AEC 653: Empirical Environmental & Resource Economics
Winter 2019 TR 10:00 – 11:20 AM Strand Ag. Hall 111

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Office Hours: TR 12:00-1:30; 4:00 – 5:00, or by email appointment

Course Canvas Site: https://oregonstate.instructure.com/courses/1704590

Prerequisites: AEC 513; AEC 525
Students must be comfortable with a first-year Ph.D. level treatment of micro theory and econometrics. Past graduate training in environmental economics, econometrics, and experience with statistical software and programming will be useful, but are not required.

Course Description: This course introduces empirical methods at the current frontiers of research in environmental and resource economics. General topics include the identification of non-market values, revealed and stated preference methods, environmental policy evaluation, land-use modeling, and climate econometrics.

Course Objectives: My objectives for this course are to:

1. Familiarize students with the contemporary themes in environmental and resource economics research and in my sub-field of non-market valuation.

2. Provide students with a solid foundation in the recent advances in the empirical methods related to the valuation of environmental goods and services.

3. Increase students’ ability to define empirical environmental and resource economic problems, analyze information, and develop research questions.

4. Provide students with a foundation for conducting applied research in environmental and resource economics (e.g. Ph.D. dissertation)

Learning Outcomes: Upon successful completion of this course, a student will be able to:

1. Pursue research on a range of topics in environmental and resource economics and non-market valuation and, for those seeking employment in academia, teach a similar course to this one in the future.
2. Explain the economic models of non-market valuation and have the foundational knowledge to understand the challenges and apply the methods to environmental and resource issues.

3. Describe and critically evaluate the empirical evidence relevant to the application of economic models to environmental and natural resource issues.

4. Frame and discuss environmental and resource issues and policy in terms of economic theory and empirical evidence.

**Learning Resources:** The readings for this course are primarily journal articles. There are no required textbooks for this course, but I provide the following list of useful references:

- Phaneuf & Requate: *A Course in Environmental Economics; Theory, Policy, and Practice*  
  **NOTE:** This is the new (2017) seminal Ph.D. text for environmental economics. Some chapters are provided on Canvas that I obtained from the authors prior to publication but I highly recommend this book for this course and beyond.

- Cameron and Trividi, *Microeconometrics: Methods and Applications*
- Freeman, *Measurement of Environmental and Resource Values*
- Bockstael & McConnell, *Environmental & Resource Valuation w/ Revealed Preferences*
- Manski, *Identification for Prediction and Decision*
- Train, *Discrete Choice Methods with Simulation*
- Angrist and Pischke, *Mostly Harmless Econometrics*
- *Handbook of Environmental Economics, Vol 1-3*

**Evaluation**

**Class and Seminar Participation: 15 %**
This course is designed to provide seminar-style discussion of journal articles at the frontier of research in environmental and resource economics. For this to be successful, active participation in class discussion is necessary and expected (6 %). Additionally, the AEC department has an Applied Economics Working Group that meets each Wednesday at noon during the quarter. Each student is encouraged to attend every seminar. The participation requirement here is to submit a one-page summary/critique of three (3) presentations (3 % each).  
*See Seminar Summary assignment on Canvas for more details.*

**Student Lecture: 25 %**
Each student will be assigned two (2) empirical papers to prepare a 35 - 40 minute lecture to the class. Potential papers for each topic are indicated in the reading list below with an asterisk (*).  
*See Student Lecture assignment on Canvas for more details.*

**Referee Reports: 20 %**
Each student will be assigned two (2) working papers to prepare a referee report to a journal editor. You will be asked to summarize the paper, list and discuss the major strengths and weaknesses, and make a recommendation in which quality tier a paper should be published. Reports will be used in this course to
gain experience in critically studying papers. See Referee Report assignment on Canvas for more details.

Referee Report #1: Due Friday February 1st @ 5:00 pm
Referee Report #2: Due Friday March 1st @ 5:00 pm

Research Assignment: 40 %
Three groups will form to study a specific type of modeling framework during the quarter. Exercises are provided to gain familiarity with the modeling frameworks. Then, actual data and a set of assignments are assigned and will vary based on the framework. Each group will be responsible for preparation of a final paper and an in-class presentation during the final exam period. The three frameworks are:

Group #1: Discrete Choice Modeling
Group #2: Recreation Demand Modeling
Group #3: Hedonic Property Value Modeling

Course Policies: I have scheduled open office hours each week and I am available by appointment subject to my availability. Individual office visits may be one of the most productive parts of the course for you. I am here to help your learning process and development as a scholar.

Statement Regarding Students with Disabilities: Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Student Conduct and Academic Integrity: Students are required to comply with Oregon State University policies on student conduct and academic integrity. Academic dishonesty (e.g. cheating, plagiarism) and disruptive behavior will not be tolerated in this course. More information on the university’s policies can be found here: http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/code_of_student_conduct.pdf

Religious Holiday Statement: Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.

Student Evaluation of Courses: The online Student Evaluation of Teaching system opens to students the Monday of dead week and closes the Monday following the end of finals. Students will receive notification, instructions and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to “sign” their comments agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/ supervisor. Anonymous (unsigned) comments go to the instructor only.
**Course Outline & Reading List:** This is a general course outline and reading list subject to additions and subtractions. Please reference the Canvas site for PDFs of the assigned readings. Readings with authors in **bold** (and listed first) are required while all others are highly recommended. Readings with an asterisk (*) indicate potential papers for student lectures.

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**Part I: Identification of Nonmarket Values**

**Foundations of Nonmarket Valuation**

**Bocksteal and McConnell:** Chapters 2 and 3


**Empirical Identification of Nonmarket Values**


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**Part II: Housing Market Models**

**Hedonic Models**


Sorting Models


Quasi-experiments and Policy Evaluation


Part III: Recreation Demand Modeling


**Part IV: Climate Change Economics**


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Part V: Land Use Modeling


### Part VI: Stated Preference Methods


