



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

Course: Climate Change Economics and Policy
AAE 246
3 credits
Breadth - Social Science
Level – Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Level – Elementary

Class Meeting: Mondays and Wednesdays, 12:05-12:55, Plant Sci 108; Discussion Sections vary

Instructional Mode: Face-to-face

Instructor: Prof. Kevin Roth
Department of Ag and Applied Economics
422 Taylor Hall
E-mail: kevinroth@wisc.edu
Office Hours: Wednesday, 11-11:55 and 1-2 pm

TA: Mingcong Pan
Office: 305 Taylor Hall
E-mail: mingcong.pan@wisc.edu
Office Hours: Wednesday, 2:20 PM - 3:20 PM Friday 2:20-3:20

Credit Hour fulfillment: Attendance at lecture twice per week and discussion section once per week is required. Anticipate that homework in the form of problem sets, review of lecture, or reading will require at least two hours weekly although there may be variation.

Class Website: Canvas (Learn@UW) Check regularly for announcements, readings, assignments, grades, etc.

Course Description: Climate change and the role of applied economics in related policy analysis and research. Economics of mitigation, adaptation and geo-engineering; integrated assessment; environmental implications of energy use; climate change impacts on land use. Use of economic analysis and modeling for public policy design.

Requisites: None, although a basic level of math will be used. For students who are a bit “rusty” with solving a system of equations, area of basic shapes, or algebra are encouraged to refresh themselves and seek help early and when necessary.

Course learning outcomes: Students will understand the major economic obstacles to solving climate change. Students will apply basic economic concepts to the debate around policy tools discussed as part of solutions to climate change. Students will be able to identify market failures related to pollution. Students will evaluate the different proposals for reducing carbon emissions using economic concepts such as welfare for the criteria in evaluation. Students will compare costs and benefits of generations that live centuries apart. Students will identify equity concerns with proposed climate change solutions.



Readings: There is one required text for the class, *The Climate Casino* by William Nordhaus and a number of articles that will be posted on the course website. Students will be responsible for understanding assigned material from required readings even when not covered in class. Note that some readings, particularly academic papers, will have sections that are optional that will not be tested but may be discussed.

Academic Honesty: 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. Collaboration is acceptable, but copying is not. If in doubt, ask me or the TA. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

Judgment of cheating and its punishment/decision to forward to the university administration will be determined by your classmates, not me. I do not suffer from cheating; you and your classmates do. As the harmed party, they deserve a say in the punishment.

Special Accommodations: Please contact me directly if you have a disability that requires special accommodations. **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>

Email: Please use email thoughtfully and write clearly and professionally. Content questions about homework and lecture must be brought to office hours. I will answer logistical questions (where is the exam, which sections are canceled etc) but not content questions over email (I don't understand how to graph an externality.) Although I try to reply in a timely manner, do not expect an immediate response.

Section: Students are expected to attend the TA-led discussion sections. If, due to some personal emergency, you cannot attend your scheduled section, you may attend another time, provided the TA gives you permission. Although we do not introduce new material in section, material covered in discussion sections may be included on exams.

Announcements: Any announcements regarding this class will be posted online and/or sent to your university e-mail account. Please check your e-mail and the course website regularly.

Homework (and/or Quizzes): Homework problems will be assigned approximately bi-weekly, and they will be due at the beginning of class on the due date (no exceptions!). If you cannot come to class on the day it is due, you should drop it in my mailbox **before** class starts. **Do not turn in your assignment via email unless specifically instructed to do so.**



Homework assignments generally consist of multiple questions. Unless stated otherwise, on the due date, we will pick a question at random (rolling a die, drawing a number out of a hat, etc.) to determine which question will be graded. This serves two purposes: it provides an incentive to put effort into each question, and it eases the grading burden for this large class, which allows us to grade and return assignments in a timely manner. I will post a *sketch* of the homework solutions on the course website.

Although I generally do not do so, I reserve the right to have a quiz on the day that the assignment is due. The quiz would be based on (or even taken directly from) the homework questions.

Homework is late after the start of class. Late homework will have point deductions.

Policy on Missed Quizzes or Exams: Out of fairness to everyone in the class, exams are only given at the assigned time and cannot be made up afterward. If you cannot attend an exam due to a personal emergency outside your control, please let me know *beforehand* if at all possible. If you miss an exam for a non-emergency, you will receive a zero.

I will only give one final exam on the date scheduled by the Registrar, no exceptions (plan accordingly). The final will be held on **Thursday, December 19, 2019, 12:25 – 2:25 pm.**

A Note on Electronic Devices: Laptops are allowed in class, but the purpose should be for *taking notes* (not browsing the internet, checking your e-mail, Facebook, etc.). If you use a computer or tablet to take notes, I ask that you sit toward the front of the classroom.

Grading: Your final grade will be based on the following components and weights.

Homework/Quizzes:	20%
Midterm 1:	25%
Midterm 2:	25%
Final Exam:	30%

Schedule:

Part 1: Basics of climate change, basic economic framework
Midterm 1: October 2, 2019

Part 2: Abatement cost and Valuation
Midterm 2: October 30, 2019

Part 3: Optimal policy, and non-optimal policy (and odds and ends):

Comprehensive Final Exam: Thursday, December 19, 2019, 12:25 – 2:25 pm

Nota Bene: I retain the right to change the schedule and structure of this course. Any changes will be announced in class and posted on the course website.