

## Economics 487 (L01) (Environmental Economics)

Instructor: Karam Jarad  
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Lecture Location: PF 110  
Lecture Days/Time: TR 09:30 – 10:45

Office: SS 417  
Office Hours: Tuesday 11:00 – 13:00

Winter 2024

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### Course Description:

This course provides an introduction to environmental economics. It is typical in that we will use mostly microeconomic theory to discuss the nature of externalities, their implications, and the relevance of government policy in addressing environmental issues. It is atypical in that we will study in depth three environmental topics. As you are undoubtedly aware, there are many pressing environmental issues in the world today. Some are local in nature, for example the issue of orphan wells in Alberta, others are purely national such as species preservation, while others are international - climate change. The field of environmental economics is very broad, and we will make use of tools from both macro and microeconomics as well as discuss empirical work often. I will draw from your knowledge in all of these fields.

### Course Learning Outcomes:

By the end of this course the student will have a very good understanding of basic environmental economics. They will understand the positive and normative implications of externalities and understand the incentives governments have to intervene in markets to address these market failures. They will understand the uses of various types of environmental policies and their limitations. They will also understand how economic growth and international trade can affect environmental outcomes and appreciate some of the difficulties in designing policy to address species loss and climate change.

### Course Outline:

I have organized the material around three very topical policy issues. Each of the three sections or modules will proceed in much the same way, and there are common elements to each section.

First, there will be a video from YouTube (or similar) introducing the issue (typically courtesy of an environmental group or government agency), together perhaps with some discussion by others (perhaps a clip from the PBS news hour).

Second, there is the lecture material I will provide that gives us the logical framework with which we can discuss the issue. This material will be presented in class. You will be responsible not only for the lecture material presented in class, but also for the additional readings I will assign in class.

Third, environmental policy discussions are often full of all kinds of minutiae and detail that I am not an expert on. To fill this gap, I will sometimes ask you to listen to podcasts. I will hopefully be able to find short (less than 20 minute) informative, and very detailed discussions of environmental policy issues.

Fourth, with the completion of every section there will be an assignment for you to do that will reinforce

the material and hopefully prepare you for the examinations. The assignments will contain both analytical questions and some writing assignments with the mix of the two determined by the size of the class.

In addition, I will try to find classroom visitors who can come and discuss their research or views on one or more of the topics we cover.

The three modules are, in brief, organized around the following policy issues:

1. Some Economics of Climate Change. The focus here will be on the difficulty of designing policy to internalize a global externality. I will discuss free rider incentives, show you why international agreements are very difficult to design and implement, and discuss carbon border taxes.
2. Trade vs the environment: Is liberalized trade good or bad for the environment? Do differences in environmental regulation drive firms to pollution havens? What role does globalization play in deforestation, overfishing, and resource over use worldwide?
3. Species extinction and conservation: Is the market economy driving species to extinction? Has it done so in the past? What if anything should be done to preserve biodiversity? How do we value biodiversity?

**Prerequisites/Corequisites:**

ECON 357, 359, and 395.

**Required Textbook(s):**

None. There is no required textbook, but I will assign readings for each section. Some of these readings include but are not limited to:

1. Harden, G. (1968). The tragedy of the commons. *Science*, 162: 3859 pp. 1243-1248.
2. Copeland, B. R., & Taylor, M. S. (2001). Trade and transboundary pollution 1. *The Economics of International Trade and the Environment* (pp. 119-142). CRC Press.
3. Brock, W. A., & Taylor, M. S. (2010). The green Solow model. *Journal of Economic Growth*, 15, 127-153.
4. Copeland, B. R., & Taylor, M. S. (2005). Free trade and global warming: a trade theory view of the Kyoto protocol. *Journal of Environmental Economics and Management*, 49(2), 205-234.

We will also go through some chapters on international trade and resource overuse from a book currently being written by Professor Scott Taylor in our department.

**Recommended Textbook(s):**

None.

**Required Access to Technology:**

None.

**Desire2Learn:**

This course will make use of the Desire2Learn (D2L) platform. Students who are registered in the course can log on at <http://d2l.ucalgary.ca> through their student centre. Please note that D2L features a class e-mail list that may be used to distribute course-related information. These e-mails go to your University of Calgary e-mail addresses only.

**Grade Determination:**

Midterm Exam	30%
Assignments	30%
Final Exam	<u>40%</u>
	100%

**Examination Details:**

Tests and exams WILL NOT involve multiple choice questions.

Programmable calculators, cellphones, textbooks, course notes, and other electronic devices will not be allowed during the writing of tests or final examinations. Students are reminded that simply being able to access their cellphone during an exam is academic misconduct.

The exact date for the in-class midterm will be announced at least one week in advance.

The exams will contain both analytical problem-solving questions and an essay question. The analytical questions require you to manipulate and make use of economic modelling in a precise and mathematical way. The essay question will feature an introductory prompt I provide and require you to write a cohesive essay responding to the prompt. The essay must be a proper essay – no point form, logically written, and must make use of the materials learnt in the course. An essay is not an opinion piece, it is a logical argument, and a good essay is no less precise in its construction than is an answer to a purely analytical question. The essay component and analytical components will each be worth 50% of the grade in any exam (including the final), so essay writing and analytical skills will both be required to do well in the course.

**Grading Policies:**

The official grading system will be used. See <http://www.ucalgary.ca/pubs/calendar/current/f-1-1.html>.

Students must receive a passing grade on the final exam to pass the course. Students committing academic misconduct during the final exam will not receive a passing grade for the course.

If a student's letter grade on the final exam exceeds their midterm(s) letter grade, the weight of the midterm(s) is (are) transferred to the final exam. The student must have written the midterm(s) or provided supporting documentation for the absence(s).

As per the Writing Across the Curriculum Statement in the Calendar, writing and grading thereof will be a factor in the evaluation of student work. See <https://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

THERE WILL BE NO MAKEUP OR DEFERRED QUIZZES/TESTS/EXAMS under any circumstances, nor may the quizzes/tests/exams be written early. Students unable to write the quizzes/tests/exams because of documented illness, family emergency, religious observance, or university-sanctioned event will have the weight shifted to the final examination; otherwise a grade of zero will be assigned.

The final examination will be comprehensive, scheduled by the Registrar, held in a classroom, and last 2 hours. If a student cannot write their final exam on the date assigned by the Registrar's Office, they

need to apply for a deferred exam <https://www.ucalgary.ca/pubs/calendar/current/g-3-4.html>. Under no circumstance will this be accommodated by the Department.

Any student work which remains undistributed after the last day of classes will be available to students through the instructor's office during the instructor's office hours.

**Reappraisal of Grades:**

*For Reappraisal of Graded Term Work, see Calendar I.2*

<http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

*For Reappraisal of Final Grade, see Calendar I.3*

<http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

**Academic Misconduct and Intellectual Honesty:**

Academic Misconduct refers to student behavior that compromises proper assessment of students' academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

*Statement of Intellectual Honesty, see Calendar K.3*

<https://www.ucalgary.ca/pubs/calendar/current/k-3.html>

*Plagiarism and Other Academic Misconduct*

<https://ucalgary.ca/student-services/student-success/learning/academic-integrity>

**Academic Accommodations:**

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services. SAS will process the request and issue letters of accommodation to instructors. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their instructor. The full policy on Student Accommodations is available at

<https://www.ucalgary.ca/legalservices/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf> and <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>.

**Freedom of Information and Protection of Privacy (FOIP) Act:**

Personal information is collected in accordance with FOIP. Assignments can only be returned to the student and will be accessible only to authorized faculty and staff. For more information, see <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/faq-privacy-faculty-members.pdf> and <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/faq-privacy-students.pdf>

**Internet and Electronic Communication Device Information:**

The use of cell phones for any purpose in class is prohibited. Computers and tablets may be used for note taking only unless otherwise authorized by the instructor.

**Copyright Legislation:**

See the University of Calgary policy on Acceptable Use of Material Protected by Copyright at <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of->

[Material-Protected-by-Copyright-Policy.pdf](#). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

**Recording of Lectures:**

Recording of lectures is prohibited, except for audio recordings authorized as an accommodation by SAS or an audio recording for individual private study and only with the written permission of the instructor. Any unauthorized electronic or mechanical recording of lectures, their transcription, copying, or distribution, constitutes academic misconduct. See <https://www.ucalgary.ca/pubs/calendar/current/e-6.html>.

**Instructor Intellectual Property:**

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

**Important Dates:**

Please check: <http://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>.

**Student Organizations:**

Faculty of Arts Students' Association (F.A.S.A.):

Economics Department Representative

Office: SS 803, E-mail: [econrep@fasaucalgary.ca](mailto:econrep@fasaucalgary.ca) and Web: [www.fasaucalgary.ca](http://www.fasaucalgary.ca).

Society of Undergraduates in Economics: <https://www.ucalgarysue.com/>.

Society of Undergraduates in Economics is a student run organization whose main purpose is to assist undergraduate economics students to succeed both academically and socially at the University of Calgary. Services include access to the exam bank, career events such as Industry Night and information sessions, mentorship programs, and social events for members. They invite you to join by contacting SUE at [sue@ucalgarysue.com](mailto:sue@ucalgarysue.com)

**Faculty of Arts Program Advising and Student Information Resources:**

- Have a question, but not sure where to start? The Arts Students' Centre is your information resource for everything in Arts! Drop in at SS102, call them at 403-220-3580, or email them at [artsads@ucalgary.ca](mailto:artsads@ucalgary.ca). You can also visit the Faculty of Arts website at <http://arts.ucalgary.ca/undergraduate>, which has detailed information on common academic concerns, including program planning and advice.
- For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at 403-210-ROCK [7625] or visit them in the MacKimmie Tower.

**Student Support and Resources:**

- See <https://www.ucalgary.ca/registrar/registration/course-outlines> for information on campus mental health resources, the Student Ombuds Office, Student Success Centre, Safewalk, and Emergency Evacuation and Assembly.

- Online writing resources are available at <https://ucalgary.ca/student-services/student-success/writing-support>.

**Notes:**

1. Students are responsible for all assigned material, e.g., supplementary material posted on D2L, regardless of whether or not the material was covered in class.
2. The plan is for four assignments (one for a micro tune up and one for each topic area). These assignments will have due dates (approximately 10 days from receiving them) and will be marked and returned to the students. Answer keys for the assignments will be provided.

KJ

2023-12-11