

# Oklahoma City University

Energy Economics  
6213 – EM12/DM12  
Fall 2019  
Shahrzad Gourchian, Ph.D.

## Syllabus

Office: MSB 205E

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Required Text: *Environmental and Natural Resource Economics, A Contemporary Approach*, Harris, Jonathan M. and Brian Roach, M.E.

**Course Description:** Overview of application of economic principles to natural resource management and energy with emphasis on qualitative and quantitative market analysis and policy evaluation. Presentation will combine descriptive accounts, graphical derivation, algebraic applications, and expert guest speakers linking the technical presentation to actionable business practices.

**Learning Objectives:** Students will demonstrate broad understanding of energy markets including evidence of and remediation options in the face of market failure. Students will be able to describe market outcomes quantitatively and understand key concepts underlying energy policy evaluation.

**Academic Honesty:** From the University Catalog: “Academic honesty is essential to the process of education. An examination or term paper is designed to develop a student’s ability to think clearly and critically about a subject and to express ideas fluently. Students are expected to do their own work and not copy on examinations or plagiarize papers. Individuals who are found to be submitting the work of others as their own will receive an “F” for the assignment, and may fail the course at the discretion of the instructor.” Any act of academic dishonesty will be pursued according to university policy.

**Disability Accommodations:** If you need an accommodation due to a disability under the Americans with Disabilities Act, please contact Student Health and Disability Service Office immediately at 208-5991 or 521-5090. Advance notice is required for many accommodations.

**Course Grading:** Grades will be determined by performance in the following key areas:

Mid-Term Exam	35% of your final grade
Final Exam	35% of your final grade
Problem Sets, Presentation, and Participation	30% of your final grade

**Tornado Shelter and Evacuation Locations:** Tornado Shelter is located in either the north or south hallways on the 1<sup>st</sup> floor of MSB; in case of evacuation, meet in the west plaza of MSB (Clockside of building)

# Energy Economics Course Outline

We face the challenge in this course of covering several distinct and technical topics in a compressed meeting framework while not losing sight of the real-world applications of the techniques presented. As such, the course outline is a bit of a moving target! The following list provides an overview of the topics to be covered.

1. Supply, Demand, and Energy Markets (3 Lectures)
  - a. Introduction to Natural Resource Economics (Lecture 1)
    - i. Macroeconomic role of natural resources and the natural resource curse
    - ii. Assigned readings: Harris and Roach Chapters 1, 2, and 20 and 4 papers on the regional resource curse
    - iii. Homework 1 assigned.
  - b. Demand and Willingness to Pay (Lecture 2)
    - i. Assigned readings: Harris and Roach, Appendix 3.1
    - ii. Presentations assigned:
      1. State of the scarcity debate
      2. Post-growth economics
  - c. Opportunity Cost, Supply, and Willingness to Accept (Lecture 2)
    - i. Assigned readings: Harris and Roach, Appendix 3.1
  - d. Market Outcomes: Efficiency, Sustainability, and Equity (Lectures 3 and 4)
    - i. Assigned readings: Harris and Roach, chapters 3 and 4
    - ii. Homework 2 assigned
    - iii. Presentations Assigned
      1. Structure of Externalities
  - e. Market Failure: Externalities (Lectures 3 and 4)
    - i. Assigned readings: Harris and Roach, chapters 3 and 4
  - f. **Midterm on 9/4.**
2. Multi-Period Optimization and Nonmarket Valuation
  - a. Optimal extraction, discounting, and Hotelling's Rule
    - i. Assigned readings: Harris and Roach, chapters 5 and 11
  - b. Methods of nonmarket valuation – revealed and stated preference methods
    - i. Presentations assigned:
      1. I can hear my neighbors fracking
      2. Social costs of transporting crude oil
  - c. Assessing policy alternatives using cost-benefit analysis
    - i. Assigned readings: Harris and Roach, chapter 6
    - ii. Presentation assigned:
      1. Pricing the Priceless
  - d. **Final Exam.**

*\*We will have many additional readings assigned to help develop the material in the text. All additional required readings will be posted to D2L.*