

August 17, 2025

Economics of Natural Resources
and Environment
Economics 4440

Dr. Michael Nieswiadomy
Office Hrs: Tues. & Thurs 3:30 pm - 5:30 pm;
Office: 354 Wooten Hall; office hours held face-to-
face, but alternatively you can visit my Zoom office
<https://unt.zoom.us/j/9220253289>

Classroom: Wooten Hall 316
Fall 2025

Class time: Monday 6:30 – 9:20 p.m.
Phone: 940-565-2244

email: first choice use Canvas email

email: 2nd choice michael.nieswiadomy@unt.edu

Web: Canvas

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, flooding, wildfires, 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	25.0% of your overall grade
Exam 2	25.0% of your overall grade
Final Exam (comprehensive)	35.0% of your overall grade
Quizzes	15.0% of your overall grade

The grading scale is:

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

Homeworks will be posted on the Canvas website. Homeworks are not graded for credit. You should practice them to prepare for the exams. You can get help from me and the Teaching Assistant with your homeworks. I will post an answer key so that you can check your work.

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 quizzes and tests on Canvas. Be sure to check emails from me several times each week. I recommend that you install the Canvas app on your smartphone.

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.

There are NO make-up quizzes for missed in-class quizzes. However, I will drop a few scores at the end of the semester.

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, you will receive an “F” for the semester. 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, you will receive an “F” for the semester.

COURSE OUTLINE

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

DATE	CHAPTERS	SUBJECT
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Aug. 18 & 25 Ch. 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.

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

(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.
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Sept. 1 Labor Day UNT is closed; we have no class

Sept. 8 & 15

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

Ch. 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”

Sept. 22 Exam 1

**Sep 22 (after exam 1) Ch. 5 (T&L) Dynamic Efficiency &
Sustainable Development**

**Sep 29 Ch.5 (continued)
Ch. 6 (T&L) Depletable Resource Allocation: The
Role of Longer Time Horizons, Substitutes, and
Extraction Cost**

Oct. 6 Ch. 7 (T&L) Economics of Pollution Control: An Overview

(C) Toward a New Conception of the Environment-Competitiveness Relationship: Porter & van der Linde *Journal of Economic Perspectives* — Volume 9, Number 4 — Fall 1995 — Pages 97–118

(C) Economic Incentives vs. Command and Control: WHAT’S THE BEST APPROACH FOR SOLVING ENVIRONMENTAL PROBLEMS? Winston Harrington and Richard D. Morgenstern, *Resources for the Future*, Fall/Winter, 2004.

**Oct. 13 Ch. 8 (T&L) Stationary-Source Local and Regional Air
Pollution**

(C) What Can We Learn from the Grand Policy Experiment? Lesson from SO₂ Allowance Trading, Robert Stavins, *Journal of Economic Perspectives*—Volume 12, Number 3—Summer 1998—Pages 69–88

**Oct. 13 Ch. 9 (T&L) Water Pollution: Managing Water Quality for
Rivers, Lakes, and Oceans**

**Oct. 20 Ch. 11 (T&L) Climate Change I: The Nature of the
Challenge**

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

Ch. 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

Oct 27 Exam 2

Begin Ch. 13 after Exam 2

**Nov. 3 Ch. 13 Climate Change III: Carbon Pricing
Ch. 14 Climate Change IV: Adaptation: Floods, Wildfires,
and Water Scarcity**

Nov. 3 Ch. 15 Transportation: Managing Congestion and Pollution

Nov. 7, 2025 last day to drop a course; verify this date

**Nov. 10 Ch. 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

**Ch. 17 (T&L) Common Pool Resources: Commercially Valuable
Fisheries**

Nov. 17 Ch. 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

(C) "Restructuring Environmental Big Business," Chris Boerner and Jennifer Chilton Kallery, Dec.
1994, Center for the Study of American Business, Washinton University, Occasional Paper 146.

(C) "Are We Running Out of Everything?" S. Charles Maurice & Charles Smithson, pp.1-25

Nov. 24 – 28 Thanksgiving Break no class

**Dec. 1 Ch. 19 (T&L) Land: A Locationally Fixed, Multipurpose
Resource**

Ch. 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

Dec 9, 2025 Monday

Final Exam 6:30 p.m. – 9:20 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.

Academic Integrity and Plagiarism at UNT

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>

AI, Plagiarism, and Academic Integrity

The "unauthorized" use of any person or technology that assists in a student's assignment, project, or paper is considered cheating under the UNT Student Academic Integrity Policy (UNT Policy 6.003). Unless a professor or instructor gives explicit "authorization," AI cannot be used to complete assignments, projects, or papers. Doing so will result in a "cheating" violation. Office of the Provost. 2024. "Frequently Asked Questions -- Faculty." Student Success. <https://vpaa.unt.edu/ss/integrity/faq-faculty.html>

AI should not be used to assist in writing papers, searching for sources, or creating citations. Citations provided by AI are fabricated by mimicking existing bodies of work. In most cases, AI will pull direct quotes from existing sources to answer queries and make-up information about the source.

AI can be used ethically to help you develop an outline for a paper, generate ideas, and learn a citation style. Talk to your [subject librarian](#) or professor about how you can use AI ethically.