

ECON371: Economics of the Environment

Syllabus (Fall 2017)

Last updated: September 12, 2017

1 Course overview

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Location: Buchanan A201

Time: Tuesdays and Thursdays, 12:30-1:50pm

2 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.

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)

Connect: Course material will be posted on Connect, including lecture slides and assignments. All assignments will be returned through Connect.

Readings: The textbook for the course is Keohane and Olmstead *Markets and the Environment* (2007), abbreviated KO. 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 Connect.

Lectures: I will present the bulk of the course material in lecture, and most exam material will be sourced from lectures, although information in assigned readings is also fair game. Slides will be available by midnight the day before lecture at the latest, although I reserve the right to make last-minute changes..

Assignments: Take-home work will consist of three problem sets and one writing assignment, which will be assigned at least a week in advance. 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. Assignments must be turned in electronically via Connect by the due date. Assignments up to five days late will be penalized by 30%, assignments more than five days late will be marked a zero.

Midterms and final exams: I will conduct two midterms and a final. Midterm 1 will be conducted in class on October 10th, and Midterm 2 will be conducted on November 14th. 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 here.

I am happy to make any necessary accommodations for those 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 73¹ for more details.

iClicker: I will make extensive use of the iClicker system in this course. iClicker responses will be graded on a completion basis only and form the basis of your participation grade, but you must participate to receive credit. It is your responsibility to ensure that your iClicker is in working condition prior to attending class. Impersonating another student on the iClicker system, or asking another student to impersonate you is considered academic misconduct.

Grading: Assignments 20%, midterms 30%, final 40%, and participation 10%. Your final grade will be reported as a percentage per UBC Policy².

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

¹<http://www.universitycounsel.ubc.ca/files/2010/08/policy73.pdf>.

²<http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,42,96,0>

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

3 Course schedule and reading list

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. This schedule may change throughout the semester. Readings are required unless otherwise noted.

Unit 1: Efficiency and market failures

1. Introductory lecture
 - Fullerton and Stavins, *How Economists See the Environment* (1998)
2. Efficiency and the environment
 - KO chs. 1 and 2
3. Benefit-cost analysis and environmental valuation I
 - KO ch. 3
 - (OPTIONAL) Metrick and Weitzman, *Conflicts and Choices in Biodiversity Preservation* (1998).
4. Benefit-cost analysis and environmental valuation II
 - Davis, *The Effect of Health Risk on Housing Values: Evidence from a Cancer Cluster* (2004). Feel free to skim.
5. Review of market fundamentals
 - KO ch. 4
6. Market failures I (externalities)
 - KO ch. 5, up through "Externalities" section
7. Market failures II (public goods)
 - KO ch. 5, "Public goods" section
8. Market failures III (tragedy of the commons)
 - KO ch. 5, remainder

Unit 2: Fixing market failures

- Command and control
- Pigouvian taxes
- Cap and trade
- Multiple failures; theory of the second best

- Tax incidence
- Double dividend
- Liability

Unit 3: Other topics in environmental economics

- Sustainable growth
- Energy economics
- Climate change economics

4 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.