

New York City College of Technology  
Social Science Department

Prof. S. MacDonald

Econ 2505 Environmental Economics; sec. D-728

Spring 2015, Room M-301; Mon. 11:30 – 2:00 PM

Office: Namm 624; Hours: Mon and Wed 2:45 – 4:00 and by appointment

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**CATALOG DESCRIPTION:** This interdisciplinary course examines current environmental issues from a macroeconomic perspective, focusing on both the long and short-term economic viability of various proposals to address current environmental challenges. Traditional goals of economic efficiency will be examined in the context of the need to expand renewable energy sources, green design, sustainable construction and resource allocation and other efforts to combat climate change on a global scale.

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**COURSE PREREQUISITE:**

CUNY proficiency in reading and writing and either Econ 1101 or Econ 1401

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**RECOMMENDED TEXTBOOK and MATERIALS\***

**Required:** All required readings for the course will be provided. These will be posted on Open Lab weekly; You will be required to read the assigned posted articles, post responses to questions from the readings on Open Lab and be prepared to discuss in the following week's class.

**Other:** You will also be required to conduct independent field-based research for the semester research project; most places may charge from \$10.00 - \$20.00 for visits and tours. This will be the only expense to you for the course.

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**WEEKLY SEQUENCE OF TOPICS**

**Week 1: Course Introduction and Overview**

Interdisciplinary course; using Open Lab; blog; field-based research; semester research project and final presentation; Emerging Scholars project; Review course requirements; topic ideas on course Open Lab site.

**Discussion:** 1) Review key economic terms from Econ 1101/1401: Examine list of fundamental economic concepts and terms and work on definitions; exchange ideas about their meaning; summarize the meaning of these concepts.

2) How can these concepts be applied in the context of real world environmental problems? A look at the policy response to Superstorm Sandy in New York and how various economic concepts could inform the policy response

- Cost-benefit analysis
- Economic efficiency/allocative efficiency
- Marginal change; marginal utility; marginal benefit
- Equilibrium analysis
- Opportunity cost

- Economic rationality; individuals as rational decision makers seeking to maximize self-interest
- Externalities and market failure
- Scarcity
- Economic growth
- Allocative efficiency

3. Why is an understanding of these concepts important to the scholarly research you will conduct in the course and research project? How is your understanding of these key concepts important to your success in the course?

4. Discuss how an economist might **apply one or more of these concepts** to an understanding of the following issue: The environmental impact of Hurricane Sandy on New York's economy

Applying any of these economic concepts, **identify one question** you would ask in working toward a solution to the economic losses or environmental challenges in the wake of the storm. (Article provided); discussion

5. **Discussion of possible topics of interest for research project a) free-writing** on topics most interesting to you about the environment. **b) Identify two or three questions** you might ask of the topic(s) you are considering?

6. **By week 2: Decide on two top choices for the research project;** final topic choice by week 4; Continue review of theories re: Environmental Economics and the current debates about climate change

**Assigned reading for week 2:**

1) **Reading:** Robert D. Atkinson and Darrene Hackler. October 2010. "Economic Doctrines and Approaches to Climate Change Policy," The Information Technology and Innovation Foundation

2) **Comment on posted discussion questions on assigned reading on Open Lab** for next week. Prepare for discussion of these questions in class; discussion of how economic theory influences policy proposals.

**Week 2: Discussion of Atkinson and Hackler article/alternative theories/research project ideas**

1) **According to the authors, how have economists traditionally viewed environmental - ecological crises and how to address them?**

2) **How do the different economic theories discussed in the Atkinson article lead to different policy proposals to address environmental problems? What is 'innovation economics?'**

3) **In class reading and discussion of two short articles that pose different policies consistent with the neoclassical and neo-Keynesian views on addressing carbon emissions.** (Paul Krugman and Henry Paulson)

**Discussion: 1) What do these two economists propose and why? 2) What neoclassical (Paulson) or Keynesian (Krugman) economic assumptions are implicit in each? 3) How do their claims differ?**

- Henry M. Paulson, Jr. "The Coming Climate Crash." New York Times, June 22, 2014.
- Paul Krugman, "The Big Green Test: Conservatives and Climate Change." New York Times, June 22, 2014

#### 4) Discussion of Research Project and possible sites for field-based research

- **Discussion of top two choices for the research project**
- **Discuss how you plan to incorporate an interdisciplinary perspective into your research?** (i.e., the perspectives of disciplines other than Economics)? Which disciplinary perspectives do you believe would be most relevant for your topic? Identify two or three questions you might ask of the topic you are considering?

**Assigned readings for week 3:** 1) William R. Emmons, "Don't Expect Consumer Spending to be the Engine of Economic Growth in Once Was," *The Regional Economist*, Jan. 2012, Federal Reserve Bank of St. Louis); 2) World Economic Forum "Consumers: Changing the Terms of Engagement" (pgs. 13 – 21) in *The Consumption Dilemma: Leveraging Points for Accelerating Sustainable Growth*, April 2011; 3) Alternative measures of economic progress currently in use.

**Additional assignment for Week 3:** Write a one – two paragraph summary of the specific topic you want to focus your semester research project on.

#### **Week 3: The challenges to promoting a sustainable economy and economic 'growth' and renewable resources in a consumer driven market/capitalist economy**

- The consumer as central to the survival and thriving of market economies
- Moving from the 'disposable' society to the practice of renewability
- The problem with economic growth as conventionally viewed and measured
- **Film: "Consumed"** <https://www.youtube.com/watch?v=bOKI04TWVsU>  
Followed by discussion (discussion questions will be posted on Open Lab week prior).
- **Discuss/review final research topics; discuss plans for field research day for week 5**  
review/discuss formulation of research topic; review research methodologies; questionnaire development; documentation formats: notes, photo documentation, etc.; submit a one paragraph summary describing your research proposal on course blog on Open Lab

**Assigned readings for week 4:** *World Economic Forum, "Consumers: Changing the Terms of Engagement," from the Consumption Dilemma, World Economic Forum (pgs. 13-18)*

#### **Assignment for next class: Week 4**

- 1) **Comment on posted discussion questions on the reading on Open Lab**
- 2) **Review WEF article (pgs. 13 – 18) for guest lecture discussion next week.**
- 3) **Prepare a one paragraph summary describing your research proposal on course blog on Open Lab**

**Week 4:** Guest lecturer #1: Prof. Pa Her, Department of Social Science; Professor of Psychology; discussion of WEF article, “Consumers: Changing the Terms of Engagement,” (pgs. 13 – 18) followed by discussion

**1. Review guidelines for summaries of how your field research will help to inform your project: summaries should identify two or three key findings you observed as most interesting and significant; prepare questionnaires.**

**2. Choose site for your field- research, and prepare specific questions you want to discuss on the day of your visit. You will conduct your visit on your own time – any day/time when class is not in session. Field research should be completed by Week 7.**

**Some options to pursue on your own based on your research:**

- 1) Urban Grange Farm – Queens (Saturdays- 11: - 3:00 free; make reservation in advance)
- 2) Urban Grange Farm – Brooklyn Navy Yard (Wednesdays @ 10:00 and 11:00 AM/book online
- 2) A local neighborhood/community – survey of the environmental characteristics of the community
- 4) Building 92 at Brooklyn Navy Yard: **Option 1:** Wed through Sun 12:00 to 6:00 – free/self-guided tour of the building’s sustainable features and businesses; **Option 2:** Book a tour – join any public tour/book online with discount code (pending funding)
- 5) Visit a local hotel or restaurant involved in sustainable practices (sourcing locally produced foods; organic foods; other sustainable practices) – (list available)
- 6) Other of your choice

**Week 5 Assignment: Group field visit to Gowanus Canal Conservancy: meet at location at 11:30;**

- 1. Prepare specific questions you want to discuss/ask on the day of your visit.**
- 2. A one to two-paragraph summary of your field research and a preliminary annotated bibliography (3 sources) is due week 6.**
- 3. Review format for preparing an annotated bibliography**

**Week 5:** Tour of Gowanus Canal Conservancy on Wed. This will be a class tour; further information to follow. [Remember to bring questions; pictures]

**Assignment for week 6:**

**Reading:** Richard Welford & Bjarne Ytterhus (2004) Sustainable development and tourism destination management: A case study of the Lillehammer region, Norway, *International Journal of Sustainable Development & World Ecology*, 11:4, 410-422, DOI: 10.1080/13504500409469843

- 1) Read and be prepared to discuss pre-lecture questions posted on Open Lab prior to next class.**
- 2) Post your summaries; photos, etc. of findings from visit to GCC on Research site on Open Lab**
- 3) Post a brief summary that identifies three findings that were interesting or significant for you.**

**Week 6: 10/15 Sustainable Tourism**

**Guest lecturer #2: Prof. Susan Phillip - Department of Hospitality Management, Promoting sustainable tourism;** discussion of Welford and Ytterhus article and pre-lecture discussion questions.

## Turn in one-pg summary & annotated bibliography

**Assigned reading for week 7:** 1) Commission on Sustainable Agriculture and Climate Change. November 2011. "Achieving food security in the face of climate change." (See the following link for more reports and data: <http://ccaafs.cgiar.org/commission/reports>) 2) **Film 2: "Brooklyn Grange Farm": sustainable resource use of urban space and its benefits** (link to film on Open Lab) <http://www.growingagreenerworld.com/episode322/>

- Discussion: Can urban rooftop gardening become a model for sustainable food production in urban spaces?
  - What are the potential benefits to local communities? Local businesses?
- 1) Midterm review questions posted on Open Lab

### **Assignment for Week 7:**

- 1) Discuss research activities; exchange summaries and get feedback/suggestions; submit summaries.
- 2) Review preparation of an abstract for research project; working on literature review (secondary source material)
- 3) Prepare for discussion of reading

### **Week 7: Sustainable Agriculture and Natural Resource Use**

**Guest lecturer (#3) from or visit to Brooklyn Botanic Garden composting project**

**Assigned readings for week 8:** (To be assigned by guest lecturer)

### **Week 8: The ecology of local communities**

Recovering from resource loss; costs of pollution; renewal and rebuilding following environmental challenges of pollution and extreme weather events; developing urban green space; storm-water management

**Guest lecturer #4: Prof. Diana Myncithe; Prof. of Sociology, Department of Social Science – Food and sustainability/discussion**

Review for midterm exam

### **Week 9: Midterm Exam**

**Assigned readings for week 10:** 1) OECD Observer, Is GDP a satisfactory measure of growth? (2 pgs); 2) Jonathan Rowe & Judith Silverstein, The GDP Myth: Why "growth" isn't always a good thing, 2009; \*\*see posted questions on blog site for discussion in next week's class.

**Week 10: How is economic progress and growth measured? Are considerations of well-being important to the measurement of economic growth/progress?**

**Assigned readings for week 11: Read any two of the following for week 11: (posted on Open Lab)**

1) James Atlas, *Is This The End?* November 25, 2012. New York Times, Opinion; 2) Alan Feuer, *Building for the Next Big Storm: After Hurricane Sandy, New York Rebuilds for the Future*, Oct. 25, 2014, New York Times; 3) Stuart L. Hart, *Beyond Greening: Strategies for a Sustainable World*, Harvard Business

Review, Vestas, Jan – Feb 1997; 4) Bouton, Lindsay and Woutzel, *New Models for Sustainable Growth in Emerging-Market Cities*, McKinsey and Co., 2012; 5) Lyuba Zarsky, *Climate Resilient Industrial Development Paths: Design Principles and Alternative Models*, Global Development and Environment Institute, Working Paper No. 10 -01, Feb. 2010

**Week 11: 11/19: How have cities and nations begun to respond to the effects of climate change? How have cities prepared to protect their economies, population and infrastructure? Are these measures enough?**

**Discussion and in-class project; “The Big U”**

**Assigned reading for week 12: 11/19:** 1) Intergovernmental Panel on Climate Change, “Climate Change 2014: Impacts, Adaptation, and Vulnerability”; 2) Center for Integrative Environmental Research (CIER) at the University of Maryland. October 2007, “Executive Summary: The US Economic Impacts of Climate Change and the Costs of Inaction;” 3) Robert D. Bullard, *Differential Vulnerabilities: Environmental and Economic Inequality and Government Response to Unnatural Disasters*, *Social Research*, 75, 2008: 753-784

**Week 12: 11/26: The 2014 Global Climate Talks; Global Economic Impacts of Climate Change; What goals have the nations involved in the recent climate talks agreed to? What is the significance of the agreement reached between the U.S. and China in late 2014?**

Readings and discussion questions to prepare for in-class project posted on Open Lab

**Assigned readings for week 13: To be determined (posted on Open Lab)**

**Week 13: Economic Costs of Hydraulic Fracturing: How fracking threatens local economies; ecosystems; human health, animal and plant life; sustainable economic growth.**

**The Fracking debate/film/reading/class project/discussion**

<https://www.youtube.com/watch?v=6mp4ELXKv-w>

Assigned discussion questions and reading posted on Open Lab; please read and review before class.

**Final exam review**

**Week 14: 12/10: Final presentations; presentations focus on significance of findings; what was learned? Class discussion and questions.**

**Week 15: Final Exam 12/17**

**COURSE INTENDED LEARNING OUTCOMES/ASSESSMENT METHODS:** To develop an understanding of the fundamental concepts of environmental economics. Specifically, course objectives include the following:

<b>LEARNING OUTCOMES<sup>2</sup></b>	<b>ASSESSMENT METHODS</b>
1. Students in the course should be able to demonstrate an understanding of many dimensions of sustainability as they relate to the potential for renewed economic growth.	1. The midterm and final exams, which will include essay questions, will test students’ understanding of sustainability issues as they relate to economic practices and policy
2. Demonstrate a knowledge of the importance of	2. Class discussions of assigned articles and other

changing economic behavior – from consumers, to business practices to government – to build upon the move toward sustainable economic practices	supplementary readings in class and on course blog site on Open Lab.
3. Identify a range of tools from environmental economics that can be applied to solving real world environmental challenges that impact the U.S. economy.	3. Both the exams and class discussions will serve as tools to encourage students to make the connections between environmental goals and addressing economy-wide and global economic issues.
4. Develop a breadth and depth of knowledge of how to begin to apply the concepts of sustainability to consumer, business and trade practices.	4. Through the written research project and/or case study and final presentations, students will focus on a problem/issue, the challenges posed by that issue and critically examine various solutions.

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**GENERAL EDUCATION LEARNING OUTCOMES/ASSESSMENT METHODS**

<b><i>LEARNING OUTCOMES</i></b>	<b><i>ASSESSMENT METHODS</i></b>
<b>1. KNOWLEDGE:</b> To develop a understanding of the key concepts that relate to environmental economics, the central topics and theories of how to address environmental problems through economic policy.	1. Discussion of readings, material presented by guest lecturers and field visits that both test an understanding of basic concepts and that require students to express their understanding in writing (short essay quizzes)
<b>2. SKILLS:</b> Develop and apply the tools of environmental economics to be able to critically question, analyze, and discuss environmental economic problems and issues; Develop and strengthen the ability to discuss concepts and thoughts in writing.	2. Completion of essay questions on exams; class discussions of questions tied to topics covered in class and to supplemental short readings and articles on timely relevant issues; students analyze, evaluate and consider policy options
<b>3. INTEGRATION:</b> Apply the tools acquired in the course to be able to build upon an understanding of environmental issues and sustainability across disciplines, both in the social sciences and other disciplines.	3. Research project which requires students to select and define a topic, problem or issue and examine possible solutions drawing upon and employing the tools of related disciplines; Final in-class summaries of research; participation in Emerging Scholars poster session.
<b>4. VALUES, ETHICS, AND RELATIONSHIPS:</b> Develop an understanding of and ability to apply diverse perspectives to the understanding of sustainability/environmental economics; work creatively with others in group problem solving; develop a respect for diverse viewpoints and apply the skills and concepts covered in the course to the analysis of related issues and concepts across other disciplines	4. Weekly in-class group assignments; assignments encourage student discussion and sharing of ideas and perspectives; focused discussions that encourage students to question and think critically to develop their own perspectives on issues covered in the class .

From: Important General Education Learning Goals (6/1/11) DRAFT

SCOPE OF ASSIGNMENTS and other course requirements\*

Students in this course will be required to complete a written research project resulting in a final paper of approximately 5 pages. This may consist of a topic chosen from topics covered in the course or a case study tied to a particular topic in the student’s major course of study. Students will also be expected to participate in the Fall 2014 Poster Presentation, presenting their research project, or preliminary work (either individually or in teams). There will also be a midterm and final exam, both of which will place an emphasis on a written understanding of key concepts covered in the course and readings; class discussions of assigned readings –

students will be expected to be prepared to discuss assigned questions based on the readings. The course will be writing intensive.

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**METHOD OF GRADING – elements and weight of factors determining the students' grade\***

Midterm exam	20%
Two in-class group projects: Weeks # 11 & 12	20%
Final exam	25 %
Final presentation on semester research project	20 %
Participation in class discussions; entries on course blog on Open Lab; attendance	15%

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**GRADING POLICY:** calculated according to the college grade scale:

Letter Grade	Meaning of Letter Grade	Number Grade
A	Exceptional	100-93
A-	Superior	92.9-90
B+	Very good	89.9-87
B	Good	86.9-83
B-	Above Average	82.9-80
C+	Slightly Above Average	79.9-77
C	Average	76.9-70
D	Poor	69.9-60
F	Failure	59.9-0

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\*Scope of Assignments and Method of Grading to be determined at discretion of the instructor.

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#### ACADEMIC INTEGRITY POLICY STATEMENT

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

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#### COLLEGE POLICY ON ABSENCE/LATENESS

A student may be absent without penalty for 10% of the number of scheduled class meetings during the semester as follows:

<b>Class Meets</b>	<b>Allowable Absence**</b>
<b>1 time/week</b>	<b>2 classes</b>
2 times/week	3 classes
3 times/week	4 classes

\*\*Each department and program may specify in writing a different attendance policy for courses with laboratory, clinical or field work. If the department does not have a written attendance policy concerning courses with laboratory, clinical or field work, the College policy shall govern.



## Policies:

**\*\*NO TEXTING OR OTHER USE OF CELL PHONES WHILE CLASS IS IN SESSION\*\***

1. **Final exam:** There will be **no option to make up the final exam.**
2. **Assigned Posts on Open Lab must be completed in the Assigned time period to receive credit; Chapter readings must be completed prior to the next class.** In-class reviews are important to complete as part of the course. **These are 25% of final grade.**
3. **Class discussion and participation and posts/discussion on Open Lab constitutes 15 % of final grade**
4. **More than two absences will adversely affect your final grade.** If you must miss a class, please provide prior notification by email or in person. My email address and phone number are listed on the front of syllabus.
5. **Students must arrive on time for class and stay for the entire class; consistent lateness and leaving class early will negatively affect your final grade.**
6. **Texting, emailing and other use of cell phones is prohibited during class time; they must be turned off and put away while class is in session.**
7. **Phones may not be used during exams; calculators are permitted only.**
8. **There will be a 10 minute break halfway through each class.**

## **Bibliography:**

Charles D. Kolstad. *Environmental Economics*, 2<sup>nd</sup> ed. Oxford University Press, 2010

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Charles S. Pearson. *Economics and the Challenge of Global Warming*, Cambridge University Press

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E.F. Schumacher. *Small is Beautiful, 25<sup>th</sup> Anniversary Edition: Economics As If People Mattered: 25 Years Later (With Commentaries)*, Hartley and Marks Publishers, 2000

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Andres Edwards. *The Sustainability Revolution: Portrait of a Paradigm Shift*, New Society Publishers, 2005

Juliet Schor and Betsy Taylor, eds. *Sustainable Planet: Solutions for the Twenty-first Century*, Beacon Press, 2003

Tom Tietenberg, and Lynne Lewis. *Environmental Economics & Policy*, 6<sup>th</sup> ed., Prentice Hall, 2010

Cédric Afssa, Didier Blanchet, Vincent Marcus, Pierre-Alain Pionnier and Laurence Rioux (INSEE), and Marco Mira d'Ercole, Giulia Ranuzzi and Paul Schreyer (OECD). *SURVEY OF EXISTING APPROACHES TO MEASURING SOCIO-ECONOMIC PROGRESS*; Commission on the Measurement of Economic Performance and Social Progress.

Robert J. Bullard, ed. *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*, Sierra Club Books, 2005.