EBGN 310: Environmental and Resource Economics
Spring 2016
Jared Carbone
Division of Economics and Business, Colorado School of Mines

Class Meetings: TR, 12:30 — 1:45p, Green Center 263
Office Hours: TR, 3:30 — 4:30p or by appointment
Contact Info: Email: jcarbone@mines.edu, Phone: x2175, Office: EH 311
Course Website: http://www.mines.edu/~jcarbone/EBGN_310_s16/

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 economics. 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:


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

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 student’s academic achievements, and giving credence to the university’s 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.

Grading Procedures:

Homework 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>60-66</td>
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<tr>
<td>C+</td>
<td>73-76</td>
</tr>
<tr>
<td>C</td>
<td>70-72</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60</td>
</tr>
</tbody>
</table>

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 midterm and final exams (in equal measure) in calculating the final grade for the course.

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.

Homework Assignments and Exams

The chapters in the Keohane-Olmstead textbook listed in the course schedule (below) should be read prior to lecture. In addition, I will 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. I expect you to be an active participant in class discussions; your class participation grade for the course will reflect your ability to do this. The discussion and lecture in our class meetings will build on the readings — not replicate them.

There will be approximately six homework assignments over the course of the semester. These are graded on a numerical basis and will count toward your final grade. More importantly, they will help you understand the course material and aid you in studying for the exams. You will hand in a written copy of your answers to these questions at the beginning of the class meeting at which they are due. The final homework assignment (issued during week 14) will involved a group project in which I ask you to research some aspect of the contemporary topics covered in this section of the course and give a short (15 min) class presentation on your findings.

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 homework assignments 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.

Throughout the semester, you will participate in short in-class exercises in the last 15-20 minutes of our class meetings. There will be approximately one of these for each major subject area covered in the course. Your answers help me gauge what students are understanding and adjust the content of my lectures if needed. I will not grade your answers to teh exercises but your participation in them will count toward the class participation component of your final grade in the course.

Evaluation

- Class Participation (15%)
- Homework Assignments (20%)
- First Midterm Exam (20%)
- Second Midterm Exam (20%)
• Final Exam (25%)

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

Course Outline and Readings

This list is preliminary. I reserve the right to modify the topics if I feel it is in the best interest of the class.

• Introduction and Review of Principles of Microeconomics [Weeks 1-3]
• Decision-making over Time and Natural Resource Management [Weeks 4-6]

No class: February 25

First Midterm Exam: March 1

• Market Failures [Weeks 7-8]
• Benefit-Costs Analysis and Regulating Pollution [Weeks 9,11-12]

Spring Break [Week 10]

Second Midterm Exam: April 12

• Valuing the Environment [Week 13-14]
• Economic Development and Environmental Sustainability: [Week 15]
• Contemporary Issues and Student Presentations: [Weeks 16-17]

Final Exam: TBA