

ECON/FRE 374: Land and Resource Economics

Class Time: Tuesday, Thursday 12:30-13:50
Office Hours Instructor: Tuesday, Thursday 14:30– 15:30
Office Hours TAs: TBA

Room: MacMillan 166
Room: MacMillan 331
Room: TBA

Instructor

Frederik Noack
Email: frederik.noack@ubc.ca
Office: 331 MacMillan

Contacting me:

- Visit me during office hours. Please come prepared with your questions or thoughts written down.
- Immediately after class: for quick questions.
- Email: While writing emails make sure you have either ECON 374 or FRE 374 in the subject header or a spam filter on my email account might prevent your email from reaching me. I will not answer questions about the content of my lectures via email. Please visit my office hours for questions related to the content of the lecture or post your question on the discussion page of this course on Canvas. Answering questions in the discussion forum is part of your class participation.

Teaching Assistants

Xiao Han (LFS)
xiao.han@ubc.ca

TBA

Prerequisites

An introductory level course in microeconomic theory.

Why you should take this course?

Do you wonder why our fish are severely over-exploited? Record numbers of known wildlife species are going extinct? If we leave enough resource for future generations? How we should divide land between improving food security and protecting the natural environment? Or do you care about other similar questions? If you do, this course is for you.

What you will gain from this course?

Together, we will build an analytical framework from simple economic principles. We will use it to define society's optimal preservation of natural resources, and evaluate over-exploitation. We will then ask: why do we make sub-optimal decisions? There will be no single answer, but we will be able to identify significant issues. Is the market failing to do the optimal? When it comes to natural resources, the market often fails. What can we do to improve it? Based on the type of resource, we will study how policy can bring exploitation to optimal levels.

We will not find any definite solutions to the above questions. We will instead learn of some of the major economic explanations. If, at the end of this term, you can identify some of the economic reasons underlying natural resource decisions in the real world, this course would have achieved its objective.

Course Material

Textbook: The course follows the following book closely (you can also buy the older editions):
Field, B. C. (2016). Natural resource economics: An introduction. Waveland Press.

Parts of the course are also based on;
Karp, L. (2017). Natural Resources as Capital. MIT Press.
A manuscript of the book is freely available on Larry Karp's webpage.

Online Course Material: Available at UBC Canvas: <https://canvas.ubc.ca>

You are required to regularly login to your course page for ECON/FRE 374 on Canvas. This syllabus, course-lecture slides, additional material, announcements, assignments, and grades can be accessed there.

Clickers:

We will use clickers throughout this course for in class questions, assigning participation grades, and for in class quizzes. You must register your clicker on Canvas so I can assign grades. Your ECON/FRE 374 Canvas page has a clicker registration link. For more information visit: <https://lthub.ubc.ca/guides/canvas/clickers-for-canvas/>.

Assessment: How your grade will be determined.

You will be tested on: All material covered in class. Specifically you need to

1. Know the basic concepts of resource and environmental economics such as the differences between private and public goods, renewable and non-renewable resources, use and non-use benefits, or private and social costs.
2. Apply the general techniques including discounting, benefit-cost analysis, static and dynamic efficiency criteria, and sustainability criteria to different contexts including examples not covered in class.
3. Apply policies such as taxes, quota or property rights to a variety of resource problems.
4. Calculate resource rents, consumers surplus, producers surplus, externalities, optimal resource use levels (including fisheries, forestry, non-renewable resources, water, and other resources), or net benefits from resource policies.

Your Grade: Will be determined as follows

| Assessment Tool | Date or Other Information | Percent of Grade |
|---------------------|--|------------------|
| Midterm exam | Thursday, October 17 | 30 percent |
| Assignments | Best five assignments out of eight assignments posted on the Canvas page of this course. | 20 percent |
| Class participation | Top 75 % of in-class quizzes using i-clickers | 10 percent |
| Final exam | As per university exam schedule. | 40 percent |

Exams:

All midterm and final exams will include only short answer questions. The final examination will cover *ALL content covered during the term.*

The Registrar's Office will schedule the end of term exams for any time during the examination period. *You have to ensure that you are available throughout that period.*

Please keep in mind the following requirements for each exam.

Please bring your picture ID and make it visible during each exam.

No *cell phones, watches, calculators* or *pencil cases* please. If you have them with you, switch them off and keep them in your bag. They should not be visible to us.

There should be no talking during or after the exam inside the exam hall, even if you have submitted your exam. *Academic dishonesty and misconduct* such as cheating, plagiarism, falsifying or submitting false documents leads to disciplinary measures such as a mark of zero in the course.¹

¹ For more information visit <https://universitycounsel.ubc.ca/discipline/annual-summaries/> and <http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,959>

Assignments:

Assignments will be posted on Canvas. They cover the topics of the class and are meant as exercises for the midterm and the final exam. Each student should answer them independently. Assignments must be turned in electronically via Canvas by the due date. Late assignments will not be graded with zero.

Class participation

Class participation is based on the use of clickers. I will start each lecture with a short i-clicker quiz to repeat the content of the previous lecture. Each quiz consists of several questions. For i-clicker use, I will grade both, the participation (if an answer is submitted to a question) and the correctness of the answer. A correct answer gets 100 %, a false answer gets 50 % and no answer gets 0 % of a point.

Classroom Procedures

Attendance: It is, essential that you *attend classes*, and it is strongly recommended you *read ahead* in the text. If, you do miss a class, you are responsible for getting class notes from another student.

Laptop/iPod/iPad/Smart Phone use: While you are in class it is important that you use your time for learning and challenging your instructor. If you must use these devices, please ensure that it is for class use only. And yes, that means no social networking during class.

Cellphones: You should turn off all cell phones in class.

Participation: Active learning is important for you to keep up with the material and for you to better understand the subject. Classes will be a combination of lectures, discussion and in-class exercises. Anyone disturbing the class will be asked to leave. If you are often disruptive, you will be asked to meet with undergraduate advising.

How to Learn Successfully

Prior to Class: In order to prepare for the day's lesson, and to prevent falling behind on reading assignments, it is strongly recommended to read the text material before attending class. You should also go over the assigned readings prior to class.

During Class: Taking notes is extremely important for understanding and organizing the material.

After Class: It is recommended that you *rewrite/reorganize your notes* following class; revisiting the material on a weekly basis may seem like more work now, but this time is saved later when preparing yourself for examinations! *Review the "Big Picture"* and see where the class material fits in. Working with your classmates can be a great help, and I strongly encourage it. I also urge you to ask questions about any problems that give you trouble. *Find a study partner.* Missing a lecture here or there can mean the difference in a letter grade. Study partners can share notes, and can help highlight problem content. *Ask me for help.* By far, the most important and least utilized resource available to students is the course instructor. Use office hours and time before and after class to talk with me in order to clarify content

Course Outline

The outline of the course is preliminary and may change during the semester.

Part I: Introduction

1. Introduction to land and resource economics

Part II: Concepts and Methods

2. Valuing natural resources
 - Field chapter 3 and 9
3. Costs of resource conservation
 - Field chapter 4

4. Markets and efficiency
 - Field chapter 5 and 6
5. Sustainability
 - Karp chapter 18
6. Principles of analysis
 - Field chapter 8
7. Resource Policies
 - Field chapter 7

Part III: Applied Natural Resource Problems

8. Mineral Economics
 - Field chapter 10
9. Energy and Climate change
 - Field chapter 11
10. Water Resources
 - Field chapter 15
11. Marine Resources
 - Field chapter 13
12. Forest Economics
 - Field chapter 12
13. Economics of wildlife management
 - Field chapter 18
14. Economics of biodiversity preservation
 - Field chapter 19
15. Land Economics
 - Field chapter 14 and 16
16. Technological change and the environment (if time allows)