

University of Toronto, Economics Department, Winter 2017

Environmental Economics & Policies: ECO313

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Office Hours: Wednesdays 2:30-4:00PM. Check the Blackboard portal for the room.

Course Description:

This course demonstrates a rigorous application of microeconomic techniques in order to respond to various environmental problems. First, we look at the interaction between natural and economic systems, and the nature of the environmental deterioration, caused mainly by fast expansion of the level of economic activities. Then, we will seek solutions to these problems in the framework of neoclassical economics, even though, we will look, however short, at the alternative critical views. We will use Optimal Control Theory to analyze the optimal path of extraction of the environmental resources. Case studies and real life environmental policies will be discussed too.

Pre-requisites:

Prerequisite: ECO200Y1/ECO204Y1/ECO206Y1,
ECO220Y1/ECO227Y1/(STA220H1,STA255H1)/(STA257H1,STA261H1)

Lectures and Tutorials:

This course is scheduled for 3 hours a week, Thursdays 2:00-5:00PM. I will use all the allocated three hours for lecture in every other week. So, the third hour (4:00-5:00PM) is used for lecture in one week, and used for tutorials in the week after.

Textbooks and Readings:

This course is involved with a lot of reading. However, there is no single textbook that can be used for all the materials. Among others, there will be references to following textbooks. The readings will be assigned throughout the semester, and will be available in library reserve. There may not be enough time in classes to go over all the details of the reading materials, but students are required to read the materials carefully, and are responsible for everything.

Roger Perman, Yue Ma, Michael Common, David Maddison, James McGilvray (2011), Natural Resource and Environmental Economics, 4th edition, Pearson Publishing.

Ahmed Hussien (2012), Principles of Environmental Economics and Sustainability: An Integrated Economic and Ecological Approach, 3rd Edition, Routledge.

Charles D. Kolstad (2010), Environmental Economics, 2nd Edition, Oxford University Press,

Scott J. Callan and Janet M. Thomas (2013), Environmental Economics & Management: Theory, Policy and Applications, 6th edition, South-Western Cengage Learning.

Requirements:

| | | |
|--------------------|-----|--------------------------------------|
| Midterm | 35% | (Feb. 16, 2017) |
| Writing Assignment | 10% | (March 19, 2017, at 6 pm) |
| Final Exam | 55% | (TBD by the registrar office) |

- If for emergency reasons, acceptable by the university rules, you miss the midterm term test, you must take a makeup on **April 5, 2017**. The makeup test is a short test that may cover **MORE CHAPTERS** than the midterm. If you miss the midterm test, you must email me within 3 days, and submit the **hardcopy** of your documentations within a week of the missed test to me or the economics department front desk. Please do not send the scan of the documents by email. **If you miss the makeup test, you will receive zero mark, no matter why you miss the test.**

- The details of the writing assignment, which is a **group** assignment, will be announced later on. The assignment files must be received by **email**, before the date and time in above. The deadline will not be extended. No excuse like network failure or system interruption ... is acceptable. If you miss the writing assignments, they cannot be substituted by anything else.

Website and Email:

- I will post course materials and announcements on the Blackboard. It is your responsibility to follow up and get the information about test, makeup test, and other issues.

- Notes posted on the website may not be complete. They will be completed in class. The complete version will **NOT** be available.

- Emails are used only as the last resort, and after checking the outline and website. For questions regarding the course materials you should talk to me or TA during the office hours. In case of email, you should put your **last name, student ID#, and course name in the subject line, otherwise your email will not be read. You must use your UofT email account for your emails and to send the assignment files.**

Appeals:

For re-grading your term test, you should submit the test paper, together with your **detailed explanation**, written on a separate paper to me **within 2 weeks** after the distribution of the test papers in class. You should NOT change, write, or put any mark on your test paper. No request will be accepted, after the deadline. In revision your grade can go either way, up or down.

Behavior and Conduct in Class:

Your cell phone must be off in class. No distraction in class will be tolerated. You will be asked to leave the class, if you distract the class by talking, surfing the internet, or by your electronic devices.

Academic Integrity:

- Students should note that any form of academic misconduct will not be tolerated. Any student caught engaging in such activities will be subject to academic discipline ranging from a mark of zero on a test or examination to dismissal from the university as outlined in the academic handbook. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties. All suspected cases will be reported to the Department of Economics and OSAI. Please consult with the university's *Code of Behavior on Academic Matters*:

(<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>).

Other Issues:

- Some supplementary examples, graphs, and materials might be discussed in class. For the test and exam, you are responsible for all the materials that are discussed in class.

- There will be some grade adjustments in terms of the final letter grade of the course, at the instructor's discretion. In case of petition for re-grading of the final exam, the adjustment may be revised.

Topics:

This is a tentative schedule for this course.

Actual pace, order, topics, and coverage of the materials might be different

| Session | Topics |
|----------------|--|
| 1 | Economics and Environment: Neoclassical vs. Ecological Views |
| 2 | Sustainability and Limits to Economic Growth |
| 3 | Social Choice, Economic Efficiency and Environment Market Failure and Environment: Externalities and Public Goods |
| 4 | The Socially Efficient Levels of Emissions for Flow –Damage Pollutant, Spatial and Intertemporal Analysis of Stock-Damage Pollutant |
| 5 | Solutions to Environmental Problems: Varieties of Policy Instruments, Institutional Approaches, Command and Control Instruments, The Market Based Approaches |
| 6 | Midterm Test (February 16, 2017) |
| 7 | Solutions to Environmental Problems (Continued) |
| 8 | Regulation under uncertainty |
| 9 | Assessing Benefits of the Environmental Services: The Contingent Valuation Method, Total Cost Method, Hedonic Price Method, ... |
| 10-11 | The Theory of Optimal Resource Extraction: Non-Renewable Resources |
| 12 | The Theory of Optimal Resource Extraction: Renewable Resources |