

**CARLETON UNIVERSITY**  
**DEPARTMENT OF ECONOMICS**  
**WINTER 2023**

**ECON 3804 A – Environment Economics**  
**Thursdays, 6:05 – 8:55 pm, ME 3235**

**Instructor:** Dr. Samuel Bonti-Ankomah

E-mail: samuel.bontiankomah@carleton.ca or Brightspace at carleton.ca/Brightspace (please use the Brightspace e-mail facility for all course-related electronic communication)

Office: TBD

Office hours: Thursday, 5:15 – 5:55 pm

TA: Mamoon Kader

Office: TBD

Office hours: TBD

### **Introduction**

This course introduces students to the economic analysis of environmental issues. The objective is to familiarize students with the causes, consequences and possible solutions to local and global environmental issues. Topics covered include externalities, public goods, market failure, benefit-cost analysis, measuring non-market values, and policies for environmental regulation.

### **Learning Outcomes**

After successful conclusion of this course, students should be able to:

- Describe critical environmental issues and their consequences;
- Understand the global challenges in dealing with environmental challenges;
- Understand criteria for evaluating environmental challenges;
- Explain the economic principles that guides cost-benefit analysis;
- Identify possible solutions to global environmental issues;
- Identify effective programs and policies for addressing environmental problems;
- Understand and explain Government approaches in dealing with environmental challenges.

**Prerequisite:** ECON 1000 or FYSM 1003.

Students who believe they have taken similar background course or courses from another university must provide appropriate documentation to the Department of Economics

Undergraduate Administrator, Renee Lortie.

### **Textbooks and Reading Material**

B. Field and M. Field, *Environmental Economics: An Introduction*, Eighth Edition, McGraw Hill Education, New York, NY. (*Required*)

### **Online Resources**

This course is structured to follow the chapters of the above course textbook. Students can purchase the electronic version of the textbook and related materials via the textbook publisher's website for \$75 (subject to change) in accordance with the University's policy on Technology Enhanced Learning Resources: <http://carleton.ca/secretariat/wp-content/uploads/Adopting-Technology.pdf>.

Hardcopies of the course textbook, if desired, can also be purchased via the University bookstore.

### **Other (optional) readings:**

Students may also find the following documents useful. They are all available through the Carleton library website.

R.N. Stavins, "The Problem of the Commons: Still Unsettled After 100 Years." *American Economic Review*, vol. 101, No. 1, 2011 (pages 92-103).

R.W. Hahn and R.N. Stavins, "Economic Incentives for Environmental Protection: Integrating Theory and Practice." *American Economic Review*, vol. 82, No. 2, 1992.

R.H. Coase, "The Problem of Social Cost." *Journal of Law and Economics*, vol. 3, 1960.

J.V. Krutilla, "Conservation Reconsidered." *American Economic Review*, vol. 57, No. 4, 1967.

## Course Evaluation

Each student's grade will be calculated as a weighted average of the following four components:

Quiz 1 (Jan 26):	7.5%
Mid-term exam (Feb 16):	20%
Quiz 2 (Mar 16):	7.5%
Group Assignment (Apr. 6):	30%
Class Participation:	5%
Final Exams (Apr 15-27):	30%

## Quizzes

There will be two quizzes to be held online on January 26, 2023, and March 16, 2023. Each quiz will be worth 7.5% of class grade and will cover text material, class discussions and other documents discussed in class up until that time.

*There will be no deferred quizzes. Students who can document a compelling reason for missing any of the quiz will be excused and their final grade will be based on their performance in the rest of the course evaluation criterion, i.e. the weight of each of the remaining evaluation criterion will rise by a factor of 1.08 (example, the weight for the assignment will become  $7.5\% \times 1.08 = 8.1\%$ ). Students must inform the instructor of such an absence in advance, if possible.*

## Mid-term examination

There will be mid-term examination to be held in class on Thursday, February 16, 2023. The Mid-term examination will be worth 20% of total course grade and will cover text materials, class discussions, and other documents discussed in class up until that time.

*Students who can document a compelling reason for missing the mid-term examination will be excused and their final grade will be based on their performance in the rest of the course- i.e., the weight of each of the remaining evaluation instruments will rise by a factor of 1.25 (e.g., the final examination weight will become  $30\% \times 1.25 = 37.5\%$ ). Students must inform the instructor of such an absence in advance, if possible.*

## Group Assignment

One assignment will be expected in this course. Students will be put into groups to complete the assignment. Each group will submit one group assignment which will be due on April 6, 2023 through Brightspace. All submitted assignments should be typed. Hand-written assignments will not be accepted.

Students will lose 5% per each day for submitting assignments after the due date of April 6, 2023. Students who fail to submit their assignments without a compelling reason will be awarded a grade of zero for the assignment and the assignment grade will not be distributed to the remaining evaluation instruments.

## Doctor's note or police report

*The documentation provided by students for missed quiz may be subject to verification. Students who provide such documentation must also complete the "Consent to Release Information to a Third Party" form posted on Brightspace.*

### **Email Policy**

Email should be reserved for questions relating to scheduling, administrative issues or urgent matters affecting your participation in the course. In general, it is not possible to effectively answer all questions about class material by e-mail; please reserve these questions for office hours. If you do e-mail me, I will respond within no more than 48 hours. Please include Econ 3804" in the subject line of all emails.

### **Satisfactory Performance Criteria**

Students must fulfil *all* of the preceding course requirements in order to achieve a passing grade (D- or higher). *See Academic Regulation 2.3 for the official meanings of these grades and note that standing in a course is determined by the course instructor subject to approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revisions. No grades are final until they have been approved by the Dean.* Application to write a deferred final examination must be made at the Registrar's Office.

### **Plagiarism**

Please be aware that plagiarism is serious offence at Carleton University and should be recognized and avoided. Please consult Carleton University's Academic Integrity Policy at <https://carleton.ca/economics/courses/writing-preliminaries/academic-integrity-and-offenses-of-conduct/>

### **Centre for Student Academic Support**

The [Centre for Student Academic Support \(CSAS\)](https://carleton.ca/csas/) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning. CSAS offers academic assistance with [online student success](#), course content, academic writing and skills development. For more details, visit the [CSAS website \(https://carleton.ca/csas/\)](https://carleton.ca/csas/).

### **Request for Academic Accommodations**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

#### **Pregnancy obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the [Equity Services website: https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

#### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

For more details, visit the [Equity Services website: https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for Students with disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet or discuss with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the , visit the [Paul Menton Centre website.](#)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](https://carleton.ca/sexual-violence-support)

### **Accommodation for student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see [the policy](#) at <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

## *Course Content*

### **Section 1. Overview of Environmental Economics – January 12**

1. What is Environmental Economics? (Chapter 1)
2. Linkages Between the Economy and the Environment (Chapter 2)

### **Section 2. Analytical Tools – January 19-26**

3. Benefits and Costs, Supply and Demand (Chapter 3)
4. Markets, externalities and Public Goods (Chapter 4)
5. The Economics of Environmental Quality (Chapter 5)

### ***Quiz 1- January 26***

### **Section 3. Environmental Analysis – February 2-16**

6. Frameworks of Analysis (Chapter 6)
7. Benefit Cost Analysis: Benefits (Chapter 7)
8. Benefit Cost Analysis: Costs (Chapter 8)

### ***Midterm exam – February 16***

### ***Winter Break – February 20-24***

### **Section 4. Environmental Policy Analysis- March 2-23**

9. Criteria to Evaluate Environmental Policies (Chapter 9)
10. Liability Laws, Property Rights, Voluntary Action (Chapter 10)
11. Command and Control Strategies: Standards (Chapter 11)
12. Incentive-Based Strategies: Environmental charges and Subsidies (Chapter 12)
13. Incentive-Based Strategies: Market Trading Systems (Chapter 13)

### ***Quiz 2 – March 16***

### **Section 5. Selected Environmental Problems\*- March 30-April 6**

14. Selected environmental policies and Institutions in Canada (From different sources)
15. International environmental agreements (Chapter 19)

### ***Group Assignment due date – April 6***

**\*Time permitting. Note: all chapters are from the main course textbook.**

**Note: The foregoing is a tentative list of contents. There may be changes due to questions and interests of students.**