

Prepared on Aug. 26, 2019

Economics of Natural Resources
and Environment
Economics 4440
Classroom: CHEM 352
Fall 2019
Web: **UNT Canvas**

Dr. Michael Nieswiadomy
Office Hrs: M 2:00 pm-5:00pm; Tues: 2:00-5:00 pm
Office: 354 Wooten Hall
Class time: Mon. 6:30 – 9:20 p.m.
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REQUIRED TEXT: *Environmental and Natural Resource Economics*, 11th ed., by Thomas Tietenberg and Lynne Lewis. (Routledge, (Taylor & Francis Group), 2018).

COURSE OBJECTIVES: A significant number of environmental problems have received considerable attention: Climate change, ground level ozone pollution, water pollution, habitat loss and over-harvesting of fish. These problems have convinced many people that mankind is incapable of living in harmony with the environment. We shall use as our organizing principle of the course the following questions: Can our economic and political institutions produce a sustainable growth path in the presence of a finite environment? What are the benefits and costs of our actions? What are the most efficient solutions to our problems?

Prerequisites: The only required class is Economics 1100: Principles of Microeconomics.

GRADES: Your grade will be based on the following weights:

| | |
|----------------------------|---------------------------|
| Exam 1 | 25% of your overall grade |
| Exam 2 | 25% of your overall grade |
| Final Exam (comprehensive) | 30% of your overall grade |
| Homeworks & quizzes | 20% of your overall grade |

Homeworks will be posted on the Canvas website. A list of handouts will also be posted. Some links to handouts will be listed.

I will use Canvas to email you. I will also post your scores from homeworks, quizzes, tests and papers on Canvas. Be sure to check emails from me a few times each week.

The grading scale is:

A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: below 60%.

ABSENCE POLICY:

Attendance Policy

Attendance at **every** class meeting is essential to understanding the material. Unless you are an exceptionally gifted student, your grade will be positively related to the number of times you attend class. To encourage your attendance, I will give pop quizzes. These pop quizzes will determine if you know the general topics that will be lectured on that day. A few pop quizzes (and homeworks) will be dropped. If you miss a quiz you will receive a zero (there are no makeup quizzes) and most likely it

will be dropped unless you miss a significantly large number. It is to your advantage to take all of the quizzes so that you will be able to drop your lowest scores.

If a student misses an exam without a university excuse, the student will receive a grade of zero. To the extent possible, please inform me in advance if you must miss an exam.

Cell Phone & laptop use policy

Cell phones are not allowed to be used in class. Put your cellphone in your backpack or bag. You will receive one warning for using your cell phone in class. If you use your cell phone for a second time in class, I will withdraw you from the class. You may use your laptop in class only for course related work. You will receive one warning for using your laptop for non course-related work. If you use your laptop for non course-related work for a second time in class, I will withdraw you from the class.

COURSE OUTLINE

Notation: Tietenberg & Lewis textbook = T&L; Articles posted on Blackboard Learn = B

| DATE | CHAPTERS | SUBJECT |
|------|----------|---------|
|------|----------|---------|

Aug 26

1 (T&L) Visions of the Future

(B) Fullerton, Don and Robert Stavins. "How Economists See the Environment." *Nature*, Volume 395, pp. 433-434, Oct. 1, 1998.

2 (T&L) The Economic Approach: Property Rights, Externalities, and Environmental Problems

3 (T&L) Evaluating Tradeoffs: Benefit-Cost Analysis and Other Decision-Making Metrics

Sept 2 Labor Day -- No Class! UNT is closed. But please study! Look at Sept. 9 work!

Sept 9

4 (T&L) Valuing the Environment: Methods

(B) Ronald Coase "The Problem of Social Cost," *Journal of Legal Studies*, Vol. 3, 1960, pp. 1-44. . (I will cover this article, but in the interest of time, I am not requiring you to read this article. But some day you should! ☺)

(B) Garrett Hardin "The Tragedy of the Commons," *Science*, Vol. 162, No. 3859 (Dec. 13, 1968), pp. 1243-1248

(B) Elinor Ostrom, "A General Framework for Analyzing Sustainability of Social-Ecological Systems," *Science*, Vo. 325, July 24, 2009, pp. 419-422.

(B) "The Apples and the Bees" & "Experimental Test of Coase's Theorem" pp. 475-476

- (B) Tim Tregarthen “How Property Rights Tamed the West” *The Margin*, March/April 1991, pp. 14-15
- (B) Terry Anderson, “Getting the Incentives Right” *The Margin* Fall 1993 pp. 42-43
- (B) “More Dung, Please Vanishing Hippos Break a Food Chain” *Wall Street Journal*, Nov.19, 2005, pp. A1 & A8
- (B) John Anderson, “This Land Was Your Land” *Smart Money*, pp. 167-172.
- (B) Michael McPherson and Michael Nieswiadomy, “African Elephants: the Effect of Property Rights and Political Stability” *Contemporary Economic Policy*, Vol. 18(1), Jan. 2000, pp. 14-26.
- (B) Portney, Paul R. The Contingent Valuation Debate: “Why Economists Should Care”. *Journal of Economic Perspectives* 8 (1994):3-17
- (B) Hanemann, W. Michael. “Valuing the Environment through Contingent Valuation.” *Journal of Economic Perspectives* 8 (1994):19-43
- (B) Diamond, Peter A. and Jerry A. Hausman. “Contingent Valuation: Is Some Number Better than No Number?” *Journal of Economic Perspectives* 8 (1994):45-64
- (B) “The Price of Life” *The Economist* Dec. 3, 1993 p. 74
- (B) “At What Value Your Life,” *The Margin* Nov/Dec 1990 pp. 38-39
- (B) “Species Preservation At What Cost,” *The Margin* Spring 1992 pp. 34-35
- (B) “Too Much Safety” Walter Williams 9/5/2001

Sep. 16

- (B) “Euthanizing the Value of a Statistical Life,” Trudy Cameron, *Review of Environmental Economics and Policy*, (2010) 4 (2): 161-178
- (B) “Saving the Tuolumne,” Cases in Microeconomics, Gomez-Ibanez, Jose A., & Joseph P. Kalt, pp. 189-200
- Ecosystem Valuation website <http://www.ecosystemvaluation.org/> go to “Dollar-based Ecosystem Valuation Methods,” then go to “4) Travel Cost Method”

5 (T&L) Dynamic Efficiency & Sustainable Development

Sept. 23

6 (T&L) Depletable Resource Allocation: The Role of Longer Time Horizons, Substitutes, and Extraction Cost

7 (T&L) Energy: Transition from Depletable to Renewable Resources

(B) Hubbert's Peak Oil- "Nuclear Energy and the Fossil Fuels," by M. King Hubbert, presented at American Petroleum Institute, March 7-8-9, 1956. Optional reading.

(B) "There Will Be Oil," *The Wall Street Journal*, Daniel Yergin, September 17, 2011

Sept. 30

Exam 1 & start Ch. 8 Recyclables

Oct. 7

8 (T&L) Recyclable Resources: Minerals, Paper, Bottles & E-Waste

9 (T&L) Water: A Confluence of Renewable and Depletable Resources

(B) "How the Corps Turned Doubt into a Lock," Michael Grunwald, Washington Post, Feb. 13, 2000, Page A1

(B) China's Water Problems, *The Economist* 10_12_2013

(B) Georgia - Florida Water Dispute, *The Wall Street Journal* 10_2_2013

Oct. 14

10 (T&L) A Locationally Fixed, Multipurpose Resource: Land

11 (T&L) Storable, Renewable Resources: Forests

(B) "Natural Exponential Functions and The Problem of Growth," Fundamental Methods of Mathematical Economics, 3rd ed., Alpha C. Chiang, pp. 274-282.

(B) "Destroying the Environment: Government Mismanagement of our Natural Resources" National Center for Policy Analysis, John Baden, pp. 1-45

Oct. 21

12 (T&L) Common Pool Resources: Commercially Valuable Fisheries

13 (T&L) Ecosystem Goods and Services: Nature's Threatened Bounty

(B) Conflicts & Choices in Biodiversity Preservation, Andrew Metrick & Martin L. Weitzman
Journal of Economic Perspectives—Volume 12, Number 3—Summer 1998—Pages 21–34

- (B) "Restructuring Environmental Big Business," Chris Boerner and Jennifer Chilton Kallery, Dec. 1994
- (B) "Are We Running Out of Everything?" S. Charles Maurice & Charles Smithson, pp.1-25
- (B) "All Creatures Great and Small Special Report on Biodiversity" The Economist Sept 14, 2014, pp. 1_16
- (B) "With Trouble on the Range, Ranchers Wish They Could Leave It to Beavers" The Wall Street Journal, August 30, 2011
- (B) Candidate Species Conservation: Can the Tortoise Win the Race? PERC Case Studies October 2013

Oct. 28 Exam 2 & start Ch. 14 Pollution

Nov. 4 Last day to drop a class.

Nov. 4

14 (T&L) Economics of Pollution Control: An Overview

- (B) Toward a New Conception of the Environment-Competitiveness Relationship: Porter & van der Linde
- (B) Economic Incentives vs. Command and Control

Nov. 11

15 (T&L) Stationary-Source Local and Regional Air Pollution

- (B) What Can We Learn from the Grand Policy Experiment? Lesson from SO₂ Allowance Trading

Nov. 18

16 (T&L) Climate Change

- (B) Climate Science: A Sensitive Matter, *The Economist*, Mar 30, 2013

Nov. 21 Last day to withdraw from UNT by 5:00 pm. Verify this date.

Nov. 25

17 (T&L) Mobile-Source Air Pollution

18 (T&L) Water Pollution

Nov. 28-29

Thanksgiving Holiday; University closed

Dec. 2

20 (T&L) The Quest for Sustainable Development

- (B) Confronting the Environmental Kuznets Curve, Susmita Dasgupta, Benoit Laplante, Hua Wang and David Wheeler. *Journal of Economic Perspectives*—Volume 16, Number 1—Winter 2002—Pages 147–168

Dec. 9 Monday

Final Exam 6:30 p.m. – 9:20 p.m.

Disability Accommodation

If you have a disability for which you will require accommodation under the terms of the Americans with Disabilities Act or Section 504 of the Rehabilitation Act of 1973, please discuss your needs with me after class or during office hours.

The Economics Department cooperates with the Office of Disability Accommodation (ODA) to make reasonable accommodations for qualified students with disabilities. If you have not registered with ODA, we encourage you to do so. Please present your written accommodation request on or before the 4th class day.

Cheating and Plagiarism

The Economics department of the University of North Texas adheres to the University's Policy on Cheating and Plagiarism. To view this policy go to <https://policy.unt.edu/policy/06-003>