Econ 103: Economic Perspectives on Environmental Problems
Course Narrative

In this course students will learn how the way we view the environment has changed and will learn different ways to evaluate policies for environmental protection. In analyzing the effects of a policy, both the economic efficiency and the equity (fairness or distributional) aspects will be examined. Both the study of economics and the study of environmental problems lend themselves to an analysis of ethics and social responsibility issues. For example, in conducting benefit-cost analysis to evaluate an air pollution reduction policy, how should the value of lives saved be incorporated into the analysis? The placing of a monetary value on human life is controversial -- but saving lives may be an important impact of the policy change.

This topic also lends itself easily to both experiential learning and community engagement components. As in the upper-level Environmental Economics course, and in my Econ 100 classes, I plan to incorporate experiential learning through field trips, in-class activities (including economics experiments), co-curricular activities, homework, and a group project. The group project involves examining the contribution of ISU to global climate change and coming up with recommendations to reduce the ISU carbon footprint.

Currently an upper-level Environmental Economics course is taught which has a prerequisite of Economics 201. Therefore, most students in the course are Economics majors or minors. At the same time, students outside of economics have expressed an interest in learning about environmental economics, but have not been able to take this course. Therefore, an introductory level course in environmental economics would fill a need at this university, particularly for students interested in environmental sciences or environmental studies.

Students in this class will learn how environmental economists approach environmental problems and solutions. They will learn why economic activity creates pollution as a by-product, and why most economists would not predict that markets on their own would eliminate environmental quality problems. In addition, students will examine their own values and beliefs, and understand their own contributions to both environmental problems and solutions. Through homework assignments, current events discussions, speakers, field trips, and in-class economic experiments students will be encouraged to actively explore various environmental issues. Students will engage in problem-solving activities that will involve learning about the tools that environmental economists use to evaluate environmental policy.

Econ 103: Economic Perspectives on Environmental Problems

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Course Description:

This course will examine the relationship between economics and environmental problems. We will learn about interaction between the economy and the environment, as well as how economic analysis can be used to help solve environmental problems. Economic analysis of environmental issues has both an economic efficiency and equity (fairness) dimension. In addition to learning how to analyze problems from an economic perspective, students will learn about the ethical rationale for the economic analysis. We will examine U.S. environmental policies in a historical context. We will contrast the strategies needed to tackle environmental problems at the local versus the global level. Pollution control may require international cooperation, for example, in order to prevent global climate change or further harm to the ozone layer. On the other hand, the harmful effects of some pollutants, such as contamination of drinking water in one area, may be local or regional, and thus require local, regional, or national action. We will explore issues such as the successes and failures of international environmental agreements, environmental policy at different levels of government, the tensions between economic development and pollution prevention, environmental justice, the economics of pollution, and global attitudes towards environmental quality.

Do firms have the right to pollute? Do people have the right to clean air and water? Should your right to clean air and water depend on where you live or how much money you have? How do we consider future generations when we make choices about the environment and resource use today? In this course students will examine their own values and behaviors as related to environmental problems. Nationwide, university and college campuses are making changes to reduce their negative impact on the environment and to become more environmentally sustainable. In this course, students will learn about the different ways that we impact the world around us, both on the local as well as the global level. Considerations of both ethics and social responsibility are an integral part of this examination of environmental problems. Students will examine issues of ethics and social responsibility as applied to both creating and solving environmental problems. Personal responsibility, the foundations of our ethical decision-making, and concern about impacts on society will be examined as they apply to particular environmental problems.

In the group project for this course, students will take an active part in this "greening" of academia through developing plans for the Indiana State University (ISU) campus to become more environmentally sustainable. Students will learn about the ways that ISU already has changed to reduce negative environmental impacts. This will include visiting the ISU recycling center and the ISU power plant. Students will investigate initiatives at other campuses nationwide and explore potential ways that ISU can continue to become a "greener" university. Through homework assignments, current events discussions, speakers, field trips, and in-class economic experiments students will be encouraged to actively explore various environmental issues. Students will engage in problem-solving activities that will involve learning about the tools that environmental economists use to evaluate environmental policy.

Course Goals and Objectives:

In this course I expect students to:

- develop their abilities to clearly articulate different perspectives on environmental issues both orally and in writing
- understand differences in environmental and natural resource policies needed to achieve local, regional, national, and international goals
- understand when government intervention or community action is necessary in order to address environmental or natural resource problems
- learn how economic analysis can contribute to solving environmental problems
- learn how to examine environmental problems from an economic perspective
- learn about various perspectives on environmental ethics
- understand the ethics underlying economic analysis of the environment
- learn about the distributional effects of environmental problems and solutions
- understand how individuals contribute to both creating and solving environmental problems

This course serves as an Ethics and Social Responsibility Foundational Studies 2010 course and as such must meet certain objectives. The learning objectives for Ethics and Social Responsibility (E&SRLO) are:

1. Understand the historical and philosophical bases of ethical decision-making and social responsibility;
2. Use independent thinking, critical analysis, and reasoned inquiry when assessing personal, professional, and societal issues;
3. Demonstrate the ability to make personal and professional decisions by applying knowledge and skills obtained from the study of ethics and theories of social responsibility; and
4. Articulate how one's ethical framework and understanding of social responsibility shape one's actions.

In addition, because this course is part of the larger Foundational Studies Program, it is important to place its goals within the context of the program's goals (the highlighted goals will be emphasized in this course). By the conclusion of your Foundational Studies Program at ISU, you will be able to (FSLO)

1. **Locate, critically read, and evaluate information to solve problems;**
2. **Critically evaluate the ideas of others;**
3. **Apply knowledge and skills within and across the fundamental ways of knowing (natural sciences, social and behavioral sciences, arts and humanities, mathematics and history);**
4. Demonstrate an appreciation of human expression through literature and fine and performing arts;
5. **Demonstrate the skills for effective citizenship and stewardship;**
6. Demonstrate an understanding of diverse cultures within and across societies;
7. **Demonstrate the skills to place their current and local experience in a global, cultural, and historical context;**
8. **Demonstrate an understanding of the ethical implications of decisions and actions**
9. Apply principles of physical and emotional health to wellness;
10. **Express (yourself) effectively, professionally, and persuasively both orally and in writing.**

The Foundational Studies program is also designed to build skills for applied learning. The Skill and Applied Learning Objectives (S&ALO) require that this course

1. Explicitly demonstrate how the curriculum will develop critical thinking skills

Midterm Exam	20%
Final Exam	25%

Note: All students are expected to adhere to the Code of Student Conduct. Academic dishonesty in any portion of the academic work in this course, including plagiarism, shall be grounds for awarding a grade of F for the work or the entire course.

Homework (15%)

Homework assignments will take a variety of forms. At times you will turn in short written assignments on a specific article, event, or field trip. Homework may also include short projects, such as interviewing other students about specific environmental issues or evaluating the environmental impact of your daily life. Assignments may also include brief written reflections on the readings. These assignments are designed to evaluate students on the various S&LO and E&SRLO of the course. [See sample homework questions in Appendix A.]

Group Project (15%)

The group project will involve examining the impact of the ISU campus on the environment, coming up with a plan to reduce the impact of the ISU campus on the environment, and beginning to implement the plan. This group project is an opportunity for both experiential learning and community engagement, which will demonstrate an understanding of the ethical implications of decisions and actions and help develop the skills for effective citizenship and stewardship. This project will require coordination among the groups, coordination with appropriate persons at the university and outside of the university. For example, if a group were to focus on reducing the pollution associated with electricity use, students might examine ways to reduce electricity use, speak with representatives from the electric company, find out what other universities and colleges have done, find out what is currently being done at ISU, etc. The final outcome of the group project will be a report which will be shared with the class in written form and through an oral presentation.

Integrative Essay (15%)

Your essay will link a current environmental topic to your own experiences and life. You are expected to utilize **current** news articles from the *Wall Street Journal* and *The New York Times*. The first step in completing your essay will involve selecting your topic and finding articles on the topic. The topic and preliminary bibliography will be submitted fairly early in the semester. This step is required and the topics must be approved by the instructor. You will also work on the personal experience reflection during class time and submit this early in the semester. Your essay should be 3-4 double-spaced, word-processed pages. The articles that you refer to should all be in the list of references on an additional page at the end of the essay, as well as cited correctly throughout the essay text. MLA citation style should be used. Essays will be evaluated for appropriate economic analysis, analysis of the ethical and social justice components involved, comparisons of different articles about the topic, comparisons relating current environmental topics with your own experiences, coherent writing, and thoroughness of references. You will participate in a peer review of your essay. Your thoroughness as a peer reviewer will also be graded. If you do not participate in the peer-review process with your draft essay you will lose 10 percentage points off of your essay grade. You will revise your essay and turn in both the peer-reviewed draft and your final copy. In addition to turning in a hard copy of your essay in class, you must also submit your essay through the course Blackboard site.

Participation (5%)
The participation grade will be composed of the following:

* Participating in the inBclass activities, experiments, discussions and debates
* Participation in field trips (examples would be Terre Haute municipal sewage treatment plant, Wabash Valley Generating Station, ISU Recycling center, or ISU Central Heating Plant)
* Attendance for speakers
* Attendance for films
* Participation in Earth Day activities

Some of the participation components will also have written assignments both before and after the actual experience. **[Note: Instructor has experience with incorporation of these types of field trips, speakers, and experiments from teaching Econ 303: Environmental Economics and Econ 100: Basic Economics.]**

Co-curricular activities (5%)

Co-curricular activities will be announced in class or announced through the course Blackboard site. You will need to participate in **FIVE** co-curricular activities during the semester (outside of class time), one in each of five different categories. The categories are: 1) Bus riding, 2) Earth Day Activities, 3) Environmentally-related Volunteer Activity, 4) Attend a presentation/speech/meeting on campus, 5) Attend a public meeting off-campus. To receive credit you will describe your participation and answer questions on Blackboard.

"The Sycamore Standard"
Indiana State University

Students at Indiana State University are expected to accept certain personal responsibilities that constitute the "standard" for behavior in a community of scholars.

As a student at Indiana State University:

> I will practice personal and academic integrity; I will commit my energies to the pursuit of truth, learning, and scholarship; I will foster an environment conducive to the personal and academic accomplishment of all students; I will avoid activities that promote bigotry or intolerance; I will choose associations and define my relationships with others based on respect for individual rights and human dignity; I will conduct my life as a student in a manner that brings honor to me and to the University Community; I will discourage actions or behaviors by others that are contrary to these standards.

Adopted by the Indiana State University Student Government Association April 17, 2002

Policy on Academic Integrity

"Indiana State University requires that all students read and support the **Policy on Academic Integrity.** Academic Integrity is a core value of our community of learners. Every member of the academic community (students, faculty, and staff) is expected to maintain high standards of integrity in all facets of work and study. The **Policy on Academic Integrity** describes appropriate academic conduct in research, writing, assessment, and ethics. The policy is found in the **Code of Student Conduct** and on the web at http://www.indstate.edu/academicintegrity/studentguide.pdf

AMERICAN WITH DISABILITES ACT STATEMENT

"Indiana State University seeks to provide effective services and accommodation for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, you are required to register with Disability Support Services at the beginning of the semester. Contact the Director of Student Support Services. The telephone number is 237-2301 and the office is located in Gillum Hall, Room 202A. The Director will ensure that you receive all the additional help that Indiana State offers. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classrooms."

Laptop Usage

While there will be no assignments or examinations for which the laptop will be used (in class), your use of a laptop is generally permitted as long as such usage remains within the bounds of the Code of Student Conduct and it conforms to the provisions of its use as laid out in this syllabus. There may be occasions where laptop usage is forbidden and if that occurs, failure to comply with this direction will be viewed as a violation of the Code of Student Conduct.

Academic Freedom

Teachers are entitled to freedom in the classroom in discussing their subject, but they should be careful not to introduce into their teaching controversial matter which has no relation to their subject.

The preceding comes from the American Association of University Professors statement on academic freedom. Though the entire statement[1] speaks to many issues, it is this portion on the conduct of the

[1] **http://www.aaup.org/AAUP/pubsres/policydocs/contents/1940statement.htm**

Risk and Risk Assessment
Field & Field, Ch. 6 Frameworks of Analysis
Field & Field, Ch. 7 Benefit-Cost Analysis: Benefits
Field & Field, Ch. 8 Benefit-Cost Analysis: Costs
Percival and Alevizatos, p. 338, William D. Ruckelshaus, "Risk in a Free Society" (1984)

Mar. 22-26

Cost-Benefit analysis and Risk: Ethical Considerations and Controversies
Ch. 14 Cost-Benefit Analysis and Environmental Policy in Schmidtz, David and Elizabeth Willott. 2002. *Environmental Ethics: What Really Matters, What Really Works*. Oxford: Oxford University Press.

Mar. 29-Apr. 2

Gross Domestic Product (GDP), Economic Growth, and the Environment
Globalization, Trade and the Environment/ Jobs vs. Environment?
Field & Field, Ch. 19, Economic Development and the Environment
Guell, Robert C. Ch. 6 (sections on GDP) in *Issues in Economics Today* **5th ed.** McGraw-Hill Irwin, 2010
Ch. 9 and 10 in *Flashpoints in Environmental Policymaking*, edited by Sheldon Kamieniecki, George A. Gonzalez and Robert O. Vos, Albany, New York: State University of New York Press, 1997. (Articles are: "Trade Liberalization and the Natural Environment: Conflict or Opportunity" by Juliann Allison and "International Trade and Sustainable Development" by David Goodman and Richard B. Howarth).

Apr. 5-9

Global environmental problems, Global Climate Change, international agreements
Field & Field, Ch. 20 The Global Environment
Field & Field, Ch. 21 International Environmental Agreements

Apr. 12-16

The role of Environmental Activism
"Friends of the Earth and Political Internationalism," in *Environmental Activism and World Civic Politics*, by Paul Wapner, Albany, New York: State University of New York Press, 1996.
"In Defense of Banner Hangers: The Dark Green Politics of Greenpeace," by Paul Wapner in *Ecological Resistance Movements: The Global Emergence of Radical and Popular Environmentalism*, edited by Bron Raymond Taylor, Albany, New York: State University of New York Press, 1995.

Apr. 19-23

Group Project Presentations
Climate Change, Sustainability, and Campus "Carbon Footprints"
Shabecoff, Philip, excerpt from *A Fierce Green Fire* (1993) in Percival and Alevizatos, p.166-168.

Earth Day Activities

Apr. 26-30

Recap and Review; Update of Current Events Analysis on the various issues studied during term

May 3-7 Final Exam Week

Course Goal	E&SRLO	S&ALO	FSLO
Develop ability to clearly articulate different perspectives on environmental issues both orally and in writing	2	1,3,4	2,3,5,10
Understand differences in environmental and natural resource policies needed to achieve local, regional, national, and international goals	2	4	7
Understand when government intervention or community action is necessary in order to address environmental or natural resource problems	2	4,6	1,3
Learn how economic analysis can contribute to solving environmental problems	2	6	3
Learn how to examine environmental problems from an economic perspective	2	6	3
Learn about various perspectives on environmental ethics	1,3	7	8
Understand the ethics underlying economic analysis of the environment	1,4	1	3,8
Learn about the distributional effects of environmental problems and solutions	1,2	4	3,7,8
Understand how individuals contribute to both creating and solving environmental problems	2,3,4	4,6	5,7

Assessment of Student Learning	E&SRLO	S&ALO	FSLO
Homework	1,2,4	1,4,6,7	1,2,3,7,8,10
Group Project	2,3	2,3,4,5,6,7	1,2,3,5,8,10
Integrative Essay	2,4	2,3,7	1,2,3,10
Participation	2	1,4,5	2,3,5,8,10
Co-curricular activities	3,4	4,5	3,5,8
Midterm and Final Exams	1,2	6	2,3,7,8,10

Course Topics	E&SRLO	S&ALO
Environmental Issues Overview; Economics and the Environment	2	1
Introduction to Ethical and Social Responsibility issues in Environmental Economics	1,4	1,4,6,7
Tools of Economic Analysis of Environmental Issues	2	1,6
Environmental Policy Analysis Coase Theorem Cap-and-Trade Programs Command and Control Incentive Based Strategies	1,2,4	1,4,5,6,7
History of Federal Water and Air Pollution Control Policy	1	6
Hazardous substances Environmental Justice	1,2,3,4	1,4,6,7
State and Local Environmental Issues	2,4	1,4,5,6
Benefit-Cost Analysis Present Value Discount Rates Monetary values for costs and benefits Risk and Risk Assessment	1,2,3,4	1,4,6,7
Gross Domestic Product (GDP), Economic Growth and the Environment	1,2	1,4,6
Globalization, Trade and the Environment	2,4	1,4,6
Global environmental problems Global climate change International environmental agreements	1,2	1,4
The role of environmental activism	4	1,4,6
Climate change, sustainability, and campus "carbon footprints"	1,2,3,4	1,4,5,6,7

Appendix A. Sample Homework Problems

1. The following websites have surveys that were used to find out about the benefits of reducing global warming. Both surveys have been completed, but are available to view online. Please go through these surveys and then write a brief paragraph on each discussing their approaches to measuring the benefits of reducing global warming.
   http://globalpolicysurvey.ucla.edu
   http://faculty.berea.edu/steeles/newclimatewtp50.htm

2. At either Baesler's or Kroger's or Walmart or the downtown Farmer's market, compare prices for organic and conventional versions of the following products: Chicken, Milk, Eggs, and Coffee. If there are more categories, note those as well (for example free range but not organic with poultry or eggs and shade-grown as well as organic for coffee). Discuss what consumer willingness to pay higher (if they are higher...) prices for organic goods might say about demand for environmental quality. Discuss and explain whether the benefits from buying organic food would generally be public or private benefits (or both).

3. Suppose you were hired to determine the benefits of improving water quality the Wabash River. Describe the approaches you could take to valuing the benefits. What are the advantages and drawbacks to these different approaches?

4. Indiana State University has a policy which only allows smoking in certain areas of campus. Illustrate this policy with a graph with the quantity of cigarette smoking on the X-axis. Draw curves for the marginal benefits to smokers from smoking and the marginal damages from exposure to smoking. Discuss what the graph tells us about the socially efficient level of smoking. Discuss how the idea of a socially efficient level of smoking matches with the policy of banning smoking in certain places. Informally discuss with two friends, one smoker and one non-smoker, if there are instances when they would have been willing to pay a smoker to stop smoking or a non-smoker to be allowed to smoke. Report on the results of your discussion.

5. Read these two WSJ articles on global warming: "Developing a Warming Plan" by John J. Fialka from 9/28/07, p. A5 and "A Carbon Tax Would Be Cleaner" by Nicole Gelinas, 8/23/07, p. A11. Discuss some of the issues raised, particularly relative to the cap-and-trade emissions programs. Refer to your textbook when needed.

6. Look at the EPA website information on the sulfur allowance auctions. The index for the results for each year is at: http://www.epa.gov/airmarkets/auctions/index.html. Read enough background on the website to understand how the EPA auctions work. Read my article "Environmental Participation in the U.S. Sulfur Allowance Auctions." *Environmental and Resource Economics,* published electronically Feb. 2007, DOI 10.1007/s10640-007-9079-6. Comment on the issue of purchasing sulfur allowances, based on my article and the information that you see on the website (which will have more recent updated information).

7. Prepare for the talk by George Needham, Director of Vigo County Air Pollution control by exploring the website www.vigocounty.org/vcapc and looking up information on the internet about air pollution in Terre Haute. Briefly comment on what you found.

8. Hydroelectric projects provide clean electricity, but have other environmental costs involved. Use the two examples of China and Canada and their current large scale hydroelectric expansions to discuss some of the environmental benefits and environmental costs associated with these projects. Find at least one current news article on each. You should also refer to your textbook for this question.

9. Look at the website http://www.marketplace.org and look at their sustainability (consumed links). Play the "Consumer consequences" game. Write a paragraph commenting on what you learned.

10. Look at the website www.redefiningprogress.org .Discuss their Genuine Progress Indicator (GPI) and what it shows relative to GDP (under sustainability indicators link). You may refer to your textbook in Ch. 6 as well.

11. Write a brief paragraph on how to solve the global problem of climate change. What are some of the obstacles involved. Refer to your textbook and to The Inconvient Truth (Al Gore movie).