

UNIVERSITY OF GUELPH
College of Management and Economics
Department of Economics and Finance
Course Outline

ECON 2100 Economic Growth and Environmental Quality, Fall 2012

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It is your responsibility as a student to be aware of and to abide by the University's policies regarding academic misconduct, e-mail communication, maintaining copies of out-of-class assignments, what to do when you cannot meet a course requirement and the drop date for the semester. To better understand these policies, visit:

<http://www.uoguelph.ca/economics/node/1115>

Text Book: Environmental Economics, Barry Field and Nancy Olewiler, McGraw-Hill Ryerson, 2002. [third edition]

Two years ago, the world witnessed one of the greatest environmental disasters on record. In June of this year, a major pipeline broke open in Alberta spilling 475,000 liters of crude oil into the Red Deer River. The damages from the Gulf Oil spill such as lost businesses for tourist operators can be quantified and a dollar figure can be placed on the value of the loss of the sport fishery on the Red Deer River but can society put a price on the loss of the ecosystem in the Mississippi Delta or the loss of wildlife habitat along the Alberta River? Is the possibility of environmental damage part of any economic activity? Are there engines of economic growth that should never be started because of the potential for environmental disaster?

One month before the Gulf oil drilling accident, the nations of the world gathered in Copenhagen to discuss global strategies to reduce green house gases. Why was there no agreement on what to do? Why, 20 years earlier, did the world not only agree to eliminate the discharge of CFCs into the atmosphere but succeed in accomplishing the goal? And , just recently, Toronto has banned plastic bags: is this good for environment and bad for the economy?

This year, there has been at least two dozen articles in The Globe and Mail alone, addressing such topics the Global warming and climate change, carbon taxes, marketable transferable discharge permits, replacing gasoline with ethanol, new 'peak load pricing' strategies to reduce electricity use in Ontario, agricultural run-off into rivers, landfill expansion, recycling and container re-use.

All of these have significant even radical ramifications on [1] how our economy functions, [2] what happens to our standard of living and indeed the future course of economic development on the planet. In response to these concerns, municipal, provincial and federal governments

have enacted or are enacting a wide range of policies to 'control' pollution or/and enhance environmental quality

In this course, we will examine how basic economic theory and extensions of the basic theory shed light on the questions around environmental policy, climate change and sustainable development. Economic activity and pollution, in one form or another, are inextricably linked. The challenge is to find public policies that allow us to improve environmental quality, now and in the future, while at the same time, minimizing the impact on our standard of economic well being.

FORMAT

Some lectures will focus on the theoretical foundations associated with economics and environmental policy. Others will provide an opportunity to discuss how the theory applies to current issues of environmental quality and sustainable development. For example, we might examine the consequences of climate change on arctic tourism. As a student in this course, you are responsible for the material covered in all classes and the material assigned in the course outline below.

EVALUATION

There will be two mid term exams: the first, on FRIDAY, SEPT 28, 2012 will count for 10 % of the total course evaluation and the second mid term, FRI., OCT. 26th, 2012 will account for 20 % of the overall evaluation in the course

Second, you are required to research and submit a short "commentary" on one of the topics listed below. Your commentary must be double spaced and NOT exceed FIVE pages. Since I encourage team work, this may be done in collaboration with another student in the course. This counts for 20 % of your evaluation. Due DATE: Monday, November 12, 2012.

The final exam on Dec. 13th, 2:30–4:30 pm worth 50% but may be worth 75% if your performance is a significant improvement over the mid term exam results.

TOPICS FOR WRITING YOUR SHORT COMMENTARY [others may be added later]

1. What are the economic implications, in terms of efficiency and fairness, of a total ban in Canada on the sale of water in plastic bottles?
2. In light of the Gulf of Mexico oil disaster, all undersea drilling for oil or gas should be halted. What would be the likely economic consequences of such a law? How should society decide if this is the "right" thing to do?
3. "The oil sands development in northern Alberta provides jobs and employment for thousands of Canadians without unduly harming the environment". Support or refute this statement.

4. "Wind turbines to generate electricity provide power to Ontario households and businesses and significantly reduce green house gases associated with producing electricity from fossil fuels." Support or refute this statement.
5. British Columbia's carbon tax is a model for the effective control of GHG. Discuss.
6. Research the number of pipeline spills in the past 5 years in Canada and provide an estimate of cost of the damages the spill caused. List damages that cannot or are very difficult to quantify.

Detailed Course Outline

TOPIC	CHAPTER/PAGES
1. The Economics of Property Rights and the Environment ¹	10
2 Environmental Economics: Going Where Markets Fear to Tread	1
3. The Materials Balance: A Zero Sum Game?	2
4. Tools to Analyze Environmental Issues: A Review of Introductory Micro Economics 100 ²	3, 4
5. New Tools for Analysis: Measuring Pollution's Damage and the Cost of Reducing Pollution	5
6. What is the Value of Environmental Quality? The Benefits of Reduced Pollution and The Costs of Achieving Target Levels of Environmental Quality	7, 8
7. Pollution Reduction Strategies	
a. Emission Taxes and Subsidies	12
b. Transferable Discharge Permits	13
c. Recycling and Re use	19
e . Municipal Garbage	19
f. Uncertainty and Risk	14

¹ For a classic treatment of this topic, see Dales, John, Pollution, Property and Prices, University of Toronto Press, 1968, republished in 2002 by Edgar Elgar Publishing.

² It is recommended that you review chapters 1 to 5 in *Microeconomics, Canada in the Global Environment*, Michael Parkin and Robin Bade, 6th Ed., 2006, Pearson, Toronto.

8. The Economics of Global Warming: Impact and Responses to Climate change

- a. The Montreal Protocol pp 394-96
- b. The Kyoto Accord pp 404-11
- c. Canada's response to the challenge
- d. The Stern Report [material to be assigned]

9. Sustainable Development: What is it? Can it Be Achieved? At what cost? pp 10-15

Course Evaluation: You will be asked to complete an evaluation of this course at some time during the last two weeks of the semester. The Department of Economics policy regarding the conduct and use of these evaluations will be found at:

<http://www.uoguelph.ca/economics/academics/courses/course-evaluation>