Prepared on Jan. 15, 2024

Economics of Natural Resources
and Environment
Economics 4440

Dr. Michael Nieswiadomy
Office Hrs: Mon. & Wed. 5:00 pm - 6:30pm;
Office: 354 Wooten Hall (office hours will be held on Zoom; or face-to-face)
https://unt.zoom.us/j/9220253289

Classroom: LIFE A106
Spring 2024

Class time: Mon & Wed. 2:00 – 3:20 p.m.

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REQUIRED TEXT: *Environmental and Natural Resource Economics*, 12th ed., by Thomas Tietenberg and Lynne Lewis. (Routledge, (Taylor & Francis Group), 2024).

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	27.5% of your overall grade
Exam 2	27.5% of your overall grade
Final Exam (comprehensive)	35% of your overall grade
Homeworks	10% 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, tests and papers on Canvas. Be sure to check emails from me several times each week. I recommend that you install the Canvas app on your smartphone.

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

Attendance Policy

I take attendance but attendance is not part of your grade. I want to know if you are coming to class. Attendance at **every** class meeting is essential to understanding the material. Unless you are an exceptional gifted student, your grade will be positively related to the number of times you attend class.

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 drop 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 drop you from the class.

COURSE OUTLINE

Notation: Tietenberg & Lewis textbook = T&L; Articles posted on Canvas = C

DATE CHAPTERS SUBJECT

Jan. 15 MLK Day UNT is closed

Jan. 17 **1 (T&L) Visions of the Future**

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

Jan. 22 & 24 & 29

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

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(C) 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! ☺) (optional)

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

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

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

(C) Tim Tregarthen "How Property Rights Tamed the West" *The Margin*, Mar/April 1991, pp. 14-15

(C) Terry Anderson, "Getting the Incentives Right" *The Margin* Fall 1993 pp. 42-43

(C) “More Dung, Please Vanishing Hippos Break a Food Chain” *Wall Street Journal*, Nov.19, 2005, pp. A1 & A8

(C) John Anderson, “This Land Was Your Land” *Smart Money,* pp. 167-172.

Jan 31

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

Feb. 5 & 7 **4 (T&L) Valuing the Environment: Methods**

(C) 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.

(C) Portney, Paul R. The Contingent Valuation Debate: “Why Economists Should Care”. *Journal of Economic Perspectives* 8 (1994):3-17

(C) Hanemann, W. Michael. “Valuing the Environment through Contingent Valuation.” *Journal of Economic Perspectives* 8 (1994):19-43

(C) Diamond, Peter A. and Jerry A. Hausman. “Contingent Valuation: Is Some Number Better than No Number?” *Journal of Economic Perspectives* 8 (1994):45-64

(C) “The Price of Life” *The Economist* Dec. 3, 1993, p. 74

(C) “At What Value Your Life,” *The Margin* Nov/Dec 1990 pp. 38-39

(C) “Too Much Safety” Walter Williams 9/5/2001

(C) “Euthanizing the Value of a Statistical Life,” Trudy Cameron, *Review of Environmental Economics and Policy*, (2010) 4 (2): 161-178 (optional)

(C) “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”

Feb. 12 Exam 1

Feb 14 **5 (T&L) Dynamic Efficiency & Sustainable Development**

Feb. 19 **6 (T&L) Depletable Resource Allocation: The Role of Longer Time Horizons, Substitutes, and Extraction Cost**

Feb. 21 & 26
7 (T&L) Economics of Pollution Control: An Overview

(C) Toward a New Conception of the Environment-Competitiveness Relationship: Porter & van der Linde

(C) Economic Incentives vs. Command and Control

Feb. 28
8 (T&L) Stationary-Source Local and Regional Air Pollution

(C) What Can We Learn from the Grand Policy Experiment? Lesson from SO_2 Allowance Trading

March 4 **9 (T&L) Water Pollution: Managing Water Quality for Rivers, Lakes, and Oceans**

March 6 **11 (T&L) Climate Change I: The Nature of the Challenge**
(C) Climate Science: A Sensitive Matter, *The Economist*, Mar 30, 2013

March 11-17, 2024 Spring Break

March 18 & 20 **12 (T&L) Climate Change II: The Role of Energy Policy**
(C) 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).

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

March 25 Exam 2

March 27 **13 Climate Change II: Carbon Pricing**

April 1 & 3 **14 Climate Change III: Adaptation: Floods, Wildfires, and Water Scarcity**

April 5, 2024 last day to drop a course; verify this date

April 8 **15 Transportation: Managing Congestion and Pollution**

April 10 **16 (T&L)** **Ecosystem Goods and Services: Nature's Threatened Bounty**

(C) Conflicts & Choices in Biodiversity Preservation, Andrew Metrick & Martin L. Weitzman Journal of Economic Perspectives—Volume 12, Number 3—Summer 1998—Pages 21–34
(C) "Restructuring Environmental Big Business," Chris Boerner and Jennifer Chilton Kallery, Dec. 1994
(C) "Are We Running Out of Everything?" S. Charles Maurice & Charles Smithson, pp.1-25
(C) "All Creatures Great and Small Special Report on Biodiversity" The Economist Sept 14, 2014, pp. 1_16 (optional)
(C) "With Trouble on the Range, Ranchers Wish They Could Leave It to Beavers" The Wall Street Journal, August 30, 2011 (optional)
(C) Candidate Species Conservation: Can the Tortoise Win the Race? PERC Case Studies October 2013 (optional)

April 15 **17 (T&L)** **Common Pool Resources: Commercially Valuable Fisheries**

April 17 & 22 18 (T&L) Storable, Renewable Resources: Forests

(C) "Natural Exponential Functions and The Problem of Growth," Fundamental Methods of Mathematical Economics, 3rd ed., Alpha C. Chiang, pp. 274-282.
(C) "Destroying the Environment: Government Mismanagement of our Natural Resources" National Center for Policy Analysis, John Baden, pp. 1-45

April 24 19 (T&L) Land: A Locationally Fixed, Multipurpose Resource

Apr 29 **20 (T&L)** **The Quest for Sustainable Development**
(C) 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

May 1 Review for Final Exam

May 6, 2024 Monday Final Exam 1:30 p.m. – 3:30 p.m.

Contacting Me

Via Email: **All email must be sent through Canvas.** I recommend that students install the Canvas app on their smartphones.

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 Access (ODA) to make reasonable accommodations for qualified students with disabilities. If you have not registered with ODA, we encourage you to do so at https://studentaffairs.unt.edu/office-disability-access. 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. Cheating on any work in the class will result in a "F" for the semester. To view this policy go to https://vpaa.unt.edu/ss/integrity