

ECON-7102

Environmental Economics I*

Prof. Casey J. Wichman
Georgia Institute of Technology

Fall 2026

1 Course overview

1.1 Course description

This is the first course in the Environmental Economics Ph.D. sequence. In this course, we will cover the theory of externalities and public goods related to the environment, followed by an exploration of policy instruments designed to address environmental problems. Next, we will revisit concepts of economic welfare and the tools economists use to value non-market environmental goods. We will also cover models that deal with the management of renewable and non-renewable natural resources. The final portion of the course will survey relevant topics in contemporary environmental economics to expose students to the research frontier.

1.2 Course objectives

This course is intended to provide exposure to the theoretical foundations of environmental economics—particularly with respect to policy instrument choice and non-market valuation techniques—and give students a suite of tools to engage with the academic literature in environmental and resource economics. In addition, students will be exposed to the frontier of knowledge in the field and will develop a critical skillset to evaluate that research. Finally, students will take a step forward in identifying and pursuing a research question of their own interest that will, ideally, form the basis of a successful dissertation chapter or journal article.

1.3 Course goals

This course has three goals. First, students will learn fundamental concepts that underlie environmental and resource economics from a theoretical perspective. The first section of the course will cover the causes and consequences of environmental externalities and how

*Prof. Casey Wichman: wichman@gatech.edu, School of Economics, Georgia Institute of Technology, 221 Bobby Dodd Way, Atlanta, GA 30332. **Last update:** April 1, 2026.

to model potential solutions. Then, we will cover a variety of tools used to value environmental goods, followed by natural resource management issues. Second, students will be exposed to a variety of research at the frontier of the field, ranging from environmental justice to estimating climate change impacts, from consumer responses to electricity pricing to valuing health impacts of air pollution. Third, students will be expected to take a step towards producing, rather than consuming, research. In that effort, a subtext of this course will be in developing the craft of research, primarily focusing on how to identify and execute tangible research ideas. The second course in this sequence (ECON 7103 taught by Prof. Dylan Brewer) will focus more strongly on putting those ideas into action empirically.

2 Course Expectations

2.1 Attendance

Attendance is expected and will be necessary to succeed in the course. Participation in class discussions will be strongly encouraged. Ask questions. If you do not understand something in class, you are almost certainly not the only one. If you never volunteer an incorrect answer, you aren't taking enough risks.

2.2 Grading

The final grade is calculated as follows:

"Weekly" reading responses	20 pts
Research paper proposal	35 pts
Midterm	25 pts
Lead in-class discussion	10 pts
Referee report on JMP	10 pts
Total	100 pts

Assignments will be explained in more detail during the first week of classes.

There is a degree of subjectivity in grading graduate coursework. I expect that all students who put an appropriate amount of effort into this course will receive an A or B. In the event that a student demonstrates a severe lack of effort, a lower grade may be appropriate.

2.3 Required course materials

The primary required text is Phaneuf & Requate (2017), *A Course in Environmental Economics: Theory, Policy, and Practice*, Cambridge University Press. All other readings will be provided electronically via Canvas. There are no other required purchases.

2.4 Additional criteria for successful completion

Students must complete all graded components (reading responses, research proposal, midterm, discussion lead, and referee report) to pass the course. Late assignments will

not receive credit without a valid excuse.

2.5 Academic Integrity

Cheating is unacceptable. You are hereby reminded that you have pledged to uphold the honor code as follows:

Having read the Georgia Institute of Technology Academic Honor code, I understand and accept my responsibility as a member of the Georgia Tech community to uphold the Honor Code at all times. In addition, I understand my options for reporting honor violations as detailed in the code.

Should you be caught cheating in this class you will be prosecuted according to the honor code and policies and procedures established by the Honor Advisory Council. Should you have any questions about this do not hesitate to contact me.

2.6 Student-Faculty Expectations Agreement

At Georgia Tech, it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

2.7 Accommodations for students with disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404) 894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible to set up a time to discuss your learning needs.