copies available for purchase, but in case they sell out or if you are comfortable with the electronic edition, the full text is available for free through the UBC Library. I will make other assigned and optional readings available through Canvas. Course material will be posted on Canvas, including lecture slides and assignments. All assignments will be graded and returned through Canvas.

Assessments: Assignments 20%, midterms 30%, final 40%, and participation 10%. Your final grade will be reported as a percentage per UBC Policy¹.

Assignments: three problem sets, assigned a week in advance. All problem set questions will be answered via the Canvas assignment form, but students will be required upload their work as a PDF as well. You may collaborate in small (four people or fewer) groups, but each person must submit an original set of answers in his or her own words.

Midterms: After each of the first two units, you will write a midterm to assess your understanding of the unit material. The dates of each midterm are dependent on when we conclude each unit, and will be finalized at least two weeks in advance.

Final exam: The final will be cumulative, i.e., it will cover material from the entire course. As soon as I know the final exam date, I will post it to Canvas.

Participation: Your participation grade will be based on iClicker participation and on feedback surveys. I will make extensive use of the iClicker system in this course — each class will include at least one iClicker question. It is your responsibility to ensure that your iClicker is in working condition prior to attending class. I will not allow students to make up missed days or to submit a “paper iClicker”, but I will drop the two lowest iClicker grades in the course for each student. Impersonating another student on the iClicker system, or asking another student to impersonate you is considered academic misconduct. I will also have feedback surveys, one at the beginning of the term and one midway through the term, in order to check in on how the class is going for everyone.

Missed assignments: Assignments must be turned in electronically via Canvas by the due date and time exactly. Every day an assignment is late will reduce the grade percentage by 20 points. This happens automatically, so I recommend turning in your assignments with some time to spare.

Academic concessions: If you require an in-term concession (to turn in an assignment late or because you cannot attend a midterm, for example), you must contact Arts Advising as soon as you are aware of the need (i.e., before the work is missed except in extraordinary circumstances). Please review their website for concession criteria as well as the process to follow. Students in other Faculties should contact their Faculty advising office for direction. If you are granted a concession for a given assessments, I will reassign its weight to other assessments of the same type.

Re-marking requests: If you believe that an assessment was incorrectly, you can appeal by returning it to me with an attached note. However, to be fair, I will regrade the entire assessment, so your score may go up or down as a result. No appeals accepted more than 7 days after the assessment was returned.

UBC-wide policy statement: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to

1. <http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,42,96,0>

access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available [here](#).

Accommodations: I am happy to make necessary accommodations for students who require it. Please contact Access and Diversity to obtain an Academic Accommodation Letter and provide it to me within the first two weeks of the term. See UBC Policy 73² for more details.

Academic integrity: I expect all students to exhibit academic integrity in accordance with UBC Policy³.

2. <http://www.universitycounsel.ubc.ca/files/2010/08/policy73.pdf>.

3. <http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,286,0,0>.

2 Preliminary course schedule

The course is divided up into three units. The first two units form the core of the course, while the third unit is a grab bag of interesting topics. The first and second midterms will test students for comprehension on the first and second units, respectively, while the final will include material from all three. The following schedule is provided as preview of the direction of the course, but regular updates to the schedule, including changes to upcoming topics and required readings, will be posted on Canvas only.

Unit 1: Efficiency and market failures

1. Introduction to environmental economics
2. Economic efficiency and the environment
3. Benefit-cost analysis and environmental valuation I
4. Benefit-cost analysis and environmental valuation II
5. Review of market fundamentals
6. Market failures (externalities)
7. Market failures (public goods)
8. Market failures (tragedy of the commons)
9. Monopolies and market failures
10. Unit 1 Midterm

Unit 2: Market-based environmental policy

1. Introduction to market-based environmental policy, prescriptive regulation
2. Taxes, tax incidence, and corrective taxation
3. Cap and trade
4. The Coase Theorem: do we need to intervene at all?
5. Comparing market-based environmental policies
6. Unit 2 Midterm

Unit 3: Topics in environmental economics (as time allows)

1. Fisheries
2. Waste management
3. Energy
4. Climate change

Note: **we will not hold class October 24th**. Instead, plan for an (optional) review class for the final exam that will happen at some point during the reading period.

Acknowledgements, errata, and copyright: This course was designed with inspiration from courses taught by James Sallee (UC-Berkeley) and Brian Copeland (UBC). Any errors are my sole responsibility, and I will be grateful to students who report them. I am the copyright owner for course material (lectures, slides, assignments, exams) unless otherwise specified.