

Fall 2023: 8/28-12/11
Stony Brook University, Sustainability Studies
SUS 206 Economics and Sustainability

Instructor: Dana Golden email: Dana.golden@stonybrook.edu Phone 404-323-1692

Prerequisites: Eco 108

Lecture MW – 8:00 to 8:55 Room LIFE SCIENCE 054 WESTCAMPUS

Recitation F – 8:00 to 8:55 Room LIFE SCIENCE 054 WESTCAMPUS

Office Hours: M 9:00 – 11:00 or by appointment: Room: Social and Behavioral Sciences S630

Course Description

Introduction to the basic economic concepts used in sustainability analysis. Students will learn the basic concepts and how to apply them in various contexts. Topics include the analysis of situations in which the behavior of individuals indirectly affects the well-being of others, strategic behavior and the environment, and the use of market-oriented policies to help in the stewardship of the environment.

Course Topics

Economic efficiency cost /benefits analysis, market failure, environmental policy, Federal water, air and hazardous substance policy, State and local environmental issues, and international environmental agreements.

Course Learning Objectives

1. Understand the different connections between environmental quality issues and the economic behavior of individuals and groups.
2. Analyze the role of market failure and the results of inefficient resource allocation.
3. Critique methods used to evaluate the trade-offs, cost/ benefit, for individual and society from political decisions related to the evaluation and application of environmental policy.
4. Summarize economic theory and tools to organize predictions and provide evidence of how society values environmental issues, such as air, water and soil pollution. Conduct relevant hands-on inquiry and explore the economic, social, and political systems that have shaped societies and their environmental quality over time.
5. Interpret data and form an educated opinion on economic trade-offs society and individuals face in order to improve or maintain different levels of environmental quality.
6. Understand the major economic concepts and models that form the basis of knowledge in environmental economics.
7. Understand economic theory used to organize predictions and provides evidence of the effects of economic activity on environmental quality.
8. Skillfully interpret and form educated opinions on environmental quality issues.

Goals for course:

This course gives you the tools that you need to apply economic analysis to a wide variety of environmental problems. It provides students with an understanding of how human decisions and activities affect the environment, how human values and institutions shape our demands for improvement in the quality of that environment and, about how to design effective public policy to bring about these improvements. Each weekly class will consist of two hours of lecture and one hour recitation.

Course Materials

1. *Introduction to Sustainable Development*, Peter Rogers, Kazi F. Jalal , John A. Boyd Harvard Division of Continuing Education (2016) 978-0—07-802189-3.
2. *Environmental Economics An Introduction 7th ed*, Barry C. Field and Martha K. Field, McGraw-Hill (2013) 978-0-07-337576-2.

Class Resources

Other required readings and materials will be posted on Blackboard at <http://blackboard.stonybrook.edu/>
To access the web page in Blackboard you must be registered. To log into this website, you will need your blackboard user name/ password. If you have never used Stony Brook's Blackboard system: for help or more

information see: <http://www.sinc.sunysb.edu/helpdesk/docs/blackboard/bbstudent.php> For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site , you can also call: [631-632-9602](tel:631-632-9602) or e-mail: helpme@ic.sunysb.edu

Additional Readings [updated information from the IMF, CIA, EPA, BLS, The World Bank and varied other international and government organizations will be posted on BB with due dates].

EIA [US Energy Information Administration], 2010, International Energy Outlook.

EPA, 1999, Report to Congress: The Benefit and Costs of the clean Air Act; 1990-2010, EPA – 410-R-99-001.

EPA, 2009, Municipal Solid Waste Generation, Recycling and Disposal: Facts and Figures for 2008, EPA -530-F-009-021.

EPA, 2010, Analysis of the American Power Act of 2009 in the 111th Congress, HR 2454.

Gore, A., Blood, 2012, A Manifesto for Sustainable Capitalism and Community, Journal of Sustainability, V.5, NO.2.

IMF [International Monetary Fund], 2011, The World Economic Outlook: A Survey by the Staff of the International Monetary Fund.

Parry, I., 2004, Are Emission Permits Regressive? Journal of Environmental Economics and Management, V.47:364-387.

Yale Center for Environmental Law and Policy, 2020, Environmental Performance Index, <http://epi.yale.edu>

Student's Responsibility: Ensure you have entered a working email account in your Black Board account. Access your BB account and make sure that you have access to this class, send yourself a test email using the email option within BB. Adhere to deadlines for projects and other assignments. Seek help from instructor when problems arise.

Schedule: [subject to change]

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| Date | Topic | Field- chapters | Rogers- chapters |
|-------|---|-----------------|------------------|
| 8/28 | Introduction to Economic Thinking | 1 | |
| 8/30 | Economy and the environment | 2 | |
| 9/1 | Quiz 1 | | 1 |
| 9/6 | Sustainable development | 1 -2 | 2 |
| 9/8 | Analytic Tools/ economic efficiency Quiz 2 First Homework Due | 3, | |
| 9/11 | Economic efficiency | 4 | |
| 9/13 | Global environmental issues | | 2 |
| 9/15 | Quiz 3 | 3,4 | 2 |
| 9/18 | Environmental quality | 5 | |
| 9/20 | Framework for Analysis | 6 | |
| 9/22 | Quiz 4 Second Homework Due | | 3 |
| 9/25 | Excel Practice | | |
| 9/27 | Benefit-cost: costs | 8 | |
| 9/29 | Quiz 5 | | 4 |
| 10/2 | Benefit-cost: benefits | 7,8 | 4 |
| 10/4 | Evaluation criteria | 9 | |
| 10/6 | Quiz 6 Third Homework Due | 10 | |
| 10/11 | Sustainable indicators | | 5 |
| 10/13 | Rstudio Demonstration | | |
| 10/16 | Decentralized Environmental Policies | 1-10 | 1-5 |
| 10/18 | Command and control strategy | 11 | |
| 10/20 | Finding Data Activity Fourth Homework Due | 12 | |
| 10/23 | Incentive based strategy | | |

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| 10/25 | Environmental management | 11-12 | |
| 10/27 | Data Visualization Activity | 13 | |
| 10/30 | Tentative date for guest speaker 1 | | 6 |
| 11/1 | Forecasting: The balance Sheet 2 | 13 | 6 |
| 11/3 | Interagency Commodities Estimates Committee Fifth Homework Due | | |
| 11/6 | Electricity Markets 1 | | |
| 11/8 | Electricity Markets 2 | | |
| 11/10 | Electricity Markets Simulation Preparation | | |
| 11/13 | Tentative date for guest Speaker 2 | | |
| 11/15 | Energy Policy 1 | | |
| 11/17 | Electricity Market Simulation Sixth and final homework due | | |
| 11/20 | Energy Policy 2 | | |
| 11/27 | Game Theory and Sustainability | | |
| 11/29 | Game Theory and Sustainability | | |
| 12/1 | Optimal Poker | | |
| 12/4 | Final Project Presentations | | |
| 12/5 | Final Project Presentations | | |
| 12/8 | Final Project Presentations | | |
| Final Date | If needed Final Project presentations Final project deliverable due at final time | | |
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Grading:

Recitation Group Projects 20
Homework 25
Quiz average 30
Final project 25

A A- B+ B B- C+ C C- D+ D

Basis for grading: 100-95 94-91 90 – 88 87 – 84 83-81 80-78 77-74 73-71 70-68 67-60
Below F

STONY BROOK UNIVERSITY DSS SYLLABUS STATEMENT:

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or <http://studentaffairs.stonybrook.edu/dss/>. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: <http://www.stonybrook.edu/ehs/fire/disabilities/asp>.

ACADEMIC INTEGRITY STATEMENT:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at: <http://naples.cc.sunysb.edu/CAS/ajc.nsf>.

Academic Dishonesty Policy: Academic dishonesty is a serious offense and a breach of academic integrity that may result in failure of the course or failure for the individual paper or assignment. The “Code of Student Conduct” states that all forms of academic dishonesty, including the following are prohibited (see student handbook):

- Plagiarism – the intentional use of ideas or words of another as one’s own paper or other academic assignments. If you are unsure of what constitutes Plagiarism visit this document <http://www.wpacouncil.org/positions/WPAplagiarism.pdf> or ask the instructor.
- Cheating during examinations, whether by copying from a fellow student or by using information in the form of unauthorized aids brought to the examination.
- The submission of work for any assignment that has been prepared by another student.

CELL PHONE AND ELECTRONIC DEVICE STATEMENT:

During regular class sessions, cell phones must be either in ‘vibrate mode’ or turned off. Calls cannot be answered. Text messaging is not allowed during class. Cell phones must be **turned off** and **enclosed** in a case, book bag, briefcase, or the like during tests and exams. YOU are responsible for ensuring this policy is followed. Students MAY NOT have cell phones, electronic dictionaries, calculators, pagers or other “information rich” devices (anything that can receive and/or store many pages of text) in their possession during tests and exams.

CRITICAL INCIDENT MANAGEMENT:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

Classroom Policy: Students are expected to follow the Stony Brook Code of Conduct while in the classroom. If you are not familiar with the Code you can find it at:

http://studentaffairs.stonybrook.edu/sites/handbook/Code_1-22-03.pdf

Behavior that is disruptive to the function of the class, other students, or the instructor will not be tolerated. Poor class behavior or violations to the Code of Conduct will lead to removal from the class, possible withdrawal, or suspension.