EBGN 310: Environmental and Resource Economics

Spring 2017

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Division of Economics and Business, Colorado School of Mines

Class Meetings: TR, 2:00 — 3:15p, Hill Hall 209
Office Hours: Wednesdays, 1-4p or by appointment
Contact Info: *Email:* jcarbone@mines.edu, *Phone:* x2175, *Office:* EH 311
Course Website: `http://www.mines.edu/~jcarbone/EBGN_310_f17/`
Instructional activity: 37.5 hours lecture, 0 hours lab, 3.0 semester hours
Course designation: Elective

Course description:

This course is an introduction to the fields of environmental and resource econonomics. Topics include analysis of pollution control, benefit/cost analysis in decision-making and the associated problems of measuring benefits and costs, non-renewable resource extraction, measures of resource scarcity, renewable resource management, environmental justice, sustainability, and the analysis of environmental regulations and resource policies. The fields of environmental and resource economics relies heavily on ideas from microeconomic theory. As a result, the main prerequisite for the course is completion of a course in introductory microeconomic theory (EBGN 201).

Textbook and/or other requirement materials:

- Keohane, Nathaniel O., and Sheila M. Olmstead [K-O]. Markets and the Environment. Washington: Island Press, 2nd edition, 2016.

Other required supplemental information: Course materials distributed via the course website or as books on reserve at Arthur Lakes Library.

Student learning outcomes:

At the conclusion of the class students will...

1. Have an understanding of the major themes covered by the fields of environmental and resource economics.
2. Be able to apply the tools of these fields to the analysis of contemporary policy issues.

Brief list of topics covered:

1. Principles of applied microeconomic theory
2. Theory and policy of managing renewable and non-renewable natural resources
3. Theory and policy of pollution and environmental externalities

4. Valuation of environmental resources

Course Format

The chapters in the Keohane-Olmstead textbook listed in the course schedule (below) should be read prior to lecture. In addition, I may periodically assign readings from other sources, such as short articles from the New York Times. These reading assignments will be posted on course webpage at least a week in advance of day we will discuss them in class. The discussion and lecture in our class meetings will build on the readings — not replicate them.

Typically, I will spend one class meeting per week lecturing on the topic du jour. In the other class meeting that week, we will apply the concepts from the previous lecture, working on in-class exercises in small groups. Completing these exercises help us gauge your understanding of the key concepts and learn from each other. I will not grade your answers to the in-class exercises but your participation in these activities will determine — in large part — the class-participation component of your final grade in the course. The in-class exercises will be drawn from sets of review questions that I will provide you with. Those review questions not covered in class are intended to serve as an aid to your studies for the quizes and exams.

A number of the in-class exercises involve manipulating data in a spreadsheet program, such as Microsoft Excel or Google Sheets. Because of this, it's best for at least one member of your group to bring a computer to class on days when we complete these exercises. These days it seems most students have access to a laptop or other portable device that can be used for this function but please let me know if this requirement is a hardship for your group.

The final in-class assignment will involve a group project in which I ask you to research a contemporary application of environemental and resource economics of your choosing and give a short (15 min) class presentation on your findings.

There will be approximately eight in-class quizes over the course of the semester. These are graded on a numerical basis and will count toward your final grade. More importantly, they will give you more feedback on your understanding of the course material and aid you in studying for the exams.

There will be two in-class midterm exams and final exam during the exam period. The style and content of the exam questions will be based on the review questions and our class discussions. Each midterm exam will focus on material covered in class meetings prior to the exam but subsequent to the previous exam. The final exam will be comprehensive but weighted toward coverage of the material that occurs after the second midterm. The exams will be graded on a numerical basis.

Evaluation:

- Class Participation (20%)
- Quizes (20%)
- First Midterm Exam (20%)
- Second Midterm Exam (20%)
- Final Exam (20%)

Grading Procedures:

Assignments and exams are marked on a numerical (percentage) basis, then converted to letter grades. The course grade is then calculated using the weights indicated above. As a guide to determining standing, the following letter grade equivalence will generally apply:

A	93-100	B-	80-82	D+	67-69
A-	90-92	C+	77-79	D	60-66
B+	87-89	C	73-76	F	<60
B	83-86	C-	70-72		

Students must successfully complete all components of the course to successfully complete the course. At the instructor's prerogative, remedial assignments for partial credit may be requested of students who have attempted term work without achieving passing grades. Any work that is not attempted and submitted will be assigned a grade of zero. The instructor will not accept work handed in after the assigned due date. The instructor will not schedule make-up exams or assignments. If a student must miss an assignment or exam due to an excused absence (i.e. one that has been arranged in advance with the instructor or involves a documented illness), additional weight will be placed on the remaining exams (in equal measure) in calculating the final grade for the course. I will also drop the lowest grade a student receives on a quiz in calculating the final grade.

There is a final exam during the final exam period for this course.

Notes:

Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor within 15 days of the work being returned to the class.

Coursework Return Policy:

Graded coursework will be returned to students within two weeks of the date it is submitted for evaluation.

Absence Policy (e.g., Sports/Activities Policy):

You are required to attend lecture. Notification of planned absences must be given to the instructor in advance.

Common Exam Policy (if applicable): N/A

Policy on academic integrity/misconduct:

The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining and fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every students academic achievements, and giving credence to the universitys educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there to be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest, and undermines the credibility of the university. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such misconduct sanctions such as change of a grade, loss of institutional privileges, or academic suspension or dismissal may be imposed.

The complete policy is online.

Disability Support Services:

The Colorado School of Mines is committed to ensuring the full participation of all students in its programs, including students with disabilities. If you are registered with Disability Support Services (DSS) and I have received your letter of accommodations, please contact me at your earliest convenience so we can discuss your needs in this course. For questions or other inquiries regarding disabilities, I encourage you to visit disabilities.mines.edu for more information.

Course Outline

This list is preliminary. I reserve the right to modify the topics if I feel it is in the best interest of the class. See the course website for a more detailed outline and reading assingments (`http://www.mines.edu/~jcarbone/EBGN_310_f17/`)

- Introduction and Review of Principles of Microeconomics [Weeks 1-2, August 22-31]
- Making Decisions about the Environment and Benefit-Cost Analysis [Week 3, September 5-7]
- Decision-making over Time and Natural Resource Management [Weeks 4-6, September 12-28]

First Midterm Exam: October 5

- Market Failures [Weeks 7-8, October 3-12]

Fall Break: No class October 17

- Regulating Pollution [Weeks 9-11, October 19-31]

Second Midterm Exam: November 7

- Valuing the Environment [Weeks 11-15, November 2-28]

Thanksgiving Break: No class November 23

- Contemporary Issues and Student Presentations: [Weeks 15-16, November 30 - December 7]

Final Exam: time and place TBA