Economics 372 Northwestern University Environmental Economics Mark Witte Department of Economics Spring 2023

Contact Info: mwitte@northwestern.edu

Class meets: Tues. & Thurs. 11:00-12:20 in Tech LR4 (I intend to record all of these.)

Office Hours: Wed. 3-4 and Thurs. 12:30-2:00 in KGH 3393 (Other times can work too. Ask!)

TA: Paul Kim will be available to you on Fridays from 11-noon. When we have TA section, he will

be in Harris L07, but otherwise he will have office hours then in Kellogg Global Hub 3198.

Readings & Notes: https://sites.google.com/site/markwitteeconomics/home/economics-372-environmental-economics

Exam 1	35% of class grade	Thursday, April 20, 11:00-12:20 in Tech LR4
Exam 2	45% of class grade	Tuesday, May 30, 11:00-12:20 in Tech LR4
Homework	20% of class grade	Various dates

The underlined links are the required readings for the week.

Week of March 30 - Introduction

Keohane-Olmstead (KO) 1, 2, Fullerton & Stavins, Krugman, Human Capital, Chang et al, Philosophy

Week of April 4 - Externalities, Public Goods, Measuring Social Costs & Benefits, and SPECIAL GUEST!

KO 3, Kling et al, Carson, Taylor on CV, Hausman, Racial Gap, Landsburg Value of Life, Sunstein, Taylor on Risk, Environmental Justice, Bakkensen & Barrage, Sunset, Terrorism,

Week of April 11 - Tragedy of the Commons, Discount Rates

KO pp. 31-34, 59-60, KO 5, <u>Hardin</u>, <u>Landsburg</u> vs <u>Romm</u>, <u>Giglio et al.</u>, <u>Newell & Siikamäki</u>, <u>Electric cars</u>, <u>Climate Finance</u>

Tues. April 18 - Review, Thurs. April 20 MIDTERM 11-12:20 IN CLASS

Week of April 25 - Market-Based Policies versus Command & Control

KO 4, KO 8 pp. 139-158, 160-167, KO 9 pp. 168-184, 185, 190-198, <u>Kiesling</u>, <u>Levinson</u>, <u>Coase</u>, <u>S-Head</u>, <u>Roberts 1</u>, <u>Greenstone</u>, <u>Offsets 1</u>, <u>Offsets 2</u>, <u>Offsets 3</u>, <u>Offsets 4</u>, <u>John Oliver</u>, <u>Borenstein</u>, <u>Jacobsen et al</u>.

Week of May 2 - Climate

KO 10 pp.200-210, 217-220, 223-224. <u>Hsiang & Kopp, SCC1, SCC2, Stern & Stiglitz, Science Friday, CO2</u> Pricing, Who prices carbon?, Nordhaus, Lomborg, Schelling, Wagner & Weitzman, xkcd, xkcd 2, Agnotology

Week of May 9 - Energy

Roberts 2, Roberts 3, State Electricity, Energy Flow Charts, Renewable Energy Types, Washing Machines

Week of May 16 - Technology, International Agreements

Puffert, Rosling, Schelling Tip, Rajan, Harstad, Acemoglu, Sharks

Week of May 23 - Political Economy

KO 12, Rich, Blanchard et al, Harford.

Exam 2: Tuesday, May 30th, 11:00-12:20 in Tech LR4

The following are questions that many of you will have about the class.

- Q: Where should I look for posted Zoom recordings, slides, readings, and things like that?
- A: The best place is on Canvas under "Pages." I'll try to put everything there in an organized way.
- Q: I am not now nor have I ever taken the **prerequisites**. Am I in trouble in here?
- A: Probably; this class uses the tools of Econ 310-1,2 Intermediate Microeconomics a lot, and Econ 281 Introduction to Econometrics a bit.
- Q: What are the math requirements for this class?
- A: You will need to be able to do basic calculus, graphing, and algebra. I expect you to be able to use basic economic tools like present values, expected values, non-competitive market structures, and to understand regression analysis. I will do some more complicated math for the purposes of exposition but I will not ask you to reproduce it on the exams although you should understand the underlying ideas. As a guide, I will try to preview any math or exposition you might need in the homework.
- Q: How does the homework work?
- A: We will post questions and you will submit answers through Canvas. The computational problems will be graded by Canvas, and you will get three chances to get them right. You can collaborate with your peers on these and ask us questions through Canvas's discussion forum (anonymously if you wish). Some of the homework will involve you submitting hand-drawn graphs or written summaries of the lecture or reading contents.
- Q: What are the basic work expectations for the class?
- A: I hope that you will do about two hours of study for every hour of lecture, and that you will read the material assigned for the lecture before class (and catch up on the first lecture assigned reading too).
- Q: What is the deal with these homeworks?
- A: There will be a bunch of these over the course of the quarter and they will usually follow what we did in lecture, and have some predictive value for what will be on the exams. Your first homework will be to get you familiarized with the use of the Canvas discussion forum, so you will need to post an interesting article relating to environmental economics. Be sure to put your last name in the header so I know it's from you. Also, when you are posting about specific homework or exam questions, it's very helpful if you **cut-and-paste** the actual text question into what you write.
- Q: What will the tests be like?
- A: Some problem solving, some graphing, some essays. The homeworks will give you examples of the sorts of problems I am apt to ask. Also, you are expected to *go to the bathroom before the exam and then hold it until the exam is over*. Interesting fact: On the tests, *we will give you points for leaving a question blank*. On any given problem or graded sub-problem, we will give you 20% of the points if you leave the question completely blank (or clearly cross out what you've written). This is intended to remove the incentive to pursue "pity points" on questions where you really don't know what I'm asking, and instead allow you to devote your time to doing the best you can on the material you know best. Of course...you'll probably just choose to write complete and perfect answers to every question on every test, but we wanted you to have the option.
- Q: Can I expect any leniency if I'm caught cheating or engaging in any unethical behavior?

 A: No. Weinberg's policy is that students who are suspected of cheating are reported *immediately*. In recent years, I've sent the names of students to the dean; some were expelled and those who were did not enjoy the experience.

Q: In studying for the tests, should I stress studying the notes, the book, or the readings?

A: All of the above, but particularly the notes. I'll make sure that I don't inflict any math problems on the exams that I haven't already given you in the homework. Note however, that not everything that is important for the class, or that I cover in lecture or the readings will make it onto the test. Some material is important for you to learn, but does not lend itself to good test questions. I'm also inclined to have you do math on the homework to build that level of understanding there, and then use graphs on exam questions so as to minimize the chance of algebra mistakes causing you to miss points on something where you had a good level of understanding.

Q: Averaging my grades, I come out very close to a higher grade. How about if you give it to me?

A: No...unless you are deserving of special consideration.

Q: Am I deserving of special consideration?

A: That depends. I may feel you deserve a higher grade than you earn on the tests if I feel that your comments in class, discussion posts on Canvas, and office hours improve the education of your fellow students and show you are able to and have been thinking intelligently about the material.

Q: What is your electronics communication policy?

A: (1) I expect you to have your preferred e-mail address entered into Canvas so that I can send messages to the class, and I expect you to **check that e-mail on a daily basis**. (2) Use the Canvas discussion forum (found in Canvas's "Pages") to post questions that would be of general use to your classmates. (Yes: "What does MR stand for?" No: "I got 11 points on the midterm; does that mean I'm going to flunk the class?")

Q: What happens if I fall suddenly ill and am unable to make it to a test?

A: If you do not reach me or leave a message on my e-mail (mwitte@northwestern.edu), your misfortune will be doubled. You will get a zero on the test for a grade of F that cannot be made up. Any problem that causes you to be physically unable to take a test must be carefully documented by an independent source who can confirm that you were incapacitated. A missed midterm will have its weight put on the next exam.

Q: Will this class be recorded?

A: "Portions of this class will be recorded by the instructor for educational purposes. These recordings will be shared only with students enrolled in the course and will be deleted at the end of the Quarter." You are not allowed to make recordings of the class. For more information about this, look here: https://www.registrar.northwestern.edu/faculty-staff/syllabi.html

Q: What if I have concerns about accessibility for this class?

A: Any student with a documented disability needing accommodations is requested to speak directly to the AccessibleNU (accessiblenu@northwestern.edu, 847-467-5530) and the instructor, as early as possible in the quarter (preferably within the first two weeks of class). All discussions will remain confidential. For resources on safety and mental and physical health, please visit the NUhelp website or phone app.

Q: When the class is over, what will I wish that I had known at its start?

A: Beyond the obvious things, in the past some students wrote on their CTECs that they wish they had known my tests would be so hard. I agree that my tests tend to be a bit long and I try to make them hard. Also, I'll admit there's some reading so be careful not to fall too far behind. Now you've been warned.

Q: Anything else?

A: Yes. Academic integrity; Covid; Diversity, Equity, and Inclusion; and Wellness and Mental Health. https://www.registrar.northwestern.edu/faculty-staff/syllabi.html

Q: What is the most important thing?

A: Please be assured that I want students to learn and to receive the good grades they deserve. So please make an appointment with me should you have undue difficulty with your work in the course.