The Swedish Program

Environmental Economics

Spring 2026

Syllabus

This course will give an introduction to, and overview of, how to think about, model and empirically evaluate the two-way interaction between the global economy and the environment that it is embedded in. The natural environment provides the basis for the economy. Changes in the surrounding environment have important consequences for the global economy and human wellbeing more generally. At the same time, economic activity is to a growing degree an important driver behind changes in the natural environment apparent in phenomena such as climate change, ocean acidification and loss of biodiversity. We will cover the basics of environmental economics and environmental economic policies. We will also discuss many topics such as climate change, growth, technology, ecosystem dynamics, international trade.

Teachers

Main teacher: Johan Gars, researcher at the Beijer Institute, Royal Swedish Academy of Sciences. Email: johan.gars@kva.se. Office hours by appointment by email or in connection to the lectures.

Grading

The examination will consist of a combination of active attendance (10%), smaller tests distributed during the course (15% in total), hand-in assignments with presentation (25%), and a final exam (50%). Unless otherwise explicitly stated, the examination will be based solely on the material provided in lecture notes and slides. The additional readings provide depth and insights, but they are sometimes technically advanced.

Literature (will be expanded)

Lecture notes and/or slides will be provided for the lectures. This is the main required literature.

Most of the theory is covered by most Microeconomic textbooks

Introduction

Engström, Gustav, et al. "Carbon pricing and planetary boundaries." *Nature communications* 11.1 (2020): 4688.

Rockström, Johan, et al. "A safe operating space for humanity." *Nature* 461.7263 (2009): 472-475.

Steffen, Will, et al. "The trajectory of the Anthropocene: the great acceleration." *The anthropocene review* 2.1 (2015): 81-98.

Climate economics

Burke, Marshall, Solomon M. Hsiang, and Edward Miguel. "Global non-linear effect of temperature on economic production." *Nature* 527.7577 (2015): 235-239.

Costinot, Arnaud, Dave Donaldson, and Cory Smith. "Evolving comparative advantage and the impact of climate change in agricultural markets: Evidence from 1.7 million fields around the world." *Journal of Political Economy* 124.1 (2016): 205-248.

Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken (2012). "Temperature shocks and economic growth: Evidence from the last half century." *American Economic Journal: Macroeconomics* 4, no. 3 (2012): 66-95

Golosov, Mikhail, John Hassler, Per Krusell, and Aleh Tsyvinski. "Optimal taxes on fossil fuel in general equilibrium." *Econometrica* 82, no. 1 (2014): 41-88.

Hassler, John and Krusell, Per (2013). The climate and the economy. Mistra-SWECIA *Report*.

Stern, Nicholas. *The economics of climate change: the Stern review*. Cambridge University press, 2007.

Growth and technology:

Acemoglu, Daron, Philippe Aghion, Leonardo Bursztyn, and David Hemous. "The environment and directed technical change." *American economic review* 102, no. 1 (2012): 131-66.

Copeland, Brian R., and M. Scott Taylor. "Trade, growth, and the environment." *Journal of Economic literature* 42, no. 1 (2004): 7-71.

Dasgupta, Sir Partha. "The economics of biodiversity the Dasgupta review." (2021) (https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review)

Hassler, John, Per Krusell, and Conny Olovsson. "Directed technical change as a response to natural resource scarcity." *Journal of Political Economy* 129, no. 11 (2021): 3039-3072

International trade and the environment

Brander, James A., and M. Scott Taylor. "Open access renewable resources: Trade and trade policy in a two-country model." *Journal of International Economics* 44, no. 2 (1998): 181-209.a

Brander, James A., and M. Scott Taylor. "International trade between consumer and conservationist countries." *Resource and Energy Economics* 19, no. 4 (1997): 267-297.

Copeland, Brian R., and M. Scott Taylor. "Trade, growth, and the environment." *Journal of Economic literature* 42, no. 1 (2004): 7-71.

Preliminary schedule

2026-01-22 9:15-12:00 Room A538: Introduction

2026-01-29 9:15-12:00 Room B310: Environmental economic theory and policy

2026-02-03 13:15-16:00 Room A133: Environmental economic theory and policy

2026-02-12 9:15-12:00 Room A133: Environmental economic theory and policy

2026-02-17 9:15-12:00 Room A133: Valuation of environmental goods and services

2026-02-26 9:15-12:00 Room TBA: Uncertainty

2026-03-05 9:15-12:00 Room A133: Dynamics and discounting

2026-03-12 9:15-12:00 Room TBA: Growth, international trade and environmental problems

2026-03-19 9:15-12:00 Room A975a: Climate economics

2026-04-09 9:15-12:00 Room A538: Climate economics

2026-04-16 9:15-12:00 Room T-room: Presentations and catch up

2026-04-23 9:15-12:00 Room T-room: TBD

2026-04-30 9:15-12:15 Room B310: Final exam

Academic dishonesty: Any form of academic dishonesty is a violation of our code of conduct and will result in disciplinary actions. Plagiarism or other forms of cheating will result in an automatic F for the assignment, and may also result in an immediate F for the course as a whole, based on the assessment of the Director of Studies and the Executive Director. If you want to use AI to assist your writing, you must adhere to the following guidelines: AI-assisted writing is permissible as long as its use is properly documented and does not substitute for students' doing the actual writing work. For all written take-home

assignments, students who have used AI to assist them are required to submit a summary describing how they have used AI to help them complete the assignment (producing text, proofreading, finding citations, etc). In addition, students also have to clearly indicate which passages have been produced or assisted by AI, for example in a footnote that details how AI was used in that particular instance. Failure to acknowledge one's use of AI to complete an assignment will count as academic dishonesty and be subject to the same penalties as outright plagiarism or other forms of cheating.

Exams: Exams must be taken at the date and time specified in the syllabus. For a midterm exam, if you are unable to take the exam at the scheduled time, you must reschedule the exam with your instructor's permission before that time. If you need to reschedule a final exam, you must first contact the Head of Administration, who will then contact your instructor to find an alternative date and time for the exam.

No outside materials or devices, including notes, phones, and computers, are allowed during the exam unless explicitly permitted by the instructor.
Anyone caught using a device or consulting outside materials during the exam will automatically fail the exam.
No one is allowed into the classroom once the exam itself has commenced. A student who arrives late for an exam will be permitted to take a make-up exam at a later time only if the instructor deems that the student had a valid reason for being late.

Late assignments: Assignments that are submitted after the deadline and without prior agreement will be marked down. The late penalty will be progressively more severe the later the assignment is submitted.