ECON371 – Economics of the Environment

Instructor: Patrick Baylis

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- **When**: Thursdays, 12:30pm - 2pm (except for school holidays)
- **Where**: Buchanan A104
- **Who**
    - *Instructor*: Patrick Baylis (contact via Canvas)
        * Office hours: Remote and by appointment, sign up via link on Canvas
    - *Teaching Assistant*: Alyssa Russell (contact via Canvas)
        * Office hours: Remote and by appointment, sign up via link on Canvas

1 Course description

Why do many major cities in have bad air quality? How much is a national park worth? Is there such a thing as too little pollution? Why are wildfires becoming more costly to fight? How much is it worth to avoid 2 degrees of global warming? Why do poor and underprivileged communities often suffer the most from more environmental problems?

If these kinds of questions are interesting to you, then you're in the right place. The goal of this course is to explore relationships between the environment – the physical world in which we live – and the economy – the buying and selling of goods and services in society. Economics provides a powerful framework for understanding and correcting environmental problems and for measuring the value of both good and bad environmental quality. Since environmental qualities are rarely traded in private markets, scholars of environmental economics (like you!) are frequently forced to confront market failures and deviations from the world of perfect competition described in "Economics 101".

In this course, we'll think about how to understand and categorize the various ways unregulated markets can fail to provide the right level of environmental quality, as well as the policy tools available to correct some of these failures. We'll also learn to use some of the techniques economists have developed to measure the value of environmental goods and bads. By the end of the course, students should have: A) a solid grounding in the economic theories that help to describe the causes of market-related environmental problems, B) an understanding of the various policy instruments that have been and could be used to correct some of these problems, and C) the ability to apply this knowledge to a range of environmental topics.

2 Course details

Delivery: At least one course meeting per week will be in person, per UBC protocol. This meeting will be recorded for students who are not able to attend in person. Other lecture material will be made available through prerecorded videos. It is possible that our mode of delivery may need to change following public health or University guidance.

COVID-19 Safety: You are required to wear a non-medical mask during our class meetings, for your own protection and the safety and comfort of everyone else in the class. For our in-person meetings in this class, it is important that all of us feel as comfortable as possible engaging in class activities while sharing an indoor space. Non-medical masks that cover our noses and mouths are a primary tool for combating the spread of COVID- 19. Further, according to the provincial mandate, masks are required in all indoor public spaces including lobbies, hallways, stairwells, elevators, classrooms and labs. There may be students who have medical accommodations for not wearing a mask. Please maintain a respectful environment. UBC Respectful Environment Statement.

In-class attendance: In order to ensure safety, whether or not you attend class in person will not factor into your course grade. Lectures will be recorded and available online and participation will be assessed through your responses to Canvas participation quizzes (see below).

Canvas: Canvas is the central location for this information about the course. I will communicate with you through announcements on Canvas, course material will be posted on Canvas, including lecture slides, recordings, and assigned readings, and all assignments and exams will be given, graded, and returned through Canvas.

Textbook and other course materials: The textbook for the course is *Markets and the Environment* (2e) by Nathaniel O. Keohane and Sheila M. Olmstead (abbreviated KO). You may access it for free through the UBC library and a physical edition is also available for purchase online. Note that while KO is an excellent resource for a policy-oriented introduction to the concepts of the course, the content covered in our lecture notes is will extend well beyond what is discussed in the book. I will make other assigned material available through Canvas. You are responsible for the content of the assigned chapters and other required material and for the content of the lectures.

Related courses: Related courses offered by the School of Economics include Economics 370 (Cost Benefit Analysis), 374 (Land Economics), 471 (Non-renewable Resources) and 472 (Renewable Resources).

Prerequisites: ECON101 (Principles of Microeconomics) and ECON102 (Principles of Macroeconomics)

Learning activities: Students will learn the course material by completing the assigned readings, watching lecture videos, responding weekly to discussion questions, completing problem sets, and taking the final.

Student learning outcomes

1. Work with key economic concepts (e.g., benefits, costs, efficiency, supply, demand, equilibrium, externalities, market failures, and many more…) to describe how environmental goods and bads are created.
2. Use graphical and mathematical models of markets and decision-making to describe how markets can lead to inefficient levels of environmental quality.
3. Discuss and model a range of possible policy solutions to environmental problems.
4. Articulate some of the important intellectual contributions to the field of environmental economics.
5. Extend concepts from class to discuss other kinds of social problems (environmental and otherwise) using the tools and methods learned in this course.

3 Assessments

Your grade will be determined by your participation in weekly discussion quizzes, problem sets, a midterm, and a final. Your final grade will be reported as a percentage per UBC Policy.

Discussion quizzes: Every other week(-ish), you will respond to a set of discussion questions related to the readings and lecture material. So long as you submit thoughtful, constructive responses that substantively respond to the questions, you will receive full marks. If you do not submit answers or submit evidently low-effort answers, your mark will be lower. In total, the discussion quizzes will constitute 10% of your overall course grade.

Problem sets: three problem sets, assigned two weeks in advance. In total they will be 30% of your grade. All problem set questions will be answered via the Canvas assignment form, and for some questions you will be required to upload proof of work.

Midterm: The midterm will be worth 20% of your grade and will be given through Canvas. It will be open-note and you will have a limited amount of time to complete it.

Final exam: The final will be worth 40% of your grade and will be cumulative, i.e., it will cover material from the entire course. It will be open-note and you will have a limited amount of time to complete it.

Missed assignments: Assignments must be turned in electronically via Canvas by the due date and time exactly. Every day an assignment is late will reduce the grade percentage by 20 points. This happens automatically, so I recommend turning in your assignments with some time to spare.

Academic concessions: If you require an in-term concession (to turn in an assignment late or because you cannot attend an exam, for example), you must contact Arts Advising as soon as you are aware of the need (i.e., before the work is missed

except in extraordinary circumstances). Please review their website for concession criteria as well as the process to follow. Students in other Faculties should contact their Faculty advising office for direction. If you are granted a concession for a given assessment, I will reassign its weight to other assessments of the same type.

Re-marking requests: If you believe that an assessment was incorrectly by the TA, you can appeal by notifying me via Canvas. However, to be fair, I will regrade the entire assessment, so your score may go up *or* down as a result. No appeals will be accepted more than seven days after the assessment was returned.

4 Course topics

The following list of topic is provided as preview of the direction of the course. The detailed schedule will be given and updated on Canvas.

- The economy and the environment
- Benefits, costs, and efficiency
- Markets, externalities, and public goods
- Valuing environmental goods
- Introduction to environmental policy
- Prescriptive regulation and liability
- Environmental taxes and subsidies
- Permit trading systems
- Air pollution
- Growth, trade, and the environment
- Climate change

5 Additional course notes

UBC-wide policy statement: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here.

Accommodations: I am happy to make necessary accommodations for students who require it. Please contact Access and Diversity to obtain an Academic Accommodation Letter and provide it to me within the first two weeks of the term. See UBC Policy 73[1] for more details.

Academic integrity: I expect all students to exhibit academic integrity in accordance with UBC Policy[2].

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[1]http://www.universitycounsel.ubc.ca/files/2010/08/policy73.pdf.
[2]http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,286,0,0.