University of Wisconsin-Madison

***Agricultural & Applied Economics (AAE) 352***

***Global Health: Economics, Natural Systems, and Policy***

## INSTRUCTORS


Daniel J. Phaneuf (pronounced *fa-neff*)
Henry C. Taylor Professor of Agricultural and Applied Economics
433 Taylor Hall
dphaneuf@wisc.edu
Online Office Hours: Tues/Thurs 2:30-3:30pm

Fanny Moffette
Research Associate at the Nelson Institute and Lecturer at Agricultural and Applied Economics
Enzyme Institute, room 144B
1710 University Avenue
fanny.moffette@wisc.edu
Online Office Hours: W: 3:00-5:00pm

Teaching Assistant: Nicole Karwowski
PhD graduate student of Agricultural and Applied Economics
nkarwowski@wisc.edu
306 Taylor Hall
Online Office Hours: M 2:00-3:00pm, W 10:00-11:00am


## COURSE LOGISTICS

| | |
|---|---|
| ***Session times*** | Tuesday and Thursday, 1:00pm – 2:15pm |
| ***Format for sessions*** | Blackboard Ultra |
| ***Discussion section times*** | fifty-minute discussion per week (schedule TBD) |
| ***Format for discussion section*** | Blackboard Ultra |
| ***Instructional mode*** | online synchronous |
| ***Credits*** | 4 |
| ***Prerequisites*** | none |

***Credit hour determination***

Credit hours are based on the traditional Carnegie definition. For each one-hour (i.e. 50 minutes) block of classroom instruction you should expect a minimum of two hours of out of class work (i.e. reading, completing problem sets, studying, etc.) each week. Since this is a 4-credit class you should expect at least 8 hours of outside work during each of the 15 weeks of the semester. The sections that follow include more information on the out of class activities.

## COURSE DESCRIPTION

Sustaining global health and wellbeing depends critically on interactions between human and natural systems at multiple spatial and temporal scales. Economics provides a useful paradigm for understanding these interactions and the pathways through which individual and societal decisions made in the face of scarce resources, and threats to the natural environment, generate health and wellbeing outcomes. This course will provide students with an opportunity to use basic economic and social science reasoning to describe global health challenges; understand the causes and consequences of health discrepancies; evaluate health and environmental policies; and appreciate the interconnectedness of planetary health and economic outcomes.

## LEARNING OUTCOMES

Upon completion of the course students will be able to:

- Discuss the multitude of mechanisms through which human interactions with natural systems affect health and wellbeing outcomes in both developing and developed country contexts.
- Use positive (descriptive) economic reasoning to identify how individual and community decisions made in the face of income, political, policy, cultural, and environmental constraints lead to differential health and wellbeing outcomes.
- Use normative (prescriptive) economic reasoning to evaluate the efficacy of social, health, and environmental policies affecting human wellbeing.
- Explain the social, economic, and/or environmental dimensions of the sustainability challenge(s) of global health issues in developing and developed countries.
- Describe the social, economic, and environmental dimensions of global health and identify potential tradeoffs and interrelationships among these dimensions at a level appropriate to the course.

Students will also build economic reasoning skills, learn to critically analyze research studies, and assess policy options through an interdisciplinary lens.

## CLASS FORMAT

Class time will be composed of a blend of lectures and learning activities, where broad participation is encouraged. Classroom exercises will allow to get you actively engaged in discussing the material, either individually or in a small group. You will frequently be asked to listen to and share ideas with your peers. This is a great practice to develop your communication, i.e. talking and listening, and reflective skills.

Instructors will use a presentation format to share the material. Presentations will be posted on Canvas by 8am the day of the session, so please plan to check the course website for material.

Students are expected to complete assigned readings ahead of sessions in order to be able to participate in activities.

## DISCUSSION SECTION

There will be a 50-minute discussion section each week, led by Nicole. This time will be used for reviewing material, answering questions related to homework, working thought examples, preparing for the midterm exam, small group discussions based on assigned readings, and other active learning activities. Active learning activities will be incorporated to help students think critically about the material and build problem-solving skills. Participation is strongly encouraged and will greatly add to the learning experience.

## TEXTBOOK

There is no single textbook for this course. Instead, we will assign readings from a variety of sources, including selected chapters from the following books:

Keohane and Olmstead, *Markets and the Environment*, 2nd edition, Island Press, 2018.

Goodwin et al., *Essentials of Economics in Context*, Routledge, 2020.

Readings and other materials will be made available to you on the course website.

## GRADING

Your course grade will be based on your performance on a midterm exam, a final project paper, homework assignments, and participation activities. The percentages are as follows:

| | |
|---|---|
| Midterm Exam | 25 percent |
| Final Project: Position Paper | 25 percent |
| Draft Paper/Participation in Peer Review | (5 percent) |
| Presentation | (5 percent) |
| Final Paper | (15 percent) |
| Participation Activities | 10 percent |
| Homework Assignments | 40 percent |

We will determine your course grade based on the following percentages, which will arise from the numerical scores we assign to each assessment element:

| | |
|---|---|
| $\geq 93\%$ | A |
| $< 93\% \ \& \geq 88\%$ | AB |
| $< 88\% \ \& \geq 83\%$ | B |
| $< 83\% \ \& \geq 78\%$ | BC |
| $< 78\% \ \& \geq 70\%$ | C |
| $< 70\% \ \& \geq 60\%$ | D |
| $< 59\%$ | F |

Note that this scale is not based on relative performance, and so grades are not based on a curve. Class attendance is not formally part of your grade, though participation activities will occur during class meetings. In addition, you will be responsible for the material discussed during online sessions, much of which will be separate from the assigned readings. This means that attendance is highly recommended.

### *Midterm exam*

The midterm exam will include a combination of essay-style questions and analytical problems. The midterm will occur approximately halfway through the semester and will focus on economics concepts and tools. The timing is designed to cement your grasp of basic economic ideas to support the subsequent study of specific health/environment applications.

- Tentative midterm date: 15 October 2020.

If you know you will miss the midterm exam for a legitimate and previously scheduled activity, you may send an email to Dr. Phaneuf or Dr. Moffette to arrange an earlier date.

### *Final Project: Position Paper*

You will conduct an analysis of an environmental health issue of your choice from among a set of specific cases that we will provide. The final paper will include a description of the issue, an economic analysis of this problem using concepts we covered during the course, an overview of possible policies for addressing the problem, recommendations drawn from your economic analysis and evidence from similar contexts, and a list of references cited in the paper.

The first (not graded) deliverable will be to share which of the cases you will work on as well as the initial economic arguments you will use. With feedback from the instructors you will write a draft of your final project that you will share for peer-review. You will then have a week to share comments on the drafts with your peer group. During the last week of the semester you will present your project to the class and submit your final paper. Tentative due dates for these elements are as follows:

- Submission of topic and initial economic arguments – 29 October 2020
- Draft paper due for peer review – 24 November 2020
- Participate in peer review –1 December 2020
- Presentations – week of 8 December 2020
- Final paper due date – 10 December 2020

***Participative activities***

To stimulate active learning, we will integrate participation activities into online sessions (e.g. 5-minute papers, polls, discussion groups, knowledge-check quizzes). These will not be scored on a performance gradient, but students will need to be present and engaged to receive credit for the activity.

***Homework***

There will be 5 homework assignments during the semester. These will involve writing assignments and/or analytical exercises that will give you practice working with the economic models we will develop in the class and the applications taught in Part III of the course. Completed homework assignments will be turned in online by the posted due date. We will not accept late assignments.

**COMMUNICATION**

We will use the class website on Canvas for posting materials and sharing information. We expect you to check email daily from Monday to Friday, and the Canvas site prior to each class meeting. To communicate with the instructors, you can send an email, use messaging within Canvas, or attend online office hours. Instructors adhere to a 48-hour response policy. The online office hours follow a drop-in format where an online waiting room allows student to connect individually with the instructor. No scheduling or email are required before the online office hours.

**RULES, RIGHTS, AND RESPONSIBILITIES,**

See: https://guide.wisc.edu/undergraduate/#rulesrightsandresponsibilitiestext

**ACADEMIC CALENDAR AND RELIGIOUS OBSERVANCES**

See: https://secfac.wisc.edu/academic-calendar/#religious-observances

**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/

COURSE SCHEDULE

| Week | Topics | Assignments and evaluations |
|---|---|---|
| | ***Part I: Introduction*** | |
| Week 1 | • Course overview and student introductions | Pass out HW1 |
| Week 2 | • Defining human wellbeing and assessing the relationship between wellbeing, health, and the environment<br>• Quantifying the global economic burden of poor health and its distribution | Work on HW1 |
| | ***Part II: Economics Toolkit*** | |
| Week 3 | • Economic fundamentals<br>• Supply, demand, and equilibrium for market goods | HW1 due 15 Sept<br>Pass out HW2 |
| Week 4 | • Performance of markets<br>• Economic efficiency and equity<br>• Market failures in environmental and health realms<br>• Environmental economic fundamentals | HW2 due 24 Sept. |
| Week 5 | • Health economic fundamentals | Pass out HW3 |
| Week 6 | • Policy analysis from the perspective of environmental and health economics<br>• Example applications of economics to health and environmental problems | HW3 due 8 October |
| Week 7 | • Review economic toolkits<br>• Example applications of economics to health and environmental problems | Midterm Exam 15 Oct. |
| | ***Part III – Applications*** | |
| Week 8 | • Discussion of final project and share list of possible project topics<br>• Indoor air pollution and respiratory health | Pass out HW4 |
| Week 9 | • Air pollution, health, and productivity in developed and developing countries | Topic choice and initial economic analysis due 29 Oct |
| Week 10 | • COVID-19 and infectious diseases | HW4 due 5 Nov |
| Week 11 | • Environmental justice – US context | Pass our HW5 |
| Week 12 | • Sanitation, water quality and digestive health | HW5 due 19 Nov |
| Week 13 | • Climate change and health outcomes | Paper draft for peer review due 24 Nov |
| Week 14 | • Deforestation | Complete peer reviews |
| Week 15 | • Student presentations | final paper due 10 Dec |