ECON 3090: TOPICS IN ECONOMICS: ENERGY ECONOMICS

Peter M. Schwarz, Professor of Economics

Fall 2020, T R 10-11:15, Online course

OFFICE: Google Meets (link on Canvas) OFFICE HOURS: TR 2:00 – 3:00 p.m or by appointment.
EMAIL: pschwarz@uncc.edu.
I will check emails at 9 am, 2 pm, and 7 pm, and reply at those times.
If you have not heard from me by 9 am the next day, you can email me at 9 am and I will reply promptly.
CANVAS: Grades, announcements, discussion board, correspondence

1 Course Description

This course applies microeconomics to topics in energy in order to evaluate the advantages and disadvantages of each supply source in meeting energy demand. We develop the fundamental microeconomic tools in the first part of the course. In the second part of the course, we examine conventional fuels: oil, natural gas, coal, and nuclear energy. We examine emerging alternatives, such as wind, solar and energy efficiency in the third part of the course. We will also examine the use of energy to produce electricity, first subject to traditional regulation and then under competitive restructuring.

2 Course Prerequisites

There are no formal prerequisites, but if you have not taken ECON 2102 (Principles of Microeconomics with C or better, but B or better recommended), you should contact me so that we can gauge whether you are ready for this course.

3 Course Objective

The objective of the Energy Economics Topics course is to understand how economics - primarily microeconomics - influences the demand and supply of energy, and the role of market and government in using energy resources efficiently to achieve society’s goals.

4 Learning Objectives

1. Distinguish economic efficiency, equity, sustainability, social welfare.
2. Understand market and government failures.
3. Recognize market power, externalities, public goods characteristics as sources of market failure.
4. Evaluate benefits and costs of conventional fossil fuels.
5. Consider strengths and weaknesses of current and future alternative fuels, including renewables and energy efficiency.

6. Compare regulated and deregulated electricity structures.

5  Textbook


I will post relevant chapters on Canvas under Perusall App.

6  Determination of Grades

There will be three exams, the third of which will take place during the Final Exam period. The third test will be given at xxx on xxx Dec. xxx (the final examination time assigned for this course). Exams will consist of discussion questions. Each of the three exams count 20 percent.

There will be assignments based on the reading counting 20 percent. Reading assignments will be activities such as commenting on the reading using Perusall and discussion forums using Flipgrid and Campuswire, all integrated with Canvas.

Quizzes based on homework questions count the remaining 20 percent. Quizzes will consist of multiple choice and discussion questions. Homework questions are on the companion website for the text. I will count 10 quizzes. If there are more than 10 quizzes, I will count the highest 10. You can anticipate around 10-12 quizzes during the semester. A missed quiz is a 0; if there are more than 10 quizzes, the missed quiz would be dropped as your lowest grade.

Grade Scale: A = 90-100; B = 80-89.9; C = 70-79.9; D = 60-69.9; F = Below 60.

7  Attendance

If you are not in class during a quiz for an unexcused reason, your grade will be 0. Arriving late, leaving early, or leaving and returning during an online class could cause you to miss a quiz or to have less time available to complete it. If you have a university-sanctioned activity or religious holiday, family crisis, illness, or other extenuating circumstance, please let me know before class. If I accept your reason before class time and there is a quiz that day, I will omit it from your quiz average. I urge you to email me any time you anticipate missing class and provide me an explanation, to facilitate me working with you as best as possible for you to be successful in this course. If you are absent, arrange with a classmate and consult Canvas to see what you have missed. You are only to ask me for information on a missed class if you have done both of these steps and still have further questions about what you have missed.
8 Outline of Topics and Reading Assignments

Part I Fundamentals of Energy Economics

Chapter 1: Introduction (Week 1—T Sept. 8, R Sept. 10)


Chapter 4: Dynamic Efficiency: Energy Decisions over Time (Week 4 – T Sept. 29 (online assignment if no online class due to moving day), R Oct. 1)

(Week 5) Review for Exam 1 – Chapters 1-4 (T Oct. 6)

EXAM 1 (R Oct. 8)

Part II Conventional Energy Sources


Chapter 6: Natural Gas: A Bridge to the Future? (Week 7 – T Oct. 20, R Oct. 22)

Chapter 7: Coal: No Longer King (Week 8 - T Oct. 27, R Oct. 29)

November 3, 2020 Last day to withdraw from course(s); grade subject to Withdrawal Policy.


Chapter 8: Nuclear Energy: Too Expensive to Matter? (Week 9 – T Nov. 3, R Nov. 5)

(Week 10) Review for Exam 2 – Chapters 5-8 (T Nov. 10)

EXAM 2 – Chapters 5-8 (R Nov. 12)

Part III Alternative Energy Sources

Chapter 9: Renewable Energy: Clean, but Complicated (Week 11 – T Nov. 17, R Nov. 19)

Chapter 11: Energy Efficiency: An Offer We Can’t Refuse? (Week 12 – T Nov. 24, T Dec. 1)

(Week 12) Thanksgiving Nov. 26 (and 27)

Part IV: Electricity

Chapter 12: Traditional Electricity Regulation: Is There Still a Place for It? (Week 13 – R Dec.3, T Dec. 8)


T Dec. 15: Last Day of Classes; W Dec. 16: Reading Day

FINAL EXAM: R Dec. xx xx pm (Chapters 9, 11, 12, 13)
MAKE-UP POLICY: If you are unable to take Exam 1 or 2 due to an excused absence, it will be rescheduled as close as possible to the original date.

COURSE INCOMPLETE: At the discretion of the instructor for a student who is otherwise passing.

NETIQUETTE: For Asynchronous Discussion Forums/Boards

1. In an online environment, your writing should represent you as a professional, educated person.
2. Be thorough and carefully proofread your work.
3. Be respectful—“remember the human.”
4. Take your posts seriously.

For Synchronous Video Conference Discussions In addition to respectful behavior and clear, concise discussions, video conferencing requires another level of intentionality, so that other attendees can see and hear you.

1. Wear headphones or earbuds, mute your audio when you are not speaking.
2. Attend your meetings in as quiet a space as possible.
3. For your video, make sure you have light in front of you, and avoid bright light behind you.
4. Remove any clutter behind you, so your colleagues are not distracted.

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement during online class and on Canvas.