

Syllabus

NUTR 341: Economics of Agriculture and the Environment Friedman School of Nutrition Science and Policy, Tufts University Spring 2018

Tuesdays and Thursdays, 1:30pm to 3:00pm, Jaharis Room 155

Instructor: Sean B. Cash

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Office Hours: Tuesdays and Thursdays, 12:00pm to 12:50pm, or by appointment, 127 Jaharis

Teaching Assistants:

Yan Bai: 1/15/18 – 2/12/18

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Tessa Salzman: 2/12/18 through end of semester

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Office Hours: Tuesdays, 3:00pm to 4:30pm, or by appointment, room 155 Jaharis

Tufts Graduate Credit: 1 credit

Prerequisites for taking this course: At least one course in microeconomics principles, such as NUTR 238, or consent of the instructor.

Course Description: The primary goal of this class is to learn the tools and concepts necessary for economic analysis of a variety of environmental, natural resource, and agricultural issues, particularly with regard to environmental and resource use aspects of food production and consumption. Throughout the semester, we will be addressing a broad range of problems and issues in the context of microeconomic theory and methods. Microeconomics is the social science that deals with balancing our (seemingly unlimited) wants and needs within the limitations of our personal, social, and natural environments. It therefore provides useful frameworks for considering issues such as our use of land; how we invest in protecting the quality of our air, water, and soil; the impact of our food production decisions on other species; how food consumption decisions intersect with environmental concerns; and the effect of climate change on food production.

A recurring topic in this class will be on why and when markets fail to ensure the quality of our environment, as well as how collective action, institutions, and market forces can be used to help address these failures.

This course is required for AFE students, and is recommended for any Friedman student with an interest in economic aspects of the food/environment interface.

Course Objectives: Students who take this course will be able to:

- identify and explain key microeconomic concepts relevant to food production and the environment;
- apply these concepts to analysis of environmental and resource use challenges involving food production and consumption;
- understand how economic insights can be used in designing more effective policies and processes for protecting the environment and managing natural resources;
- understand and apply economic frameworks for measurement of social welfare impacts of environmental and agricultural policy changes;
- describe the approaches available for incorporating non-market benefits and costs into

- economic analyses; and
- develop a basic understanding of current economic research insights into questions of environmental protection, sustainability, and the food system.

Description of assignments, tests, and other required activities:

Your grade in this class will be determined by problem sets, participation, and two exams. Points will be awarded for each assignment, and an overall course score will be calculated from the weights given below. Your overall course score will then be translated into a letter grade on the basis of “natural breaks” in the distribution of class grades.

Problem Sets: **40%** of your grade will be based on four lengthy take-home assignments, tentatively due on **February 8, March 1, March 29, and April 19**. Each assignment will be distributed on Canvas approximately two weeks before it is due. You are encouraged to work in small groups on these problem sets, but each student is responsible for handing in her or his own answers, in her or his own words.

Teach-back: **10%** of your grade will be based on your preparing and presenting a five-minute “teach-back” in which you apply an economic tool or concept learned the previous week to a current agricultural, environmental, or related issue at the start of a subsequent class. Each student will sign up for a slot. Additional details will be discussed the first day of class.

Exams: The first exam will be held in class on **Tuesday, March 13th** and is worth **20%** of your grade. A second exam will also be worth **20%** of your overall grade, and will be held during the exam period on **Tuesday, May 8th from 1:30 – 3:00pm**. Additional information on the format, grading and content of the exams will be distributed prior to each exam.

Participation: Regular attendance in class is a necessary (but not sufficient!) condition for mastering this material and passing the course. **10%** of your grade will be based on participation in discussion and in-class exercises.

Summary of Assignments and Grading

Assignments	Grading Weight
Problem Sets (4 total)	40%
Teach-back	10%
Exam I: Tuesday, March 13th	20%
Exam II: Tuesday, May 8th	20%
Participation	10%
Total	100%

Penalties for late or incomplete assignments: No late assignments will be accepted and a zero grade will be recorded. If you think you may have difficulty completing a problem set on time, please ask me for an extension as early as possible. *No extensions will be granted less than 48 hours before an assignment is due.* I will try to accommodate busy schedules, but not poor planning.

Grading Questions: If you believe that an assignment or exam question was graded incorrectly, you are welcome to raise the issue with us. If you simply don't like your grade and come to argue with us for more points, you will probably find that there are better uses of your time. In any case, we will follow a simple rule: *We will not discuss any grade during the first day after the assignment has been returned.*

Course texts and Materials: The primary textbook for this course is *Environmental and Natural Resource Economics*, 10th edition, T. Tietenberg and L. Lewis, 2014 (referred to as “T&L” in the reading list on Canvas). There will be required readings from this textbook on a regular basis. Copies are available for sale in the bookstore and online. A copy is also on reserve at the Hirsh Library. Additional readings will be distributed in class or made available on Canvas.

Since the material in this course builds on itself from week to week, it is important that you keep up with the readings as they are assigned. Assigned readings are to be completed *before* the relevant class meeting. It is impossible to participate fully in the discussions if you have not done the readings.

Academic Conduct

School Policy on Academic Conduct: Academic integrity, including avoiding plagiarism, is critically important. Each student is responsible for being familiar with the standards and policies outlined in the Friedman School’s *Policies and Procedures* manual (<http://nutrition.tufts.edu/student/documents>). It is the responsibility of the student to be aware of, and comply with, these policies and standards. In accordance with Tufts University’s policy on academic misconduct, violations of standards of academic conduct will be sanctioned by penalties ranging from grade reduction or failure on an assignment; grade reduction or failure of a course; up to dismissal from the school, depending on the nature and context of any infraction (<http://students.tufts.edu/student-affairs/student-life-policies/academic-integrity-policy>).

Instructor’s Philosophy on Misconduct: The material you submit to show mastery of the course material must be your own work. I take proper academic conduct seriously, as it is unfair to other students when academic misconduct is not addressed. The policy followed here is quite simple: Any plagiarism or cheating will result in my awarding a failing grade for the assignment and the class, and all violations will be reported to the Academic Dean for Education.

Classroom Conduct and Disruptions: Because this class relies heavily on both lecture and group discussion, it is important that everyone be able to participate fully without disruption or distraction. Please make sure that all communications devices are silent and put away during the class, as even subtle interruptions are distractions to your classmates and me. Reading and sending text messages should wait until after class. If you use a laptop to take notes (or to refer to materials that were distributed electronically), it is important that you do so with the wireless turned off. I reserve the right to ask anyone who is attending the class in body but not in mind to leave the room.

Accommodating Disabilities: Students with documented disabilities are entitled to academic and classroom-based adjustments and accommodations. The Assistant Dean of Student Affairs is available to assist you in addressing these needs and accessing relevant resources on campus. If you require accommodations in this class, please arrange to meet with me in office hours (or by appointment) during the first two weeks of the semester. To maintain the confidentiality of your request, please do not approach me before or after class to discuss your accommodation needs.

Contacting Sean: My drop-in office hours are held on Tuesdays and Thursdays from 12:00pm to 12:50pm. All office hours will be held in Jaharis 127. You should feel free to come by with any questions or comments you have. Yan and/ or Tessa will hold office hours on Tuesdays from 3:00pm to 4:30pm in room Jaharis 155.

We will use the class email list for announcements and clarifications. Please make sure to check your university email account regularly. The primary use of the Canvas site will be to distribute handouts and additional readings. Please do not use email or Canvas to submit any assignments unless specific arrangements have been made to do so.

You are also free to ask us specific questions over e-mail, although it doesn’t work well for broader questions. For example, “How do I answer this week’s assignment?” is a short question that requires a long answer that you probably won’t receive over email. Of course, e-mail is great for any administrative questions you may have.

Course & Assignment Schedule

W1: January 18	Introduction: Models, limits, hungry workers, and dead economists
W2: January 23, 25	Market successes and market failures Environmental externalities; public goods and the commons <u>Available</u> : Problem Set 1 distributed on Thursday, January 25 th
W3: January 30, February 1	Normative decision-making and evaluation of trade-offs Valuing the environment: Methods, strengths, and the “ick” factor
W4: February 6, 8	Use it and lose it: Non-renewable resources, dynamic efficiency, and sustainable consumption <u>DUE</u> : Problem Set 1 due Thursday, February 8 th
W5: February 13,15	Land use and agricultural production models <u>Available</u> : Problem Set 2 distributed Tuesday, February 15 th
W6: February 20	Water use: quantity issues <i>No class on February 22 – the University observes a Monday class schedule</i>
W7: February 27, March 1	Water use: quality issues Agricultural pesticides <u>DUE</u> : Problem Set 2 due Thursday, March 1st
W8: March 6, 8	Agricultural labor issues <u>Available</u> : Problem Set 3 distributed Thursday, March 8 th
W9: March 13, 15	Exam 1 – March 13th Climate change economics introduction
March 19 - 23	<i>Spring break – no class</i> Week 10 readings
W10: March 27, 29	Climate change: policy analysis & impacts on agriculture and food quality <u>3/29 Guest lecture</u> : Gilbert Metcalf on carbon taxation and social costs of carbon <u>DUE</u> : Problem Set 3 due Thursday, March 29 th
W11: April 3, 5	Forestry management Fisheries and management of common pool resources <u>Available</u> : Problem Set 4 distributed Tuesday, April 3rd
W12: April 10, 12	<u>4/10 Guest lecture</u> : Marty Smith on fisheries <u>4/11 Seminar speaker</u> : Marty Smith (Attendance required or watch recording if scheduling conflict.) 4/12: Market structure, U.S. agriculture and implications for sustainability Market-based provision of agricultural production attributes: Information asymmetry, credence goods, and certification schemes
W13: April 17, 19	<u>4/17 Guest Lecture</u> : Rebecca Boehm on consumer choice and GHGs from food purchases 4/19 Behavioral economics: nudging consumers in the right direction for health and sustainability <u>DUE</u> : Problem Set 4 due Thursday, April 19 th

W14: April 24, 26	Economics and food movements: Ensuring food sufficiency, environmental quality, and happiness in the long run Class wrap-up
May 8	Exam II

A course outline with learning objectives and tentative reading schedules will be available as a separate document on Canvas. The final reading schedule for each section will be announced approximately two weeks in advance on Canvas and in class.

This schedule is subject to modifications at the discretion of the instructor. In fact, it's almost certain to change.