

## Economics 475 (Lecture) (Natural Resource Economics)

Instructor: Dr. John R. Boyce  
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Lecture Location: SA 119  
Lecture Days/Time: T/R 14:00-15:15  
Winter 2020

Office: SS 412  
Office Hours: T/R 11:00-12:15

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### Course Description:

This course introduces students to the fundamentals of natural resource economics. Topics considered include externalities, Pigouvian taxes and tradeable permit markets, economic rents, steady-state bioeconomic models, methods of fishery regulation, forestry economics, the theory of the mine, exhaustible resource markets, market power and exhaustible resources, open access and common property dynamics in fisheries, natural resources and economic growth, effects of taxation and regulation in exhaustible resource markets.

### Course Outcomes:

Students who successfully complete this course will further develop their mastery and understanding of the methodology of microeconomic theory by applying it to the following topics.

- (i) Questions and Methods
- (ii) Externalities, Pigouvian Taxes, and Tradeable Permit Markets
- (iii) Economic Rents: Land and Water
- (iv) Renewable Resources: Steady-State Fishery Models
- (v) Renewable Resources: Fishery Regulation
- (vi) Renewable Resources: Forestry Economics
- (vii) Non-Renewable Resources: The Mine
- (viii) Non-Renewable Resources: Markets
- (ix) Non-Renewable Resources: Market Power

- (x) Renewable Resources: Open Access & Common Property Dynamics
- (xi) Non-Renewable Resources: Economic Growth
- (xii) Non-Renewable Resources: Taxation and Regulation

**Course Outline:**

1. Introduction: Data, Questions and Methods
2. Externalities, Pigouvian Taxes, and Tradeable Permit Markets
3. Economic Rents: Land and Water
4. Renewable Resources: Steady-State Bioeconomic Models
5. Renewable Resources: Fishery Regulation
6. Renewable Resources: Forestry Economics
7. Non-Renewable Resources: The Mine
8. Non-Renewable Resources: Markets
9. Non-Renewable Resources: Market Power
10. Renewable Resources: Open Access and Common Property Dynamics
11. Non-Renewable Resources: Economic Growth
12. Non-Renewable Resources: Taxation and Regulation

**Prerequisites/corequisites:**

Econ 357 (pre-requisite)

**Required Textbook(s):**

John R. Boyce, *Lecture Notes in Natural Resource Economics* (Available on D2L)

**Books on Reserve:**

Lomborg, B. 2001. *the Skeptical environmentalist*. Cambridge: Cambridge University Press.

Lomborg, B., ed. 2004. *Global Crises, Global Solutions*. Cambridge: Cambridge University Press.

Lomborg, B. 2007. *Cool It!* New York: A. Knopf.

Nordhaus, W. 2013. *The Climate Casino*. New Haven: Yale University Press.

Sabin, P. 2013. *The Bet*. New Haven: Yale University Press.

**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 and Final Examination Details:**

MIDTERM EXAM	25%
FINAL EXAMINATION	35%
ASSIGNMENTS (4@10%)	40%
	<hr/> 100%

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.

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) such as a medical note or statutory declaration.

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>.

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.

The final examination will be an open-book, take-home exam. The exam will be available on D2L 24 hours before the end of the Registrar's scheduled final exam time. Students will hand in their exam in pdf format on D2L prior to the end of the scheduled completion time of their final exam using DropBox. If a student cannot write their final exam during this interval, they need to apply for a deferred exam at [www.ucalgary.ca/registrar/exams/deferred\\_final](http://www.ucalgary.ca/registrar/exams/deferred_final). Under no circumstance will this be accommodated by the Department.

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.

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

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.

**Reappraisal of Grades and Intellectual Honesty:**

*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>

*Statement of Intellectual Dishonesty, see Calendar K.4*

<http://www.ucalgary.ca/pubs/calendar/current/k-4.html>

*Plagiarism and Other Academic Misconduct, see Calendar K.5*

<http://www.ucalgary.ca/pubs/calendar/current/k-5.html>

### **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

<http://www.ucalgary.ca/policies/files/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

<http://www.ucalgary.ca/legalservices/files/legalservices/faq-students.pdf> and

[http://www.ucalgary.ca/legalservices/files/legalservices/faq-faculty\\_0.pdf](http://www.ucalgary.ca/legalservices/files/legalservices/faq-faculty_0.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 [www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf](http://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf).

Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

### **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 [societyofundergradsineconomics@gmail.com](mailto:societyofundergradsineconomics@gmail.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 Library Block.

**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.

JRB

2019-12-04