Greetings, and welcome to Environmental Economics! This course investigates many environmental issues from an economic point of view. Studying the economic aspects of environmental issues provides each of us with new strategies and tools with which to participate in public policy making and enriches our understanding of influences upon our personal, national and global standards of living. My teaching goal for this term is two-fold. Firstly, I would like to introduce the language of environmental economics. Then, with this terminology in hand, we shall turn our attention to analyzing alternative environmental economic policies. I believe you will very much enjoy reading the text for our course: Environmental Economics: An Introduction, Sixth Edition (2013), by Barry C. Field and Martha K. Field, ISBN 978-0073511481. I look forward to teaching this course, and I welcome your striving with me to attain these important goals.

RIT is committed to providing reasonable accommodations to students with disabilities. If you would like to request accommodations such as special seating or testing modifications due to a disability, please contact the Disability Services Office. It is located in the Student Alumni Union, Room 1150; the Web site is www.rit.edu/dso. After you receive accommodation approval, it is imperative that you see me during office hours so that we can work out whatever arrangement is necessary.

Course Requirements:

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<th>Component</th>
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<tr>
<td>Exam #1</td>
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<td>Exam #2</td>
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<td>Exam #3</td>
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<td>Research paper (prelim)</td>
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<tr>
<td>Research paper (final)</td>
<td>15%</td>
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<td>Exam #4 (final)</td>
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Examinations:

We will have three midterm exams and a final exam. The first exam will be given on Monday, February 22; the second exam will be given on Friday, March 18; the third exam will be given on Wednesday, April 20. The final exam is scheduled by the Institute for Monday, May 16, 2:45-4:45. The second and third exams will not be
cumulative; however, the final exam will be cumulative. Note that sample exam questions are available at [http://mycourses.rit.edu](http://mycourses.rit.edu). The scope of the exams shall strictly regard the materials we discuss in class, and the sections of the readings corresponding to these materials discussed in class. Thus, it is crucial to have a complete set of lecture notes. I strongly encourage you to exchange greetings and contact information during this first week of class with at least one other person in this class, so that you may call upon that person for a copy of the lecture notes, should you need to miss a class for any reason. I encourage you to bring a “$10” calculator to the exams. If there is any uncertainty regarding the admissibility of one’s calculator, please do check with me in advance. Please note that while I am eager to discuss your questions regarding the exam materials, I cannot answer questions after I begin preparing the exam. Therefore, my deadline for answering questions is 5PM the evening before each exam. Lastly, please note that if we determine that a make-up exam is appropriate, that exam will almost surely be an oral exam.

**Course Grades:**

Course grades will be determined as follows:

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<th>Percentage</th>
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<td>93-100</td>
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<td>90-92.99</td>
<td>A-</td>
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<td>85-89.99</td>
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<td>80-84.99</td>
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<td>75-79.99</td>
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<td>65-69.99</td>
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<td>&lt;50</td>
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**Research Paper**

Please note that this course is designated as a general education writing intensive course. The goal for the research paper assignment is to pursue an environmental economic topic of your interest beyond the standard course materials. The paper must either consider the environmental economics of an aspect of the work you plan to engage upon graduation, or the paper must revisit an environmental problem that appeared in (or is currently of concern in) your home town and explore how the environmental economic theory and practice we study in this course suggests new ways of addressing that problem. This is a conceptual paper; we do not need to collect data and test hypotheses. Rather, this is a paper in which one will set forth a basic optimization problem (profit maximization, utility maximization, cost minimization, welfare maximization, or other); discuss which aspects of the problem should be included and which aspects can be set aside for now.
(including the identification of endogenous variables and exogenous parameters); discuss what researchers have done to date on problems like this; evaluate how the private solution to the optimization can deviate from the social solution to the optimization; and then discuss multiple environmental economic policy approaches that could, in principle, align the private and social decision-making. The paper will be assessed according to three criteria: (1) Does the paper demonstrate and explain the microeconomics of the environmental problem?; (2) Does the paper show a solid grasp of what the economics literature says thus far about the problem?; and (3) Does the paper propose and discuss one or more extensions to that literature that could be developed in future research (as a senior year capstone project or in graduate school, for instance)?

The paper will be carried out in two stages. The first stage is due by **Monday, March 28 at noon**, and comprises the following information: a provisional title, an annotated bibliography featuring at least three EconLit database references, and an abstract of at least 1000 words that articulates the nature of the problem of interest and a plan for the paper. I will provide comments/suggestions on this information and feedback on writing/editing; if we have not met in my office by this point, we will arrange a meeting soon after the first stage deadline to discuss how your paper is taking shape and to discuss how the course is going more generally. Please note that your grade for the first stage cannot be assigned until we meet. Below are two examples from an annotated bibliography co-author Alex Petre and I assembled recently for our *Southern Economic Journal* paper:

Coad, A., de Haan, P., Woersdorfer, J. S. (2009). Consumer support for environmental policies: An application to the purchases of green cars. *Ecological Economics* 68(7): 2078-2086. [They point out, as do Norton et al (1998, *Ecol Econ*), that taxes to encourage greener consumption may not be politically feasible. On p. 2081 they write: “Given the initially low level of environmental awareness, however, ideals of environmentally-friendly behavior do not have a strong popular basis, and so the introduction of taxes or punishment schemes is difficult due to insufficient democratic support. As time passes, however, and consumers become more environmentally aware, it might be possible to introduce low levels of extrinsic incentives (i.e. “carrots”), as long as their chief role is to encourage and express support to adopters of the clean technology, rather than to control consumer behavior or fully internalize pollution externalities.” Thus, Coad et al. argue that information provision policies and financial incentive policies should be implemented in a coordinated way, so that the information provision appeals to the intrinsically motivated and the financial scheme appeals to the extrinsically motivated, according to how the technology is adapted over time.]

Kotchen, M. J. (2005). Impure public goods and the comparative statics of environmentally friendly consumption. *Journal of Environmental Economics and Management* 49(2): 281-300. [Choosing to bicycle for one or all of one’s commutes generates a private good and also a public characteristic—higher environmental quality for all. Thus commuting by bike is an example of the
impure public good concept. Kotchen suggests on his p. 297, last para, that parameter beta in his model can represent the level of awareness that the consumer might have about the environmental benefits associated with, in our case, cycling to campus. In other words, Kotchen suggests that consumers could misperceive the environmental benefits, and that therefore there is a policy opportunity to clarify this misperception for consumers. The misperception we are interested in does not regard the environmental benefits, but rather regards the relative costs of commuting by bicycle versus automobile. So our model/problem is related to Kotchen’s but is different from Kotchen’s.

The final paper must span 8-12 double-spaced pages (excluding the cover page and references). Along the way toward completing the final paper, I am happy to provide feedback on your writing-in-progress, including a completed draft, if submitted sufficiently early. Please submit a laser-printed copy of the final paper in a nice folder, along with the first-stage paper (with my comments from earlier in the semester). The final paper is due by Monday, May 9 at Noon. Note that while I cannot accept late papers, I am pleased to receive incomplete papers that are on time and award partial credit. If you are unable to submit your paper in class on the due date, you may (before the strict Noon deadline) slide it under my office door; send it to me via email (as a Word or PDF document); fax it to my office at 585-475-2510; or send it by traditional mail. If the email or fax options become necessary, I must reduce the grade by 3%.

Reading and Homework Assignments:

We will proceed linearly through Chapters 1-13 and 15 (and if time permits, 16, 17 and 20) of the Field and Field text.

Outline of some introductory materials that do not appear in the text.

a. Let’s focus upon paradigms for a moment, by way of the concept of unemployment, to suggest how environmental changes have occurred parallel to economic changes. Discuss Plato, Smith, Thoreau, O’Keeffe, and Elder, with regard to points (c) and (d) below.

b. The main idea: the history of environmental problems and the larger changes in our local, national and international economies is important to ascertain how we might best proceed.

c. A key theme in economic history, and perhaps the strongest theme, is the movement away from self-sufficiency and toward specialization of greater and greater intensity. We, of course, glean several benefits from greater and greater specialization among us; however, to fully capture these benefits we must vigilantly guard against detachment between groups of people, and between all people and the biosphere. I am concerned whether markets naturally generate the optimal amount of attention from each person to our individual and group interfaces with the biosphere. And to put it succinctly, this course explores the clever ways by which this interface can be strengthened.
d. **Strengthening the interface**, it seems to me, must be focused upon building bridges between aspects of the economy and the environment with which specialists are familiar and those with which specialists are not familiar (familiar as in direct sensory perception). Consider John Elder’s work regarding our usage of metaphor and simile in order to communicate our concerns between intense specialists. A very important contribution of environmental economics work to this effort is to try to envelope environmental concerns within familiar financial instruments and market-based transactions.

In addition to our textbook materials, please plan to read as many of the following documents as time permits; at a minimum, please read the documents indicated with stars. The documents are listed in the approximate order of their appearance in our class discussions.

**Chapters 1-3: Introduction**


Chapter 4: Economic Efficiency and Markets


Chapter 5: Economics of Environmental Quality


Chapter 6: Frameworks of Analysis


Chapter 7: Benefits Estimation


**Chapter 8: Cost Estimation**


**Chapter 9: Criteria for Evaluating Environmental Policies**


Chapter 10: Decentralized Policies


Chapter 11: Command-and-Control Standards


Chapter 13: Transferable Permits


Chapter 15: Federal Air Pollution Control Policy


**Chapter 16: Toxic and Hazardous Substances**


**Chapter 17: State and Local Environmental Issues**


**Chapter 20: The Global Environment**


