



## General Course Information

<b>Instructor:</b>	Henry Thille
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<i>Office Location</i>	Mack 702
<i>Office Hours</i>	TBA
<i>Department/School</i>	Economics and Finance

## Course Description

This course will examine the economics of industries that involve the exploitation of natural resources. We will begin with an overview of dynamic optimization which will be applied to the problem of finding the optimal use of renewable resources. We then focus on non-renewable resources and investigate the implications of exhaustibility for resource prices.

## Content

The following is a preliminary list of topics. A reading list will be provided at the beginning of the semester. Students are expected to complete assigned readings prior to lectures.

### Dynamic Methods

- Systems of differential equations
- Optimal control theory
- Numerical solutions

### Renewable resources

- Fisheries
- Forests

### Non-renewable resources

- The Hotelling Rule
- Exploration
- Uncertainty
- Empirical tests

## Course Assessment

		Due Date/ location
<b>Assignments:</b>	20%	
<b>Exam:</b>	40%	TBA
<b>Term paper:</b>	40%	April 8, 2016
<b>Total</b>	<b>100%</b>	

## Course Resources

### Readings:

There is no textbook for this course. Readings will be assigned from various books and journal articles.

Useful reference texts:

Dasgupta, P. S. and G. M. Heal. (1989) *Economic Theory and Exhaustible Resources*. Cambridge: Cambridge University Press.

Conrad, Jon M. and Colin W. Clark. (1987) *Natural Resource Economics: Notes and Problems*. Cambridge: Cambridge University Press.

Hartwick, John M. and Nancy D. Olewiler. (1986) *The Economics of Natural Resource Use*. New York: Harper Collins Inc.

Kamien, M. and N. Schwartz. (1991) *Dynamic Optimization*. 2nd ed. Amsterdam: North Holland.

Hoy, M., J. Livernois, C. McKenna, R. Rees, and T. Stengos. (2001) *Mathematics for Economics*. 2nd ed. MIT Press.

## Course Policies

### Grading policies:

The due date for the term paper is firm. Late submissions will not be accepted.

## University Policies

### Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

### Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/2015-2016/>

### Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email [csd@uoguelph.ca](mailto:csd@uoguelph.ca) or see the website:

<http://www.uoguelph.ca/csd/>

### Course Evaluation Information

Please refer to <https://www.uoguelph.ca/economics/course-evaluation>

### Drop date

The last date to drop one-semester courses, without academic penalty, is March 11<sup>th</sup>, 2016. For regulations and procedures for Dropping Courses, see the Academic Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/2015-2016/>

