

**Economics 432: Environmental Economics**  
**01:220:432:01**  
**Rutgers University**  
**Spring 2018**  
Tu/Th 2:50-4:10 pm, Freylinghuysen Hall A5

Professor Hilary Sigman

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Office: New Jersey Hall 422

Office hours: Tuesdays 1:15 to 2:30 pm (or by appointment)

**Course overview:** This course uses economics to analyze public policies for environmental protection. It discusses the role of environmental policy in a market economy, conventional and incentive-based approaches to environmental policy, and tools for evaluating public policies. We will apply the analysis to U.S. and international environmental policies.

**Learning outcomes:** Students will build on their understanding of microeconomics and learn to apply economic analysis to environmental issues. They will solve problems designed to capture major concepts from the class; these problems use and reinforce mathematical and graphical analysis skills. Students will develop their understanding of econometrics in practice by learning about empirical studies in environmental economics. The course will also provide factual knowledge about environmental challenges and public policies.

**Prerequisites:** Intermediate Microeconomics and Econometrics. This class is an “upper-level” elective for the Economics major.

**Class web site:** The class has a [Sakai website](#). Under Resources, you will find problem sets, solutions, readings, sample exam questions, and class presentations. There is also a chat room that will be used for pre-exam “office hours.” The materials on the website are for your personal use only and may not be reposted to other sites.

**Readings:**

- **Required text:** Callan and Thomas, *Environmental Economics and Management*, 6th edition, Cengage, 2012 (ISBN 978-1111826673). You may buy the 4<sup>th</sup> or 5<sup>th</sup> editions to save money; they should be nearly as good. Page numbers for the 4<sup>th</sup> and 5<sup>th</sup> editions will be available on Sakai. Editions older than the 4<sup>th</sup> are not recommended because the policy content has become too far out-of-date. A copy of the current edition is on reserve at Alex.
- **Readings (also required):** Available on Sakai. The website and attached calendar have information on these readings. They cover topics not in the main text.

**Problem sets:** Five problem sets will be posted. Timely submission of these problem sets will count for 10% of your course grade. You may drop one problem set without penalty. This dropped problem set gives you an automatic excuse: save it for when you really need it. No

additional problem sets will be excused, even for the very best reasons. Hardcopies of problem set solutions are due at the beginning of class on their due date. No late, faxed, or emailed problem sets will be accepted.

**Exams:** Two in-class midterm exams (**Th 2/22** and **Th 4/5**) and a *cumulative* final exam at the time scheduled by the Registrar (**Friday, May 4, 12-3 pm**). Please check to be sure that you can attend all the exams before deciding to take the class. Except in cases of documented medical necessity or family emergency, there will be no alternative exam dates.

The exams will be based on the lectures, text, readings, and problem sets. The lecture and readings will not always cover the same material: you are responsible for the material in both. The exams will be mostly multiple choice; they will also have a few open-ended questions, usually in the style of the problem sets.

**Grading policy:** Course grades will be based on problem set completion (10%), midterms (22.5% each), and final (45%). All course grades will be curved. No extra credit assignments will be available for any reason and no other criteria or weights will be used in assigning grades.

**Attendance:** Students are expected to attend all classes. If you expect to miss one or two classes because of illness or a family emergency, please use the university absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me. Reporting an absence through this system does not excuse missed exams and problem sets (see policies above).

**Academic Integrity:** Students must follow the [Rutgers academic integrity policy](#). All suspected violations will be referred to external authorities.

**Rutgers Economics 432: Environmental Economics**  
**Spring 2018 Calendar**  
**Professor Sigman**

Day	Topic	Reading (pp. in Callan & Thomas 6 <sup>th</sup> ed)	Problem set due dates
Tu, 1/16	Economics and the environment	Reading 1 & Chapter 2	
Th, 1/18	Public goods	pp. 52 – 61	
Tu, 1/23	Public goods		
Th, 1/25	Externalities	pp. 61 – 69	
Tu, 1/30	The role of property rights	pp. 69 – 75	PS1
Th, 2/1	Valuing the environment	Chapter 7	
Tu, 2/6	Valuing the environment	Reading 2	
Th, 2/8	Valuing the environment		
Tu, 2/13	Cost-benefit comparisons	Chapter 9	
Th, 2/15	Social discounting	Reading 3	PS2
Tu, 2/20	Problems session		
<b>Th, 2/22</b>	First Midterm Exam		
Tu, 2/27	Design of environmental policy; Standards	Chapter 4, pp. 263–5	
Th, 3/1	Taxes and subsidies	pp. 99–109	
Tu, 3/6	Tax and subsidy example: Municipal solid waste	Chapter 18	
Th, 3/8	Emission trading	pp. 114–120, Reading 4	
Tu, 3/20	Emission trading	Reading 5	PS3
Th, 3/22	Monitoring and enforcement	Reading 6	
Tu, 3/27	Legal liability as environmental policy	Readings 7 & 8	
Th, 3/29	Liability example: Superfund	pp. 417–24	PS4
Tu, 4/3	Problems session		
<b>Th, 4/5</b>	Second Midterm Exam		
Tu, 4/10	Incidence of environmental policies	Reading 9	
Th, 4/12	Income, growth, and the environment	pp. 483–5 (on EKC), Application 1.4	
Tu, 4/17	International trade and the environment	pp. 494–8, Reading 10	
Th, 4/19	Regulating local air pollution	Chapters 10 and 12	
Tu, 4/24	Public policies for climate change	pp. 299–322, Reading 11	
Th, 4/26	Public policies for climate change		PS5
<b>F, 5/4 12-3 pm</b>	Final Exam (cumulative)		