

AGEC 525 Fall 2016 Course Syllabus

Course Name:

Agricultural Economics 525, Environmental Policy Analysis

Course Website:

Gradebook and all other course information/material will be available via Blackboard Vista.

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Sesmero Office Hours: Student's request

Meeting Times:

Lecture: TH 3:00-4:15PM Krannert Building, Room G007

Required Text

There will be no official textbook for AGEC 525 this semester. The course will be based on lecture notes by the instructor. There are, however, many books that could provide significant support in terms of understanding and broadening of concepts. Many lectures will be based on "[Environmental Economics](#)", 2nd edition, by Charles Kolstad (author) and "[The Welfare Economics of Public Policy](#)" by Richard Just (Author), Darrell Hueth (Author), Andrew Schimtz (Author). I suggest these books as good combinations of breadth, depth, and simplicity. These books can be useful for the students beyond the requirements of the course.

Other Recommended Readings

"[Environmental Economics in Theory and Practice](#)" (second edition) by Nick Hanley (Author), Jason Shogren (Author), Ben White (Author)

"[Economics of the Environment: Selected Readings](#)", Robert Stavins (Editor)

Course Objectives

AGEC 525 is a course dealing with "the main aspects of economic theory concerning how the links between the economy and the environment operate, how markets allocated environmental resources and how this allocation can differ from what society views as optimal" (Hanley, Shogren, and White). This course involves studying the situations in which markets fail to allocate environmental resources efficiently. The relative merits of

policies aiming at “correcting” inefficient allocation of resources will be analyzed. To support the evaluation of policy alternatives, the course will emphasize the construction, solution, and interpretation of mathematical models with particular emphasis on calculus-based optimization. As such, it requires knowledge and use of mathematics and economic principles.

By the end of the course, the student should have acquired the following skills:

1. Identify instances in which the markets fail to allocate environmental resources efficiently.
2. Conduct welfare analysis of market failures.
3. Identify instruments capable of increasing efficiency in resource allocation.
4. Apply criteria for evaluation of policy alternatives.

Course Schedule

The following lists topics covered in each class in the course. Exams and homeworks will be based heavily on lectures so it is important to attend all lectures to stay on pace in the course.

Lecture	Topic
1	Introduction to the course
2	Environmental and Resource Economics – why and how
3	Welfare Economics of Public Policy I: Criteria for Policy Evaluation
4	Welfare Economics of Public Policy II: Criteria for Policy Evaluation (cont.)
5	Welfare Economics of Public Policy III: Markets and Efficiency
6	Public Economics I: Externalities
7	Externalities (cont.): dissecting non-point source pollution
8	Externalities (cont.): Welfare Evaluation with Externalities
9	Public Economics II: Public Goods
10	Public Goods (cont.): dissecting pure and impure public goods
11	Public Goods (cont.): Welfare Evaluation with Public Goods
12	Individual Project Topic Presentations
13	Review Class
14	Mid-Term Exam
15	Fall Break
16	Rationale for Government Intervention (intra and intergenerational failures)
17	Policy Instruments: a summary
18	Price Rationing
19	Quantity Rationing
20	Regulation Over Space and Time
21	Regulation with Unknown Control Costs
22	Regulation under adverse selection
23	Regulation under moral hazard
24	International Environmental Agreements I
25	International Environmental Agreements II
26	Renewable Resources Policy
27	Non Renewable Resources Policy

28	Review
29	Team Project Presentation
30	Thanksgiving vacation
31	Team Project Presentation
32	Team Project Presentation
	Exam Week – Final Project due

Course Grading

Homeworks	33.3%
Midterm Exam	33.3%
Final Team Project	33.3%

The course grade will be determined from performance on the midterm exam, homeworks, and a final team project. Makeup assignments, quizzes, and exams are allowed for University excused absences; please contact the instructor in advance if possible to make arrangements.

Homework Assignments

Homework assignments will be posted on Blackboard. These assignments will include detailed questions where students are required to analyze market inefficiencies and policy alternatives. Assignments are to be turned in a week after they are distributed to the class. While students are encouraged to discuss ideas or proposed solutions with others, the assignments are to be submitted individually.

Mid-Term Exam

A midterm exam will be given. The exam format is multiple choice, true or false, or short answer questions. Exams are given during lecture periods and are intended to be completed during the 75 minutes lecture window.

Final Team Project

The final assignment is intended to unify some of the most important components of this course and serves as your final exam. It is expected to solidify the concepts covered during the course. Each team of 3-4 people will identify a case study of an environmental policy, and apply the methods and tools learned in the course (Notice: If you are unwilling or unable to serve on a team, then you may write an individual research paper on a case study as a substitute for the team effort. You will, however, be held to the same standards that a group project will be held to). While team projects may result in uneven distribution of efforts I intend to discourage free riders by requiring each team member to submit a score (1-4, 4 being highest effort) reflecting their perception of their teammates' effort.

A description of the project is as follows:

Examples of what to analyze

- A case study of the actual use of a water quality trading market to achieve a pollution control objective (<http://www.epa.gov/owow/watershed/trading.htm>)
 - A case study of the use of an environmental fee (e.g. tolls to enter central London or charging for use of disposable grocery bags) or emissions tax as an environmental policy designed to harness the power of economic incentives
 - A case study of marketable pollution permits used to reduce CO₂ in Europe.
 - A case study of the role of economists in a particular policy or regulatory process (e.g. SO₂ reductions, safe drinking water) demonstrating the usefulness of the economic-way-of-thinking, economic analysis and economic modeling
 - A case study of the costs and benefits of a particular project or investment that has implications for environmental quality or natural resource use (e.g., expanded irrigation in arid regions)
 - A case study of an international agreement to address a global open access or common property problem (e.g. the Montreal Protocol) and how the agreement can be facilitated by or analyzed by economic analysis.
 - A case study of environmental quality or sustainability dimensions of renewable (e.g. solar or wind) or bio-energy policy (e.g. ethanol from corn grain, use of cellulosic feedstocks)
- You may have a better idea, so ask. Be sure your framing of the case study allows you to use economic analysis.

Tasks involved in analyzing the issue

Write a paper that is no longer than 18 pages with a 12-size font, 1 inch margins. The paper should include (at the very least), the following sections:

- 1) The environmental problem – includes a description of the natural resource or part of the environment involved in the problem.
- 2) The cause of the market's failure to allocate that resource efficiently.
- 3) The policy instrument actually used in reality (if any) to tackle the problem.
- 4) The policy instrument proposed by the group to tackle the problem - why should the instrument proposed by the group chosen relative to other available instruments.
- 5) Graphical illustration of policy analysis.

Assistance Outside Class

Class time is limited, so it may not be possible to answer all of your questions during class. If you have questions that you would like to discuss outside class time and the reserved office hours, you are encouraged to contact my secretary Linda (lrklotz@purdue.edu) or me (isesmero@purdue.edu) for an appointment. In discussing your questions, please come prepared. Our discussion will be more productive if you have thought about your question(s) and written them out.

It is especially important to hear from you when you are frustrated with this class. If you are frustrated or unhappy with the course for any reason, contacting me will indicate concern and hopefully will result in some relief.

Attendance and Classroom Etiquette Policy

AGEC 525 has as its formal attendance policy that you are expected to attend class. If you contract an illness and have to miss class, you are responsible for the work missed. Accommodations (such as extended due dates) will be handled on a case-by-case basis.

Cellphone use is prohibited in the classroom. Turn them off and keep them out-of-sight. I will not confiscate cellphones but I reserve the right to, if used during exams, penalize its use through grades. Laptop use for note-taking is accepted but they have to be turned off during exams. Texting and email use during class time are usually a big distraction. Students are expected to be respectful of others in the classroom.

Academic Integrity

Each student enrolled in AGECE 525 is encouraged to study and work exercises with others. That said, this class abides by the University policy on academic integrity as embodied in the following statement:

University policy on academic misconduct is clear - academic dishonesty in any form is strictly prohibited. Instances of academic dishonesty will be referred to the [Dean of Students for disciplinary action](#). Penalties are severe and may include failure on the exam, quiz, paper, or project, failure in the course, and/or expulsion from the University. The risks associated with academic dishonesty far outweigh the perceived benefits. Academic dishonesty includes citing someone else's work as your own, using unauthorized "crib sheets" during exams, or sharing your answers with someone else. If you are unsure whether an action you are considering constitutes academic dishonesty, seek clarification from your instructor.

Students with Disabilities

If you have a disability that requires special academic accommodation, please make an appointment to speak with me within the first three weeks of the semester in order to discuss any adjustments. It is important that we talk about this at the beginning of the semester. Please note that university policy requires all students with disabilities to be registered with [Adaptive Programs in the Office of the Dean of Students](#) before classroom accommodations can be provided.

Score Revisions

The instructor grades all of your work and sometimes makes errors. If the error lowers your grade it is your responsibility to inform the instructor of the mistake. This can be done by checking your work against that of classmates, posted answer keys, or discussion with the instructor.

Again, scores will be posted on Blackboard upon grading. If your score for an assignment is not posted after two weeks from the due date, it is your responsibility to notify the instructor or teaching assistant. Failure to report a missing grade within three weeks from the due date will result in an incomplete score.