AAE 762 Frontiers of Environmental and Resource Economics II
Monday/Wednesday 9:30am – 10:45am

INSTRUCTOR

Prof. Daniel J. Phaneuf (pronounced *fa-neff*)
416 Taylor Hall
608.262.4908
dphaneuf@wisc.edu
Office Hours: Tuesday 11am – noon, Thursday 2:30pm – 3:30pm, and by appointment.

CREDIT HOUR DETERMINATION:

This is a 3 credit course. This class meets for two 75-minute class periods each week over the fall/spring semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for about 3 hours out of classroom for every class period. The syllabus includes more information about meeting times and expectations for student work.

CAPSULE STATEMENT

This course will focus of on the in-depth study of a handful of contemporary topics in environmental economics. Students will learn to read and discuss papers at the level needed for research in the field. We will focus on developing critical thinking skills, identifying research opportunities, and transitioning to independent research in the field.

LEARNING OBJECTIVES

By participating in the course students will:

- Learn to read research papers with an eye towards understanding, critiquing, and extending research in environmental economics.
- Hone presentation skills related to peer interactions about research ideas
- Make progress on developing their own research ideas.

PREREQUISITES

This is an unapologetically PhD level course in environmental economics. I assume you have a graduate-level understanding of micro theory and econometrics, and that you have enrolled in the course because you want to work professionally in environmental and resource economics or a related field. As such, the main prerequisite is a willingness to engage with the assigned readings and actively participate in discussion.

TEXTBOOK

We will mainly rely on published articles and unpublished manuscripts for the class. However, I will assign background reading from my PhD level textbook:

> Phaneuf and Requate, *A Course in Environmental Economics: Theory, Policy, and Practice*, Cambridge University Press, 2017.

CLASS FORMAT

Most of our class time will be spent discussing papers. On occasion I will lecture on big picture topics or technical material, and sometimes we will have more free flowing conversations about general research opportunities. On the instances when we discuss specific papers we will use the following protocol:

- Prior to class (before 8am on the day of discussion) each student will post a ***< 1 page written summary*** of the assigned paper. Details on format are provided below.
- One person will be assigned to act as ***discussion leader*** for the paper. You will prepare a 20 minute overview of the paper and then be in charge of leading the group through discussion. We will take regular turns leading discussion. Early in the semester I will provide input on how to structure the overview and suggestions on how to facilitate discussion.
- All students will ***arrive prepared*** to contribute to a thorough and in-depth discussion of the assigned reading.

ASSESSMENT

Your grade will be based on two general components: your contribution to the class as a discussion leader and discussion participant; and a research paper or proposal. I will assign weights to these activities as follows:

Contributions as a discussion leader:	30 percent
Contributions as a discussion participant:	30 percent
Presentations/updates related to your research paper:	15 percent
Final research paper:	25 percent

I will assess your contribution as a discussion leader based on your actual presentations, your facilitation of discussion, and your success in thinking critically about the topic. Your discussion participant assessment will be drawn from your written summaries and in-class contributions.

Your written paper summaries should touch on the following themes: What is the question and answer? What was interesting? What was confusing? What could the authors have done differently/better? What extensions could be interesting? You should be concise and focus on the major elements when completing the summary.

As part of the class each student must submit a research paper (15-20 pages, 1.5 line spacing). This can be either a full or partially executed study, or a research proposal. The paper should identify a problem, clearly state the research question, and either make progress towards answering the question or propose a set of activities to that would. It should be clear to the reader how the research fits into a broader literature, and how it makes a specific contribution. Your topic should be in environmental/resource economics, or an area sufficiently close that research in the field can inform your project.

Your research papers will be integrated into the class as follows:

- Early in the semester each student will provide an brief idea overview for the class (~2-3 minutes plus time for brainstorming and feedback)
- One-third through the semester each student will post a 1 page write up of their idea, which will be discussed in class
- At the end of the semester each student will provide a 20-30 minute presentation on their paper.

GRADING

I will determine your grades based on the following percentages, which will arise from the numerical scores I assign to each of the components:

≥ 93%	A
< 93% & ≥ 88%	AB
< 88% & ≥ 83%	B
< 83% & ≥ 78%	BC
< 78% & ≥ 70%	C
< 70% & ≥ 60%	D
< 59%	F

ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to https://conduct.students.wisc.edu/academic-integrity/

ACCOMMODATIONS OF STUDENTS WITH DISABILITIES

***McBurney Disability Resource Center syllabus statement*:** "The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA." http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php

DIVERSITY AND INCLUSION

***Institutional statement on diversity*:** "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world." https://diversity.wisc.edu/

SAMPLE OF READINGS (TO BE EDITED AND EXPANDED)

Health

Phaneuf and Requate, chapter 20

Deschenes, O. et al. (2017). "Defensive investments and the demand for air quality: evidence from the NO_X budget program." *American Economic Review* 107: 2958-89.

Barwick, P.J. et al. (2018). "The morbidity cost of air pollution: evidence from consumer spending in China." NBER working paper #24688.

Lee and Taylor (2017). "Randomized safety inspections and risk exposure on the job: quasi-experimental estimates of the value of a statistical life."' Working paper.

Human capital

Isen et al. (2017). "Every breath you take – every dollar you'll make: the long-term consequences of the Clean Air Act of 1970." *Journal of Political Economy* 125: 848-902.

Aragon et al. (2017). "Particulate matter and labor supply: the role of caregiving and non-linearities." *Journal of Environmental Economics and Management* 86: 295-309.

Bharadwaj et al. (2017). "Gray matters: fetal pollution exposure and human capital formation." *Journal of the Association of Environmental and Resource Economists*" 4: 505-542.

Hedonic property value models

Phaneuf and Requate, chapter 18.

Wolf and Klaiber (2017). "Bloom and bust: toxic algae's impact on nearby property values." *Ecological Economics* 135: 209-221.

Kuminoff and Pope (2014). "Do capitalization effects for public goods reveal the public's willingness to pay?" *International Economic Review* 55: 1227-1250.

Hazardous waste

Greenstone and Gallagher (2008). "Does hazardous waste matter? Evidence from the housing market and Superfund program." *Quarterly Journal of Economics* 3: 951-1003.

Aizer et al. (2018). "Do low levels of blood lead reduce children's future test scores?" *American Economic Journal: Applied Economics* 10: 307-341.

Currie et al. (2015). "Environmental health risks and housing values: evidence from 1,600 plant openings and closings." *American Economic Review* 105: 678-709.

Energy/Energy Efficiency

Davis et al. (2014). "Cash for coolers: evaluating a large-scale appliance replacement program in Mexico." *American Economic Journal: Economic Policy* 6: 207-238.

Fell and Kaffine (2018). "The fall of coal: joint impacts of fuel prices and renewables on generation and emissions." *American Economic Journal: Economic Policy* 10: 90-116.

Cullen and Mansur (2017). "Inferring carbon abatement costs in electricity markets: a revealed preference approach using the shale revolution." *American Economic Journal: Economic Policy* 9: 106-133.

Callaway et al. (2018). "Location, location, location: the variable value of renewable energy and demand-side efficiency resources." *Journal of the Association of Environmental and Resource Economists* 5: 39-75.

Transportation

Zhong et al. (2017). "Traffic congestion, ambient air pollution, and health: evidence from driving restrictions in Beijing." *Journal of the Association of Environmental and Resource Economists* 4: 821-856.

Holland et al. (2016). "Are there environmental benefits from driving electric vehicles? The importance of local factors." *American Economic Review* 106: 3700-3729.

Li (2017). "Better lucky than rich? Welfare analysis of automobile license allocations in Beijing and Shanghai." *Review of Economic Studies,* in press.

Trade and the environment

Cherniwchan, Copeland, and Taylor (2017). "Trade and the environment: new methods, measurements, and results." *Annual Review of Economics* 9: 59-85.

Shapiro and Walker (2018). "Why is pollution from US manufacturing declining? The roles of environmental regulation, productivity, and trade." Working paper.

Recreation

Phaneuf and Requate, chapter 17.

Keiser (2018). "The missing benefits of clean water the role of mismeasured pollution." *Journal of the Association of Environmental and Resource Economists,* forthcoming.

Water quality

Keiser, D. and J. Shapiro (2018). "Consequences of the Clean Water Act and the demand for water quality." *Quarterly Journal of Economics,* forthcoming.

Grant and Grooms (2017). "Do nonprofits encourage environmental compliance?" *Journal of the Association of Environmental and Resource Economists* 4: S261-S288.

Sorting models

Sinha et al. (2018). "Household location decisions and the value of climate amenities" *Journal of Environmental Economics and Management,* in press.

Depro et al. (2015). "White flight or coming to the nuisance: can residential mobility explain environmental injustice?" *Journal of the Association of Environmental and Resource Economists* 2: 439-468.

Distributional issues

Hsiang et al. (2018). "The distribution of environmental damages." NBER working paper #23882

Lee and Lin (2018). "Natural amenities, neighborhood dynamics, and persistence in the spatial distribution of income." *Review of Economic Studies* 85: 663-694.

Climate

Hsiang (2016). "Climate econometric." *Annual Review of Resource Economics* 8: 43-75.

Deryugina and Hsiang (2017). "The marginal product of climate." NBER working paper 24072.

Agriculture and the environment

Feng et al. (2015). "Weather anomalies, crop yields, and migration in the US corn belt." Working paper.

Policy evaluation

Evans (2016). "The Clean Air Act watch list: an enforcement and compliance natural experiment." *Journal of the Association of Environmental and Resource Economists* 3: 627-665.

Development and the environment

Greenstone and Hanna (2014). "Environmental regulations, air and water pollution, and infant mortality in India." *American Economic Review* 104: 3038-3072.