

## Resource Economics 262 Environmental Economics

**Class meetings** Tuesday and Thursday, 2:30 - 3:45 pm, Goessmann Lab Addition room 64

**Professor** John Stranlund, <https://www.umass.edu/resec/people/stranlund>  
Office hours: Wednesday 12:30 – 2:00 in 222 Stockbridge Hall  
Contact: [stranlund@resecon.umass.edu](mailto:stranlund@resecon.umass.edu)

**Teaching Assistant** Mehak Kaushik  
Office hours to be determined  
Contact: : [mkaushik@umass.edu](mailto:mkaushik@umass.edu)

**Course Objective:** Resource Economics 262 is a 4-credit course that is concerned with the application of economic concepts and tools to environmental issues, particularly pollution problems. We will explore the fundamental issues that define research in environmental economics: the economic causes of environmental degradation, the design of policies to improve environmental quality, and the measurement of the costs and benefits of environmental policy.

This is a general education course with a Social and Behavioral Science designation. As a general education course, our goal is to address fundamental ideas and methods of analysis in economics and apply them to the study of how our actions affect the environment we depend on and how we can use individual incentives to improve environmental quality. There are no prerequisites for this course.

### Grades:

**Three midterms, 75%** Midterm exams are worth 25% each. They will be given in class on February 20, April 2, and during the period scheduled during finals week. The last midterm is not cumulative. No makeup will be given for any exam except in extraordinary circumstances.

**Problem sets, 25%** There will be eight assignments and we will count your best six scores. Problem sets are always due on Thursday during class. If you can't come to class when a problem set is due, it must be submitted by 4 pm on the due date to Professor Stranlund in his office. No late assignments will be accepted and I do not accept electronic submissions.

Your grade will be determined based only on the above—there are no extra credit opportunities. Final grades will be determined by the following minimum grade cutoff points based on your percentage of the total points available: A = 90, A- = 87, B+ = 83, B = 80, B- = 77, C+ = 73, C = 70, C- = 67, D+ = 63, D = 60 and F < 60.

While you are free to discuss assignments with your colleagues, I expect the writing and reasoning in your work to be your own. If I find that you have cheated on a problem set or an exam, I will pursue the matter to the fullest extent possible under the University's Academic Honesty Policy.

**Required reading:** Most of the required reading is from Barry and Martha Field’s *Environmental Economics: An Introduction*, Seventh Edition, McGraw Hill, 2017. You have several options to order this book:

- The online student version that includes only the chapters covered in this class (for \$81.60) <https://create.mheducation.com/shop/#/catalog/details/?isbn=9781307210316>
- Rent or buy the full textbook (preferably the 7th edition since it contains important updates relevant to our course, though the 6th edition is cheaper)

My lectures will be posted in MOODLE. You should treat these as part of the required reading for the course. I recommend that you bring to class the notes that we will be discussing that day.

Additional readings, lectures, and other items will be posted in MOODLE. You will be tested on this material.

There are many sources on the web that focus on material that is relevant for this course. Here are a few that I recommend. There are many others.

New York Times—Climate and Environment, <https://www.nytimes.com/section/climate?module=SectionsNav&action=click&version=BrowseTree&region=TopBar&contentCollection=Science%2FClimate&contentPlacement=2&pgtype=Homepage>

Washington Post—Energy and Environment, <https://www.washingtonpost.com/news/energy-environment>

The Conversation (Environment + Energy), <https://theconversation.com/us/environment>

Energy Institute at Haas Blog, <https://energyathaas.wordpress.com/>

Environmental Economics, <http://www.env-econ.net/>

Resources for the Future, <http://www.rff.org/home>

Common Resources, <http://www.rff.org/blog>

Resource Radio (podcasts), <https://www.resourcesmag.org/resources-radio/>

Mongabay, <http://www.mongabay.com/>

**Course Schedule and Reading List (Subject to change)**

<p><b>Week 1</b>  <b>Tues. 1/21</b>  <b>Thurs. 1/23</b></p>	<p><b>Introduction</b>                  (Field and Field, Chapters 1 and 2)</p> <p>Problem set 1 assigned: Due 1/30</p>
<p><b>Week 2</b>  <b>Tues. 1/28</b>  <b>Thurs. 1/30</b></p>	<p><b>Benefits and Costs, Supply and Demand</b>                  (Field and Field, Chapter 3)</p> <p>Climate Change (PPT slides)</p> <p>“What’s Really Warming the World?” Bloomberg Business, June 24 2014.  <a href="http://www.bloomberg.com/graphics/2015-whats-warming-the-world/">http://www.bloomberg.com/graphics/2015-whats-warming-the-world/</a></p> <p>Problem set 2 assigned: Due 2/6</p>

<b>Week 3</b> <b>Tues. 2/4</b> <b>Thurs. 2/6</b>	<b>Economic Efficiency</b> (Field and Field, Chapter 4)  The Private and Social Costs of Electricity Generation (PPT slides)  Problem set 3 assigned: Due 2/13
<b>Week 4</b> <b>Tues. 2/11</b> <b>Thurs. 2/13</b>	<b>The Economics of Environmental Quality</b> (Field and Field, Chapter 5)  U.S. Power Plant Emissions Down 45% Since 2010, Energy Institute Blog, Dec. 10, 2018. Lucas Davis. <a href="https://energyathaas.wordpress.com/2018/12/10/u-s-power-plant-emissions-down-45-since-2010/">https://energyathaas.wordpress.com/2018/12/10/u-s-power-plant-emissions-down-45-since-2010/</a>
<b>Week 5</b> <b>Tues. 2/18</b> <b>Thurs. 2/20</b>	<b>The Economics of Environmental Quality, continued</b>  No class Tuesday 2/18, Monday schedule followed  Exam 1: 2/20
<b>Week 6</b> <b>Tues. 2/25</b> <b>Thurs. 2/27</b>	<b>Introduction to Empirical Environmental Analysis</b> (Field and Field, Chapter 6)  Social Cost of Carbon 101, Resources for the Future Aug.1, 2019 <a href="https://www.rff.org/publications/explainers/social-cost-carbon-101/">https://www.rff.org/publications/explainers/social-cost-carbon-101/</a>  Problem set 4 assigned: Due 3/5
<b>Week 7</b> <b>Tues. 3/3</b> <b>Thurs. 3/5</b>	<b>Estimating the Benefits of Environmental Policies</b> (Field and Field, Chapter 7)  “The Clean Water Rule and economic research on US water pollution regulation.” David Keiser, Joseph S. Shapiro, Vox, October 5, 2019. <a href="https://voxeu.org/article/clean-water-rule-and-economic-research-us-water-pollution-regulation">https://voxeu.org/article/clean-water-rule-and-economic-research-us-water-pollution-regulation</a>  Problem set 5 assigned: Due 3/12
<b>Week 8</b> <b>Tues. 3/10</b> <b>Thurs. 3/12</b>	<b>Overview of the Theory of Environmental Policy and Decentralized Environmental Policies</b> (Field and Field, Chapters 9 and 10)
<b>Week 9</b> <b>Tues. 3/17</b> <b>Thurs. 3/19</b>	<b>Spring Break</b>

<b>Week 10</b> <b>Tues. 3/24</b> <b>Thurs. 3/26</b>	<b>Decentralized Environmental Policies and Command and Control Standards</b> (Field and Field, Chapters 10 and 11)  “Growth Effects, Climate Policy, and the Social Cost of Carbon.” G-FEED January 12, 2015.
<b>Week 11</b> <b>Tues. 3/31</b> <b>Thurs. 4/2</b>	<b>Emissions Taxes</b> (Field and Field, Chapter 12)  Problem set 6 assigned: Due 4/9  Exam 2: 4/2
<b>Week 12</b> <b>Tues. 4/7</b> <b>Thurs. 4/9</b>	<b>Emissions Taxes, continued</b> (Field and Field, Chapter 12)  Public willingness to pay for a US carbon tax and preferences for spending the revenue.” Environmental Research Letters, Sept. 2017.  Problem set 7 assigned: Due 4/16
<b>Week 13</b> <b>Tues. 4/14</b> <b>Thurs. 4/16</b>	<b>Transferable Discharge Permits</b> (Field and Field, Chapter 13)  “Managing Uncertainty in the US Electric Power Sector: Can Shadow Carbon Prices Light the Way?” <i>Resources</i> . Spring 2017  Problem set 8 assigned: Due 4/23
<b>Week 14</b> <b>Tues. 4/21</b> <b>Thurs. 4/23</b>	<b>International Environmental Challenges</b> (Field and Field, Chapters 18 and 19)  “What’s a University to do about Climate Change?” Energy Economics Exchange, December 7 2014.
<b>Week 15</b> <b>Tues. 4/28</b>	Tuesday April 28 is last day of this class.
<b>Finals Week</b>	<b>Finals start Thursday May 1 and extend to Thursday May 7</b>  The location and time of the final is still to be determined.

**Accommodation Statement**

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

**Academic Honesty Statement**

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent ([http://www.umass.edu/dean\\_students/codeofconduct/acadhonesty/](http://www.umass.edu/dean_students/codeofconduct/acadhonesty/)).