

Sarah Lawrence College
Economics of the Ecological Crisis
Seminar, Fall 2015 & Spring 2016
Mondays & Wednesdays, 9:30 – 10:55, Bates Classroom

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Course Description

Welcome to the seminar course on the Economics of the Ecological Crisis! Humanity faces perhaps its greatest-ever collective challenge in the need to reduce greenhouse gas emissions to prevent catastrophic global climate change. Many of the solutions for doing so involve changes to how societies produce and consume energy, specifically by improving energy efficiency and employing more renewable energy. In this course, we will examine the threat that climate change poses and how we may avoid its worst impacts from the perspectives of both environmental and ecological economics. How should the present generation value the impact of its actions on future generations? How should societies determine the proportion of resources to devote to mitigating climate change instead of adapting to its impacts? Who should reduce greenhouse gas emissions, and by how much? What are the political and institutional barriers to doing so? Which policies can best be used to regulate emissions? Why is renewable energy such a small portion of the energy portfolio in most economies? Exploring these questions will involve investigating economic theory and the political economy of climate change policy both in the United States and in other major economies, and we will consider how a low-emissions economy can be more equitable and improve well-being for most of its constituents.

Course Objectives

By the end of the course, you should be able to:

- Understand the primary causes of ecological crisis that stem from the economic system, especially scope of the economic challenge that climate change poses to humanity
- Coherently discuss environmental problems and potential solutions from a variety of perspectives and schools of thought
- Know the main sources of greenhouse gas emissions globally, and in more detail within the US
- Describe the role that various energy sources play in worsening or mitigating global warming
- Articulate possible policy solutions that could help mitigate environmental damage from economic activity
- Analyze such solutions using economic concepts
- Realize the complexity of political interests that often hinder progress on these solutions

Required Texts

Cato, Molly Scott, *Environment & Economy*, Routledge, New York: 2011. ISBN: 978-0-415-47740-3.

Harris, Jonathan & Roach, Brian, *Environmental and Natural Resource Economics: A Contemporary Approach*, Routledge, NY: 2014. ISBN: 978-0-7656-3792-5

Robin Hahnel, *Green Economics*, M.E. Sharpe, Armonk, NY: 2011. ISBN: 978-0-7656-2795-7.

Recommended Texts

Frank Ackerman, *Can We Afford the Future? The Economics of a Warming World*, Zed Books Ltd, London: 2009. ISBN: 978-1-84813-037-1.

Assignments

Readings: Please read all assignments before class and come prepared to discuss the material. The quality of our discussions will depend on you.

Papers: You will be required to write three short essays over the course of the year that relate to topics we will be discussing in class. These will include essays on: a local environmental problem, the relationship between capitalism and sustainability, and a topic of your choice.

Practice Problems: Roughly every other week, practice problems will be posted to MySLC on the topics that we will be discussing over the next 2 weeks. I will label which problems should be prepared for which class. The problems will either be short discussion questions, reflections on the readings, or more mathematical, depending on the topics being discussed in class. You may work together and discuss the problems outside of class, but everyone needs to have their own write-up of the problems. In each class, we will devote some time to discussion of the problems for the day, and I will randomly call on students to give their response or solution. I will also occasionally collect the problems, which we will then discuss individually during our next conference. Because of this, it is vital that you complete the problems for every class. They will allow me to understand if you are having trouble with the material, and they will form an important part of your evaluation.

Group projects on campus sustainability: In the spring, you will break into small groups to draft a proposal for improving environmental sustainability at Sarah Lawrence. This will involve researching ideas for projects that other colleges have implemented and considering how such an initiative could be tailored to SLC's needs. More details on the project will be forthcoming.

In-class work: We will frequently practice the skills you are learning in class, both individually and in small groups.

Conference Paper: You will be required to write a research paper for your conference work, ideally connecting it to an issue that you are personally passionate about. Further guidelines can be found below.

Conference Paper Presentations and Peer Review: At the end of the semester, each student will present their conference work. Additionally, you will provide a draft to a partner in the class who will provide you with feedback and serve as a discussant after your presentation.

Class Policies

Evaluations: When writing your evaluations at the end of the course, I will take a number of factors into account. Roughly one-third of your grade and evaluation will come from class participation, attendance and completion of all assignments on time. Another third will come from your conference project, presentation, and peer review. The final third will come from your take-home exams and essay. I

understand that students have different strengths, and I will take this into consideration in the evaluations. I expect you to show me, in some way, that you are getting something out of the course and that you are able to discuss most of the topics listed under “Course Objectives” on the previous page.

Attendance: In order to get the most out of the course, it is imperative for you to attend every seminar and conference and to be on time. If a conflict does arise for some reason, be sure to contact me and let me know why you will be unable to attend. You should also email me any assignments that are due so that I can continue to provide you with feedback. Missed conferences will not be rescheduled. Instead, I will send you feedback electronically, and you may ask any questions that you have over email. Except in the case of extenuating circumstances, missing several class meetings will have a strongly negative impact on your evaluation and may reduce the amount of credit you are given for the course.

Laptops & Electronic Gadgets: You may use laptops and tablets in the class to take notes and refer to the readings. Please note that if I see that you are using them for another purpose (browsing Facebook, for example), I will ask you to put away your device. In the small seminar setting, I expect you to be engaged with the discussion around you. Additionally, you are not allowed to use smartphones at all during class.

Academic freedom: In this course, we will be discussing a number of politically charged issues, and it is inevitable that there will be a range of opinions, including my own. You will never be penalized in any way for disagreeing with me or challenging my views. Part of the learning process for all of us is having our existing beliefs and assumptions challenged over the course of the year. Being able to do this in a respectful and constructive way can allow us to grow more intellectually.

Disability support: If you have a physical, learning, or other disability that requires accommodation, you can let me know in the way that is most comfortable for you. I will do my best to work with you and the College to make any necessary accommodations. In keeping with the College’s policy, however, I cannot retroactively make accommodations, nor can I do so with very little notice.

Course Schedule
Fall Semester

Sept. 7 & 9	<i>Introduction & Basic Economic Concepts</i> <ul style="list-style-type: none"> • Hahnel, Introduction & Chapter 1 • Cato, Chapter 1 • Harris & Roach, Chapter 1 • Nicholas Stern, “The state of the climate – and what we might do about it,” TED Talk, September 2014.
Sept. 14 & 16	<i>The Rise of Environmentalism in Economics</i> <ul style="list-style-type: none"> • Cato, Chapter 2 • Harris & Roach, Chapter 2
Sept. 21 & 23	<i>Environmental Economics Primer: Supply & Demand and Welfare Analysis</i> <ul style="list-style-type: none"> • Robert Prasch, <i>How Markets Work</i> (2008) Lecture 2 • Harris & Roach, Chapter 3 (Appendix)
Sept. 28 & 30	<i>Externalities & The Coase Theorem</i>

	<ul style="list-style-type: none"> • Harris & Roach, Chapter 3 • Cato, Chapter 3 (Sections 3.1 – 3.3) • Hahnel, Chapter 6 • Ronald Coase, (1960) “The Problem of Social Cost,” <i>The Journal of Law and Economics</i> vol. 3, p. 1-44, Sept. • Federal Reserve Bank of St. Louis, “Externalities”, The Economic Lowdown Video Series
Oct. 5 & 7	<p><i>Cost-Benefit Analysis & Valuation</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 6 (Until section on the discount rate, include Appendix section 6.1) • Cato, Chapter 4 • Hahnel, Chapter 2 • Carson et al. (2003) “Contingent Valuation and Lost Passive Use: Damages from the Exxon Valdez Oil Spill,” <i>Environmental and Resource Economics</i> 25 (257-286). (Except sections on survey development and statistical model)
Oct. 12 & 14	<p><i>Discount Rates & Resource Allocation Over Time</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 5 & remaining portion of Chapter 6 (including Appendix section 6.2) • Ackerman, Chapter 1 • Cato, Chapter 3 (Section 3.4)
Oct. 19	<i>Fall Study Day</i>
Oct. 21	<p><i>Application: Yonkers and the Hudson River</i></p> <p>Note: Class will meet at CURB</p> <ul style="list-style-type: none"> • Elsa Brenner, “Restored River a Boon to Yonkers,” <i>The New York Times</i>, August 9, 2012.
Oct. 26 & 28	<p><i>The Commons</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapters 4 & 13 • Thomas Dietz, Elinor Ostrom, Paul C. Stern (2003) “The Struggle to Govern the Commons,” <i>Science</i>, Vol. 302, No. 5652, p. 1907-1912, Dec. 12. • Hahnel, Chapter 4 (Section on Tragedy of the Commons), Chapter 7 (Section on CPR Management) • Elinor Ostrom (1990) <i>Governing the Commons</i>, Ch. 2, Ch. 3 (p. 61-69; 88-102) • Paper #1 Due (Oct. 26)
Nov. 2	<i>The Commons Continued</i>
Nov. 4	<p><i>Ecological and Green Economics</i></p> <ul style="list-style-type: none"> • Cato, Chapters 5 & 6 • Harris & Roach, Chapters 7 & 17 • Herman Daly (2005) “Economics in a Full World,” <i>Scientific American</i>, Sept.
Nov. 9 & 11	<i>Ecological and Green Economics Continued</i>
Nov. 16 & 18	<p><i>Sustainable Development</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapters 8 & 21 • Hahnel, Chapter 3 • Cato, Chapter 9 • Robert Solow (1991) “Sustainability: An Economist’s Perspective,” lecture at Marine Policy Center, Woods Hole Oceanographic Institute, Woods Hole, Massachusetts, June 14.

Nov. 21	<i>Sustainable Development Continued</i>
Nov. 23	<i>Thanksgiving Break</i>
Nov. 30 & Dec. 2	<i>Anti-Capitalist Economics & The Environment</i> <ul style="list-style-type: none"> • Cato, Chapter 8 • Hahnel, Chapter 5 • Naomi Klein (2014) <i>This Changes Everything</i> (excerpts).
Dec. 7	<i>Political Economics</i> <ul style="list-style-type: none"> • David Roberts (2015) "Climate wonks focus on economics. They need to pay more attention to politics," <i>Vox.com</i>, August 20. • Theda Skopal (2013) "Naming the Problem: What It Will Take to Counter Extremism and Engage Americans in the Fight Against Global Warming," Paper prepared for the Symposium on The Politics of America's Fight Against Global Warming," February 14.
Dec. 9	<i>Climate Change & Uncertainty</i> <ul style="list-style-type: none"> • Ackerman, Chapters 3-5 • Environmental Protection Agency (2015) "Climate Change in the U.S. – Benefits of Global Action." (Section 2) • Reading on Paris negotiations, TBD
Dec. 14	<i>Paris 2015 Climate Negotiations</i> <ul style="list-style-type: none"> • Readings TBD
Dec. 16	Review & Reflections Paper #2 Due

Spring Semester, Tentative Schedule

Jan. 18	<i>MLK Day</i>
Jan. 20	<i>Resource Use: Introduction & Mining</i> <ul style="list-style-type: none"> • Harris & Roach, Chapters 11 • Cato, Chapter 10 Discussion of group projects/formation of groups
Jan. 25	<i>Resource Use: Rainforests</i> <ul style="list-style-type: none"> • Harris & Roach, Chapter 14
Jan. 27	<i>Resource Use: Water</i> <ul style="list-style-type: none"> • Harris & Roach, Chapter 15 • Cynthia Barnett (2014) "Hey America, It's Time to Talk about the Price of Water," <i>Ensis</i>, October 6.
Feb. 1	<i>Population Growth</i> <ul style="list-style-type: none"> • Harris & Roach, Chapter 9 • Global Thematic Consultation on Population Dynamics (2014) "Population Dynamics in the Post-2015 Development Agenda." (Preface)
Feb. 3	<i>Agriculture & Food</i> <ul style="list-style-type: none"> • Harris & Roach, Chapter 10 • Douglas Gollin and Lilli Teresa Probst (2015) "Food and agriculture: shifting landscapes for policy," <i>Oxford Review of Economic Policy</i>, 31 (8-25).

Feb. 8	<p><i>Pollution</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 16 • Sarah Kaplan (2015) "Air pollution in China is killing 1.6 million people a year, researchers say," <i>The Washington Post</i>, August 14.
Feb. 10	<p><i>Meeting day for group projects</i></p>
Feb. 15	<p><i>Introduction to Climate Change</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 18 • US National Climate Assessment (2014) Overview • <i>Turn Down the Heat</i> (2014), World Bank, Executive Summary • US Greenhouse Gas Inventory 2014, US EPA, Executive Summary
Feb. 17	<p><i>Modeling Economic Impacts of Climate Change</i></p> <ul style="list-style-type: none"> • Bonen et al. (2014) "Economic Damages from Climate Change: A Review of Modeling Approaches" Schwartz Center for Policy Analysis Working Paper, p. 1-8. • Elizabeth Stanton (2014) "Modeling Pessimism: Does Climate Stabilization Require a Failure of Development?" in <i>Climate Change and Global Equity</i>. • Ackerman, Chapter 7
Feb. 22 & 24	<p><i>Regulating GHG Emissions</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 19 • Cato, Chapter 13 • Hahnel, rest of Chapter 7 • Frank Ackerman (2014) "Carbon Markets are Not Enough," in <i>Climate Change and Global Equity</i>. • Joseph Aldy & Robert Stavins (2011) "The Promise and Problems of Pricing Carbon: Theory and Experience," NBER Working Paper 17569.
Feb. 29 & Mar. 2	<p><i>Energy Systems & Fossil Fuels</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 12 • "Energy 101: Electricity Generation" <i>Energy & Environmental News</i>, 2011. • Charles C. Mann, "Renewables Aren't Enough. Clean Coal is the Future," <i>Wired</i>, March 2014. • Michelle Nijhuis, "Can Coal Ever Be Clean?" <i>National Geographic</i>, April 2014. • Marathon Oil Corp., "Animation of Hydraulic Fracturing (fracking)" April 26, 2012 • Earthworks, "Hydraulic Fracturing 101." • Richard Heinberg (2013) <i>Snake Oil: How Fracking's False Promise of Plenty Imperils Our Future</i>, Chapter 5.
Mar. 7 & 9	<p><i>Renewable Energy</i></p> <ul style="list-style-type: none"> • Peter Musgrove (2010) <i>Wind Power</i>, Chapter 8 (selected countries). • "Wind Energy & Politics: Not on my beach, please," <i>The Economist</i>, August 19, 2010. • Diane Cardwell, "Intermittent Nature of Green Power is Challenge for Utilities," <i>The New York Times</i>, August 14, 2013 • Tom Randall, "While You Were Getting Worked Up Over Oil Prices, This Just Happened to Solar," <i>Bloomberg News</i>, October 29, 2014. • Timilsina et al. (2012) "Solar Energy: Markets, Economics, Policies," <i>Renewable and Sustainable Energy Reviews</i>.

	Group Projects Due March 7
Mar. 28 & 30	<p><i>Other Technologies</i></p> <ul style="list-style-type: none"> • “Inside a Nuclear Reactor Core,” <i>Bang Goes the Theory</i>, British Broadcasting Corporation, 2013. • David Biello, “How Nuclear Power Can Stop Global Warming,” <i>Scientific American</i>, December 12, 2013 • David Roberts, “Why Germany is phasing out nuclear power,” <i>Grist</i>, March 23, 2012. • International Renewable Energy Agency (2013) “Smart Grids and Renewables: A Guide for Effective Development,” Working Paper. Ch. 5 (p. 21-39) • “Energy Efficiency: The Invisible Fuel,” <i>The Economist</i>, Jan. 17, 2015. • Brian C. Black & Richard Flarend (2010) <i>Alternative Energy</i>, Chapter 5, p. 119 – 127; 135 – 141. • International Renewable Energy Agency (2013) “Biomass Co-firing Technology Brief,” p. 5-9. • David MacKay (2012) “A reality check on renewables,” TED Talk.
Apr. 3 & 5	<i>Boardgame Week: Power Grid</i>
Apr. 11	<p><i>Trade & The Environment</i></p> <ul style="list-style-type: none"> • Harris & Roach, Chapter 20 • Cato, Chapter 12 • Naomi Klein (2014) <i>This Changes Everything</i> (excerpts).
April 13	<p><i>Climate Treaty Negotiations</i></p> <ul style="list-style-type: none"> • Hahnel, Chapters 8-10 & Appendix • Ackerman, Chapter 8 • Additional reading on Paris aftermath TBD
Apr. 18 & 20	<i>Climate Treaty Negotiations Continued</i>
Apr. 25 & 27	<p><i>Reflections: Hope or Despair</i></p> <ul style="list-style-type: none"> • Cato, Chapter 15 • Hahnel, Conclusion • Ackerman, Chapter 9 <p>Paper #3 Due (Apr. 25)</p>
May 2 - 11	<p>Conference Presentations</p> <p>Conference papers due May 2</p>

Conference Work Schedule

There will be six conferences each semester. At least 24 hours before each appointment, I ask that you submit a **progress report** and **your assignment** to me electronically, at nreksten@sarahlawrence.edu. I prefer assignments in Word document form or as a PDF, but Google Docs will work as well. Late submissions will impact your grade and assessment. If you are unable to attend the conference, please let me know in advance, send me the assignment and progress report on time, and we will discuss it over the telephone or through email. If you come to a conference without having done the assignment, or at least without having made a strong attempt, you will be asked to leave and use the conference time to work on your project. However, if you are having trouble making progress in spite of having

spent some time on the project, we can discuss where the roadblock is and strategies for getting around it.

Your final product should be a paper of about 8,000 words though different topics will lead to more or less dense writing. As we move through the writing process, I will be able to suggest a more precise length for you to aim for.

Your goal for the year will be to produce a piece of basic economic research related in some way to the material we are discussing in the course. This will be completed in two broad parts. During the fall semester, you will research existing work on a topic and think of a new question that you could answer either through a basic examination of data or building on some economic theory. During the spring semester, you will continue to refine your research question and methods and attempt to answer your question.

In the age of cloud services, there is no excuse to not back up your work. Make sure that you keep it saved in multiple places so that you do not have to start over in the event of a single computer crashing.

Your progress report should detail the work you've done since our last meeting and the questions that emerge from that work. These could be questions related to the substance of the work or more technical issues (like formatting or citations). Your progress report will give us an agenda for our meeting and help guide our conversation. Even if you do not produce much in the way of new written work, you should have a progress report to talk about what you have done instead.

Below, I have outlined suggested steps to take for each conference period. Note that these are more detailed earlier. This is because everyone is starting from the same place, but the pace and progress of your work will inevitably diverge over the course of the year. Therefore, your individual schedule will most likely begin to look different from what is found here, but reading through this will give you a good idea of what is expected.

Conference 1 (Weeks of Sept. 14 & 21)

Write a paragraph-long summary of some proposed topics. Your goal should be to establish a starting point for your research. If you are deciding among several topics, write a paragraph for each. When choosing your topic, please bear in mind your time constraints and your background (or lack thereof) in economics and data/statistics. Your topic may very well change in the future. At this point, you want to be brainstorming and jotting down ideas for further investigation. We can also discuss good sources for you to investigate as a next step.

If your topic involves the interpretation of data, visit a research librarian *soon* to determine whether the SLC library has (or can get access to) the data you need. If not, you may have to change your topic.

Begin keeping track of the sources you use in some way. I use Microsoft Word's reference organizer for my own work, but there are many other options out there, like [Zotero](#), which is free.

Conference 2 (Weeks of Sept. 28 & Oct. 5)

You should make some progress researching your proposed topic(s) and narrowing down possibilities to no more than two or three. Submit an annotated bibliography containing summaries and commentaries on a minimum of five sources (articles, books, reliable internet sources) that are highly relevant to your

topic, along with a list of all of the sources you have consulted so far. Ideally, your sources should be peer-reviewed journals, books from respected publishers, or government/reliable NGO data sources. When in doubt as to the quality of your resource, speak to me or a research librarian.

Conference 3 (Weeks of Oct. 12 & 26)

Write a short discussion of some controversies/unanswered questions that you see in the literature you are researching. You should begin making broad connections between sources to identify broad trends that you will be able to discuss in your paper. These will also lead the way to a good research question. At this point, you should have settled on a single topic for your paper.

Note that there are no conferences the week of fall study days.

Conference 4 (Weeks of Nov. 2 & 9)

Write a proposed abstract & outline of your paper, including your research question and your proposed methods for investigating that question.

Conference 5 (Weeks of Nov. 16 & 30)

Begin work on your introduction & literature review sections of the paper. Submit a draft of a few pages so that I can provide feedback on things like your tone, style, and citation practices.

Note that there are no conferences the week of Thanksgiving.

Conference 6 (Weeks of Dec. 7 & 14)

Submit a full literature review and introduction, along with a revised outline of your research methods section. I will send you feedback on your progress for the semester during winter break.

Conference 7 (Weeks of Jan. 25 & Feb. 1)

Finalize your methods section & submit it. Begin working with your theory/model/data.

Conference 8 (Weeks of Feb. 8 & 15)

We will have a detailed discussion of your initial results. I can suggest additional data or theoretical approaches you may wish to consider.

Conference 9 (Weeks of Feb. 22 & 29)

Submit an outline of the major results you wish to highlight and the conclusions you plan to draw from those.

Conference 10 (Weeks of March 7 & 28)

Submit a rough draft of your results section; revise other parts of the paper if necessary.

Conference 11 (Weeks of April 4 & 11)

Submit write-up of results section.

Conference 12 (Weeks of April 18 & 25)

Submit full draft of conference paper for review.

Conference 13 (Weeks of May 2 & May 9)

Debrief on research paper experience and future work in economics.