ECON 675 (Fall 2014)  
Environmental Economics

Thursdays, 6:30-9:15 PM  
September 4 – November 20  
1400 16th Street, NW (Suite 140)  
Washington, DC 20036

Instructor
Charles Griffiths  
Email: cgriff16@umd.edu  
Phone: 202-566-2288  
Office hours by appointment

Texts – Required and Supplemental
Additional required readings may be assigned.

Course Description
This course examines the problems of earth, air, and water pollution from an economic perspective and the nature of environmental regulation, U.S. environmental policies, and environmental policy debates. Students will use welfare economics to evaluate the inefficiencies of market failures and examine market-based policy responses to environmental problems. Students will be asked to undertake practical exercises commonly done by environmental economists, including estimating the willingness to pay for an environmental amenity and reviewing Regulatory Impact Analyses.

Objectives
At the end of the course, students should be able to
• Define the field of environmental economics in relation to other economic sub-fields
• Understand the concepts of market failure and externalities
• Understand concepts of net benefits and net present value
• Understand the use of benefit-cost analysis the discount rate
• Explain the methods for estimating willingness to pay values
• Understand government regulation of pollution
• Identify and explain market-based pollution control policies
• Understand how to incorporate risk and uncertainty into economic analyses
• Conduct the basic estimation of willingness to pay for an environmental good

Prerequisites
Students must have completed ECON 641 (Microeconomic Analysis). Students must have completed ECON 645 (Empirical Analysis III: Econometric Modeling and Forecasting) or be currently enrolled in ECON 645 in order to enroll in this course.
University of Maryland - Master of Professional Studies in Applied Economics

Structure of the Course
The course is taught in a lecture/seminar format meeting once per week from 6:30-9:45. There will be a 15-minute break somewhere between 7:30 and 8:15. Students will be given reading assignment prior to each class and will be given longer term assignments throughout the semester. A final exam will be administered at the end of the semester. Student participation and discussion in class are essential.

Grading
Grades will be determined based on students’ performance on homework, exam, and class participation:

20% Assignment 1 – Estimating willingness to pay
Students will be given a problem and asked to econometrically or numerically estimate the willingness to pay for an environmental amenity.

20% Assignment 2 – Federal Government Regulatory Impact Analyses
Students will be asked to review a Regulatory Impact Analysis (RIA) produced by the Environmental Protection Agency (EPA). They will be asked to both produce a summary accounting sheet of the costs and benefits of the regulation, economists in the EPA must do, and to critique the RIA, as is done by the Office of Management and Budget.

20% Assignment 3 – Policy memo
Student will assume the role of a policy adviser and will be given a current environmental economic topic. They will be asked to write a short policy memo describing the problem and offering a set of recommendations for a decision-maker to consider.

30% Final Exam
This will be an in-class, open book exam.

10% Class Participation
Class participation will be based on the student’s attendance record as well as his or her substantive participation in class discussion.

Required Technology
Students are expected to have access to a word processing package (e.g. Microsoft Word), a spreadsheet package (e.g., Microsoft Excel), and a statistical software package (Stata). Students should bring a calculator with them to class.

Assignments
Assignments are due at the beginning of class and must be submitted as a printed hardcopy, but an electronic version may be submitted as a backup.

Copyright Notice
Class lectures and other materials are copyrighted and may not be reproduced for anything other than personal use without written permission from the instructor.

Course Website
Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course’s ELMS/Canvas website. You can access the site via www.elms.umd.edu. You will need to use your University of Maryland “directory ID” and password.
Work Load
Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time. The courses in our program are 12-week courses that cover all the same material as a traditional semester-long 3-credit course. The compressed schedule makes it possible to complete our degree in just 15 months if you take 2 courses each term. But the compressed schedule also implies an accelerated pace. If we’re going to cover all the same material as a traditional semester-long 3-credit masters-level course, we need to cover the material quickly.

Academic Integrity
The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards applicable to all undergraduate and graduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information see www.studenthonorcouncil.umd.edu.

Student Conduct
Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility to one another or myself will be referred to the Office of Student Conduct. You are expected to adhere to the Code of Student Conduct.

Medical Excuses
If you miss any class meetings for any reason, you are still responsible for all material covered during the meeting you missed. It is your responsibility – not the instructor’s – to get yourself caught up in the course. If you need to miss an exam or other course deadline because of illness, injury, or some other emergency: Follow doctor's orders and get documentation. Get in touch with the instructor as soon as you’re able – preferably prior to missing the exam or deadline. Communicate with the instructor to make up the course requirement as soon as possible. You are entitled to recover before you make up the course requirement, but you are not entitled to extra days to study beyond the time the doctor's note says you’re incapacitated. If you are incapacitated for more than a week or so beyond the end of the term, your grade in the course will be an “Incomplete”. Once you make up the course requirement the instructor will change your "I" to the appropriate letter grade.

School Closings and Delays
Information regarding official University closing and delays can be found on the campus website and the snow phone line: (301) 405-SNOW (405-7669).

Students with Disabilities
The University of Maryland does not discriminate based on differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, and national origin. Reasonable accommodations will be made to students with documented disabilities. I will make every effort to accommodate students who are registered with the Disability Support Services (DSS) Office and who provide me with a University of Maryland DSS Accommodation form.
Academic Progress
The graduate school requires that students maintain a GPA of at least 3.0. Students whose cumulative GPA falls below 3.0 will be placed on academic probation by the graduate school. Students on academic probation must ask the program’s director to petition the graduate school if they want to remain in the program. The petition must include a plan for getting the student’s GPA up to at least 3.0. Students who do not live up to their plan can be forced to leave the program without having earned the degree.

Building Access
The door to the building at 1400 16th Street is unlocked on weekdays until 7:00 p.m. Students who arrive after 7:00 will find the door locked. The building’s security guard is stationed at a desk just inside the door until 11:00 p.m. and will let you in. If you use the black telephone next to the door you will be connected to the phone on the security guard’s desk. You can also call that phone directly from your cell phone by dialing (202) 328-5158. If the security guard happens to be away from his or her desk when you arrive, you can also enter the building through the parking garage at any time until 9:30 p.m. You can enter the parking garage via the ramp next to our building’s 1616 P Street entrance and take the stairs or elevator up to the lobby from there.

Purchasing Stata
Our program’s curriculum is designed to use Stata as the statistical software. Other leading statistical software packages include SAS and R. We have decided to focus on one package to enhance the continuity across courses in our program. A more superficial familiarity with multiple packages might be just as good as a deep understanding of a single package. But working with multiple packages would also result in less time to learn econometrics.

Students in our program should purchase Stata. Stata offers different “flavors” and different lengths of license. Price varies according to these two factors. A description of the flavors is given here: http://www.stata.com/products/which-stata-is-right-for-me/

Stata offers student discounts via the "Gradplan": http://www.stata.com/order/new/edu/gradplans/
The least expensive appropriate option is $69 for a 6-month license for “Stata IC”. A one-year license is $98, and a perpetual license (which never expires) is $198. We do not recommend “Small Stata”. Small Stata is too limited for the course work our program. Under the Gradplan, you may install Stata on up to three different computers. You may also eventually upgrade your version of Stata and your license, at a discount, if you wish.
# Class Schedule:

<table>
<thead>
<tr>
<th>Week Date</th>
<th>Topics</th>
<th>Additional Readings</th>
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| Week 1 Sept. 4 | • Class Introduction  
                   • Economics and the Environment  
                   • Normative and Positive Economic Analysis | **Kolstad:** Chapters 1 & 2  
**Supplementary Readings:**  
-none- |
| Week 2 Sept. 11 | • Efficiency and Markets | **Kolstad:** Chapters 3 & 4  
**Supplementary Readings:**  
-How economists see the environment / Don Fullerton and Robert N.  
Supplementary Readings |
| Week 3 Sept. 18 | • Market Failure:  
                   • Public Goods, Public Bads and Externalities  
                   • Benefit-cost analysis  
                   • Cost-effectiveness analysis | **Kolstad:** Chapters 5 & 6  
**Supplementary Readings:**  
-Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation? / Robert N.  
Supplementary Readings  
-An Eye on the Future / Robert N.  
Supplementary Readings  
-Cost-Benefit Analysis: An Ethical Critique / Steven Kelman  
Replies to Steven Kelman / Pauline Ippolito |
| Week 4 Sept. 25 | • Measuring willingness to pay  
                   • Hedonic Price Methods | **Kolstad:** Chapters 7 & 8  
**Supplementary Readings:**  
-Euthanizing the Value of a Statistical Life / Trudy Ann Cameron |
| Assignment 1 – Estimating willingness to pay.  
Due Date – October 9 | | |
| Week 5 Oct. 2 | • Household production  
                   • Stated Preference Methods | **Kolstad:** Chapters 9 & 10  
**Supplementary Readings:**  
-Valuing the environment through contingent valuation / W. Michael Hanemann  
-Contingent valuation: is some number better than no number? / Peter A. Diamond and Jerry A. Hausman |
| Week 6 Oct. 9 | • Regulating Pollution | **Kolstad:** Chapters 11 & 12  
**Supplementary Readings:**  
-The Evolving Regulatory Role of the U.S. Office of Management and Budget / John D. Graham  
-Instrument Choice in Environmental Policy / Ian W. H. Parry |
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<tr>
<th>Assignment 2 – Federal Government Regulatory Impact Analyses</th>
<th>Due Date – October 23</th>
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<tr>
<td><strong>Week 7</strong>&lt;br&gt;Oct. 16&lt;br&gt;</td>
<td>Kolstad: Chapters 14 &amp; 15&lt;br&gt;Supplementary Readings:</td>
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<td>Spatial and Temporal Issues</td>
<td>What can we learn from the grand policy experiment? : lessons from SO2 allowance trading / Robert N.</td>
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<td>Regulating Polluters with Unknown Costs</td>
<td>trading / Michael J. Sandel</td>
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<td>Replies to Michael Sandel / Steven Shavell, Robert N.</td>
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<td>Supplementary Readings, Sanford E. Gaines, Eric S. Maskin</td>
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<td><strong>Week 8</strong>&lt;br&gt;Oct. 23</td>
<td>Kolstad: Chapters 14, 16 &amp; 17&lt;br&gt;Supplementary Readings:</td>
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<tr>
<td>Property Rights</td>
<td>The problem of social cost / Ronald Coase</td>
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<td>Enforcement</td>
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<td>Voluntary Actions</td>
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<td><strong>Week 9</strong>&lt;br&gt;Oct. 30</td>
<td>Kolstad: Chapters 18&lt;br&gt;Supplementary Readings:</td>
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<td>Risk and Uncertainty</td>
<td>Uncertainty in Environmental Economics / Robert S. Pindyck</td>
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<td><strong>Assignment 3 – Policy memo</strong></td>
<td>Due Date – November 11</td>
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<td><strong>Week 10</strong>&lt;br&gt;Nov. 6</td>
<td>Kolstad: Chapters 19 &amp; 20&lt;br&gt;Supplementary Readings:</td>
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<td>Environmental Economics and International Competition</td>
<td>The environment and globalization / Jeffrey A. Frankel</td>
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<td>Environment, Growth and Development</td>
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<td><strong>Week 11</strong>&lt;br&gt;Nov 13</td>
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<tr>
<td>Remaining Issues</td>
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<td>Exam Review</td>
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<td><strong>Week 12</strong>&lt;br&gt;Nov. 20</td>
<td>Final exam</td>
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