

## AGEC 525 Fall 2017 Course Syllabus

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**Course Name:**

Agricultural Economics 525, Environmental Policy Analysis

**Course Website:**

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

**Instructor:** Juan Sesmero

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**Sesmero Office Hours:** Student's request

**Meeting Times:**

*Lecture:* TH 3:00-4:15PM Smith Hall, Room 201

**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
2-5	Externalities – Pure and Impure Public goods
6-7	Samuelson’s theory of public goods
8	Commons and open access goods
9	Mixed public goods
10	Club goods
12	Individual Project Topic Presentations
13	Review Class
14	Mid-Term Exam
15	Fall Break
16	Rationale for Government Intervention and Policy Instruments
17	Policy Instruments (cont.)
18	Price vs Quantity rationing
19	New Institutional approaches
20	International Environmental Agreements I
21	International Environmental Agreements II
22	Renewable Resources I
23	Renewable Resources II
24	Non-renewable resources I
25	Non-renewable resources II
26	Welfare Economics I
27	Welfare Economics II
28	Thanksgiving vacation
29	Welfare Economics III
30	Review
31	Team Project Presentation
32	Team Project Presentation

## 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 CO<sub>2</sub> in Europe.

- A case study of the role of economists in a particular policy or regulatory process (e.g. SO<sub>2</sub> 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

About 15 pages long 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](mailto:lrklotz@purdue.edu)) or me ([jesmero@purdue.edu](mailto:jesmero@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 AGEC 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. 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.

### **Campus Emergency**

In the unusual event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. To get information about changes in this course visit the course home page, contact me by email, or call me at my office (494-7545).

To report an emergency, call 911. To obtain updates regarding an ongoing emergency, sign up for Purdue Alert text messages, view [www.purdue.edu/ea](http://www.purdue.edu/ea). There are nearly 300 Emergency Telephones outdoors across campus and in parking garages that connect directly

to the PUPD. If you feel threatened or need help, push the button and you will be connected immediately. If we hear a fire alarm during class we will immediately suspend class, evacuate the building, and proceed outdoors. Do not use the elevator. If we are notified during class of a Shelter in Place requirement for a tornado warning. We will suspend class and shelter in the basement. If we are notified during class of a Shelter in Place requirement for a hazardous material release, or a civil disturbance, including a shooting or other use of weapons, we will suspend class and shelter in the classroom, shutting the door and turning off the lights. Please review the Emergency Preparedness website for additional information. [http://www.purdue.edu/ehps/emergency\\_preparedness/index.html](http://www.purdue.edu/ehps/emergency_preparedness/index.html)