PROFESSOR: Benjamin Simon  
Office Hours: by appointment.  
Phone: 208-4916.  
Email address: bsimon@gwu.edu

COURSE DESCRIPTION. The course will apply the tools of microeconomic theory to analyze a variety of environmental and natural resource problems. Knowledge of microeconomic theory at the intermediate, undergraduate level (e.g., Econ 2101) is essential for the course. Problems will be analyzed using a combination of graphical and mathematical techniques as well as classroom exercises. Although calculus is not required, some concepts from calculus will be employed; these will be explained in class and in handouts as appropriate.

REQUIREMENTS AND GRADING.

Memo Assignments. A new memo is assigned approximately every two weeks. You need only complete four memo assignments (your choice). The assignments will be posted on Blackboard, under the "Projects" heading. For most of these the deliverable is a 1-2 page memo (typed, single spaced, 12 point font, 1 inch margins) to your policy-maker boss and a short appendix (no more than 3 pages) with additional details, if appropriate. Upload a pdf of your entire assignment to Blackboard. Please make sure your name is in the filename of the file you upload. These projects are an important part of the course (as reflected in their contribution to your final grade). I expect to see high quality, polished, professional work. Writing quality counts! The memo must use a standard format. That is, be sure to set the memo up with appropriate "To," "From," "Date," and "Subject" headings. Any bibliographic references must use a standard format (however, keep in mind that most policy memos are not academic, in the sense that they do not typically include extensive footnotes and references). Wikipedia, popular magazines, and newspapers are not appropriate sources of information for the memos. If you choose, you may work in a team of two on your assignments but you cannot keep the same partner for more than one assignment! Although approximately five or six of these assignments will be made over the term, you need only complete four of them. If you complete more than four, your top four grades will be counted. Help from the instructor prior to the deadline will be limited to answering pointed questions. Do not expect to be led through the process of doing the project. Late work will not be graded (unless an exception has been granted prior to the due date).

Tests. There is a midterm and a final exam. The midterm exam will be a take home exam that will be distributed on a date to be determined. The time and place of the final exam will be announced later in the semester.

Blog Posts. Two blog posts must be completed during the term. These should be posted to the Bb blog established for the class. The posts should provide your comments and analysis of a current environmental or natural resource issue, preferably an issue that has been in the news recently,
applying your knowledge of environmental economics. Write the posts as if you were providing a short note that might be of interest to a policy maker. Posts will be graded. Grading will be based on the following: **economic content; organization and logic; and grammar and spelling.** Posting a link alone is insufficient. A typical post should consist of two or three paragraphs, or 200 to 300 words. The posts do not have to be technical. **The first post must be completed by October 16; the second post must be completed by November 13.**

**Class participation.** Classroom participation is strongly encouraged. To facilitate participation, you must select at least one article from each topic (not the textbook) and prepare a short (1 page) summary of the key points. Note that some of these assignments call for a one page summary of two articles. There are 11 topics on the syllabus. No paper will be required for topic II. To ensure coverage of the articles I may assign some of the articles. The articles will be discussed during one (or more) class meeting for each major topic covered. The summary you prepare must be posted to Blackboard prior to the articles being discussed in class. I will post all of the summaries to a Bb discussion board.

**Math and Excel assignments.** One math review and one assignment using Excel are required. The math assignment is designed to review relevant math concepts. The excel assignment is to estimate the demand for municipal and industrial (M&I) water. The assignment and dataset is posted on Bb in the “projects” area. This assignment may be done in groups of 4 or less.

**Homework.** Five homework sets will be assigned over the course of the semester. Homework assignments will not be collected. Answer sheets will be posted on Blackboard about a week after the assignment is made available. In addition, several exercises relying on Excel spreadsheets will be posted on Blackboard.

**Quizzes.** A number of optional quizzes will be posted on Blackboard in the “Testing” section. The first quiz tests knowledge of key concepts from intermediate-level microeconomic theory. It is strongly recommended that students take all quizzes.

**Grading.** The course grade will be calculated using the following weights: midterm exam -- 20%; final exam -- 25%; memo projects -- 35%; blog posts -- 5%; math and Excel assignments – 5%; and class participation -- 10%.

**Academic Integrity.** The George Washington University is guided by the standards of academic integrity. Students are reminded to honor the Code of Academic Integrity, which can be viewed at:

http://www.gwu.edu/~ntegrity/code.html

If you are not familiar with the Code, you should read through it carefully.

**TEXTBOOKS and READINGS.**

Readings are divided into two categories: required and optional. All required readings will be on available via Blackboard's electronic reserves, but only some optional readings will be on Blackboard. Students will be expected to have completed the readings before the class for the relevant topic related to the reading.
• Optional readings are marked with a single asterisk (*).

**TOPICS**

I. **Review of Welfare Economics (1 class)**

1. AR, Chapter 5.
2. Ward, Chapter 2.

II. **Integrating the Environment and Natural Resources in Models of the Economy (cover this topic on your own)**

1. Pearce and Turner, Chapters 1 and 2 (on Bb).

III. **Property Rights and Market Failures (2-3 classes)**

1. Ward, pp. 79-86.

IV. **Government Failures (1 class)**


V. Choice of Policy Instruments for Controlling Pollution (2-3 classes)

1. Ward, Chapter 16.

VI. Benefit-Cost Analysis (1-2 classes)

1. Ward, Chapters 5, 6, 7.


VII. Ecosystem Services, Biodiversity (1 class)


VIII. Exhaustible Resources and Scarcity (1 class)


IX. Renewable Resources: Water and Forests (2 classes)
1. Ward, Chapters 8, 10.

X. Climate Change (1-2 classes)

1. Ward, Chapter 15.