NEW YORK CITY COLLEGE OF TECHNOLOGY
The City University of New York School of Arts & Sciences
Department of Social Science Course Outline

Course code: ECON 2505
Course title: Environmental Economics
Class hours/credits: 3 class hours, 3 credits
Prerequisite: ECON 1101 or ECON 1401
Pathways: World Cultures and Global Issues

CATALOG DESCRIPTION: This 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.

RECOMMENDED TEXTBOOK and MATERIALS*
A course pack of readings for this course is available from the bookstore. This contains a selection of book chapters, journal articles and readings from other sources including newspapers and other periodicals.
* *The textbook/materials used in a particular section will be chosen by the instructor.*

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

LEARNING OUTCOMES	ASSESSMENT METHODS
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 changing economic behavior – from consumers, to business practices to government – to build upon the move toward sustainable economic practices	2.Class discussions of assigned articles and other supplementary readings.
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 quizzes, 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, students will focus on a problem/issue, the challenges posed by that issue and critically examine various solutions.

WORLD CULTURES AND GLOBAL ISSUES PATHWAYS LEARNING OUTCOMES

1.	Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring world cultures or global issues, including, but not limited to, anthropology, communications, cultural studies, economics, ethnic studies, foreign languages (building upon previous language acquisition), geography, history, political science, sociology, and world literature.
2.	Analyze culture, globalization, or global cultural diversity, and describe an event or process from more than one point of view.
3.	Analyze the significance of one or more major movements that have shaped the world's societies.

GENERAL EDUCATION LEARNING OUTCOMES/ASSESSMENT METHODS

LEARNING OUTCOMES	ASSESSMENT METHODS
1. KNOWLEDGE: 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. Quizzes that both test an understanding of basic concepts and that require students to express their understanding in writing (short essay quizzes)
2. SKILLS: 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
3. INTEGRATION: 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.
4. VALUES, ETHICS, AND RELATIONSHIPS**:** To develop an understanding of the fundamental concepts of environmental economics. Specifically, course objectives include the following: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.

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. 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; Two quizzes consisting of a choice of one or two essay questions; 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.

Midterm exam	25%
Research project	25%
Final exam	25 %
Quizzes	10 %
Class reviews and discussion of assigned articles; participation; attendance	15%

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

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

CITYTECH GRADE POINTS:

A	93-100	B	83-86.9	D	60-69.9
A-	90-92.9	B-	80-82.9	F	59.9 below
B+	87-89.9	C+	77-79.9	WU	Unofficial Withdrawal

ATTENDANCE POLICY

It is the conviction of the Department of Social Science that a student who is not in a class for any reason is not receiving the benefit of the education being provided. Missed class time includes not just absences but also latenesses, early departures, and time outside the classroom taken by students during class meeting periods. Missed time impacts any portion of the final grade overtly allocated to participation and/or any grades awarded for activities that relate to presence in class.

Instructors may including a reasonable "Participation" grade into their final grade calculations for this course.

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 infrac-

tions 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.

STUDENT ACCESSIBILITY

City Tech is committed to supporting the educational goals of enrolled students with disabilities in the areas of enrollment, academic advisement, tutoring, assistive technologies, and testing accommodations. If you have or think you may have a disability, you may be eligible for reasonable accommodations or academic adjustments as provided under applicable federal, state, and/or city laws. You may also request services for temporary conditions or medical issues under certain circumstances. If you have questions about your eligibility and/or would like to seek accommodation services and/or academic adjustments, please email the Student Accessibility Center.

COMMITMENT TO STUDENT DIVERSITY

The Department of Social Science complies with the college wide nondiscrimination policy and seek to foster a safe and inclusive learning environment that celebrates diversity in its many forms and enhances our students' ability to be informed, global citizens. Through our example, we demonstrate an appreciation of the rich diversity of world cultures and the unique forms of expression that make us human.

WEEKLY SEQUENCE OF TOPICS*

Week 1: Overview of Environmental Economics and the current debates about climate change
Assigned readings: Pearson, *Introduction and Road Map*, pgs. 1 – 8; Ch. 1: *Climate Change: Background Information*, pgs. 9 – 18.

Week 2: How do economists view environmental/ecological crises and how to address them? A mainstream vs. a critical view

- Environmental costs as "externalities" and a reflection of market failure (traditional economic theory)
- the conflict between more vs. less government regulation of industry practices
- the view of increased regulation as a constraint on economic growth and progress vs. regulation aimed at protection of vital natural resources and sustainable economic growth.

Assigned readings: Pearson, Ch 2: *The Role of Benefit Costs in Climate Policy*, pgs. 19 – 40; Ch 6: *Targets and Tools* (pgs. 131-141 *Market Incentives vs. Regulation*)*;* Daly, ch. 2 *Elements of Environmental Macroeconomics.*

Week 3: The challenges to promoting sustainable 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 concept of renewability

Assigned readings: 1) article: 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) Consumers: Changing the Terms of Engagement, *in The Consumption Dilemma: Leveraging Points for Accelerating Sustainable Growth,* World Economic Forum, April 2011; 3) Daly, ch. 1, *Moving to a Steady State Economy*, pgs. 31 - 45.

Week 4: The global economic impact of emerging market economies

- Global demand for food, automobiles and other consumer goods promotes increased world demand for fossil fuels
- Rapid Industrialization and challenges to clean air, water, land.
- Unplanned economic growth and urbanization in rapidly expanding new market economies poses challenges to slowing climate change
- How are emerging economies adapting industry practices to support renewable resources?

Assigned readings: 1) Stuart L. Hart, *Beyond Greening: Strategies for a Sustainable World*, *Harvard Business Review,* Vestas, Jan – Feb 1997; 2) Bouton, Lindsay and Woutzel, *New Models for Sustainable Growth in Emerging-Market Cities,* McKinsey and Co., 2012; 3) 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 5: Sustainable land use; renewable agricultural practices and fair labor standards with agricultural trading partners

- Supporting sustainable farming practices and the preservation of vital natural resources in developing and emerging economies
- Providing economic incentives for farmers, growers to preserve land as an alternative to turning land over to unsustainable development
- Sustainable and humane practices in food production: raising, processing, etc. of beef, chicken, sustainable aquaculture
- What are the macroeconomic benefits?

Assigned readings: 1) study – Chapter II: *Understanding the current food system in the context of climate change — major components and drivers*; and 2) Chapter IV: *Essential actions for food security and climate stabilization in Achieving Food Security in the Face of Climate Change,* Commission on Sustainable Agriculture and Climate Change, 2012, http://ccafs.cgiar.org/commission/reports

Week 6: Uneven global economic development and the challenges to developing and encouraging renewable resource and conservation practices

- The limits to unsustainable global economic growth; encouraging renewable growth

Assigned readings: Pearson, ch. 5 *Strategic Responses*; Daly, ch. 7 *Operationalizing Sustainable Development by Investing in Natural Capital.*

Week 7: Alternatives to the current GDP for measuring economic growth and progress; the need for a "green GDP."

- Why a "green GDP?"
- A critical look at how economic growth and progress is currently measured in the U.S.
- Measurement proposals in use or under consideration in other advanced and developing nations
- Why does method of measurement of economic progress matter?

Assigned readings: Daly, Ch. 8 *Toward a Measure of Sustainable Net National Product*, and ch. 9 *On Sustainable Development and National Accounts*.

Week 8: <u>Midterm Exam</u>

Week 9: Examples of where investment in renewable energy and economic practices is generating measurable benefits in the U.S. economy

- Examine current examples across markets in the U.S. and in emerging economies
- Commercial, industrial and residential practices
- Wind, solar, and other alternative energy sources – how much have these grown as a share of the energy economy?

Assigned readings: 1) *Annual Energy Outlook 2011*, The Paul H. Nitze School of Advanced International Studies, Washington December 16, 2010; 2) *The Coming Energy Revolution*, People and Planet. www.peapleandplanet.net

Week 10: The Growth of Green Building Design, Construction, Engineering and Architecture

- Measuring cost and resource savings from air purification and recycling; water (non- drinking) recycling; energy efficient windows in residential and commercial buildings
- Renewable energy sources: solar, wind.
- Look at case studies; examples
- Examples from emerging and developing economies
- Economic impact of green practices

Assigned readings: 1) U.S. Green Building Council, *Green Jobs Study*, Booz, Allen, Hamilton; *2)* Union of Concerned Scientists, *Benefits of Renewable Energy Use, 1999.*

Week 11: How to promote and expand upon sustainable growth practices?

- Should government promote commercial, industrial and residential use of alternative energy sources and renewable building practices and materials use?
- What forms might such incentives take? Tax credits? Direct subsidies? Other methods?
- How would the growth of sustainable economic practices by business, con-

sumers, builders, etc. contribute to the renewal of the U.S. economy?

Assigned reading: 1) Pearson, ch 6 *Targets and Tools*, pgs. 129 – 140; 2) *Warwick J. McKibbin and Peter J. Wilcoxen, A Credible Foundation for Long Term International Cooperation on Climate Change, CENTRE FOR APPLIED MACROECONOMIC ANALYSIS, CAMA Working Paper 15/2006,* http://cama.anu.edu.au

Week 12: Economic and human costs of global climate change

- Loss of farmland
- Droughts/floods/ changes in climate patterns threaten sustainable world food supply
- How do unsustainable farming practices contribute to the loss/degradation of vital natural resources

Assigned readings: 1) Richard S.J. Tol, *Estimates of the Damage Costs of Climate Change. Part I: Benchmark Estimates, 2002* 2) Center for Integrative Environmental Research, *The U.S. Economic Impacts of Climate Change and the Costs of Inaction,* October 2007; 3) New York Times, Opinion, *Is This The End?* November 25, 2012

Week 13: Environmental, economic and social justice
Assigned Readings: 1) Robert D. Bullard, *Differential Vulnerabilities: Environmental and Economic Inequality and Government Response to Unnatural Disasters, Social Research, 75, 2008: 753-784.* 2*)* Donald D. Stull, *Activism, Poultry Production, and Environmental Justice in Western Kentucky,* Sustain, Spring/Summer 2004, #10

Week 14: Fair trade vs. free trade; why do "fair trade" practices promote renewable resources as opposed to free trade?
Assigned reading: 1) Pearson, ch. *7 Trade and Global Warming;* 2) Daly, ch.10 *Free Trade and Globalization vs. Environment and Community;* and ch 11, *From Adjustment to Sustainable Development: The Obstacle of Free Trade*.

Week 15: Final Exam

**guidelines from which instructors may select or adapt*

Reviewed/revised by Sean MacDonald, Ph.D., Fall 2016
Revised by Peter Parides in Spring 2021