

ECON 3090: TOPICS IN ECONOMICS: ENERGY ECONOMICS

Fall Semester 2019

T R 1-2:15 p.m.

Room Friday 107

INSTRUCTOR: Peter Schwarz, Professor of Economics, Core Faculty Public Policy and Associate, Energy Production and Infrastructure Center (EPIC), UNC Charlotte

OFFICE: Friday 223A **OFFICE HOURS:** TR 10:00 – 11:30 a.m or by appointment.

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WEB: <https://belkcollege.uncc.edu/directory/peter-schwarz>

Canvas: Grades, announcements, discussion board, correspondence

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. Time permitting, we will examine the use of energy to produce electricity, first subject to traditional regulation and then under competitive restructuring.

Course Prerequisites

There are no formal prerequisites, but if you have not taken ECON 2012 (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.

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.

Textbook

Energy Economics, Peter Schwarz, Routledge, © 2018, ISBN-10: 0415676789.

<https://www.routledge.com/Energy-Economics-1st-Edition/Schwarz/p/book/9780415676786>

At the link, there is a companion website containing homework questions and self-test quizzes. The approximate cost of the hardback version of the text is \$160. The approximate cost of the paperback text is \$80. The approximate cost of the ebook is \$40. Atkins Library has one hard copy of the text and unlimited free access to the ebook.

Optional

Wall Street Journal \$1 for 15 weeks (That's \$1, not \$15, for the semester) <http://r.wsj.net/lfbDG>

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 11:00 a.m. -1:30 pm on Thursday Dec. 12 (the final examination time assigned for this course).

Each of the three exams count 25%. There will be in-class quizzes based on the homework questions counting the remaining 25%. Quizzes and each of the three tests will consist of multiple choice and discussion questions. A = 90-100; B = 80-89.9; C = 70-79.9; D = 60-69.9; F = < 60.

Homework

Homework questions are on the companion website for the text. I will let you know which questions to do and when they are due. I do not anticipate collecting the homework on a regular basis, but reserve the right to do so on an occasional basis, in which case the grade on the homework will count as a quiz grade. I will drop the lowest quiz grade in determining your quiz average. You can anticipate around 10-12 quizzes during the semester.

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 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.

Outline of Topics and Reading Assignments

I. Economic Fundamentals

1. Energy Overview: Chapter 1 (Week 1—T Aug. 20, R Aug. 22)
2. Energy, Environment, and Sustainability: Chapter 2 (Week 2—T Aug. 27, R Aug. 29)

Labor Day (Week 3 M Sep. 2)

3. Static Efficiency: Chapter 3 (Week 3 – T Sep. 3, R Sep. 5)
4. Dynamic Efficiency: Chapter 4 (Week 4 – T Sep. 10, R Sep. 12)

(Week 5) Review for Exam 1 – Chapters 1-4 (T Sep. 17); EXAM 1 (R Sep. 19)

II. Conventional Energy Sources

1. Oil: Chapter 5 (Week 6 – T Sep. 24, R Sep. 26)

*Optional: Sept. 26, 10-11 am Student Activities Center: Entrepreneurial Speaker Series
CEO Fall 2019 Speaker Series – DeAndrea Salvador '13
Founder and CEO of Renewable Energy Transition Initiative (RETI) and JouleScout*

2. Natural Gas: Chapter 6 (Week 7 – T Oct. 1, R Oct. 3)

Fall Break (M, T Oct. 7, 8; No class T Oct. 8)

3. Coal: Chapter 7 (Weeks 8, 9 – R Oct. 10, T Oct. 15)
4. Nuclear Energy: Chapter 8 (Weeks 9, 10 – R Oct. 17, T Oct. 22)

The last day to withdraw from courses with grades of W is M, Oct. 21.

(Weeks 10, 11) Review for Exam 2 – Chapters 5-8 (R Oct. 24); EXAM 2 – Chapters 5-8 (T Oct. 29)

III. Alternative Energy Sources

1. Renewable Fuels: Chapter 9 (Weeks 11, 12 – R Oct. 31, R Nov. 7)

No class T Nov. 5 (I will be at the International Association of Energy Economists North American meeting from Nov. 3 through November 6.)

2. Energy Conservation and Efficiency: Chapter 11 (Week 13– T Nov. 12, R Nov. 14)

IV. Electricity

1. Traditional Electricity Regulation: Chapter 12 (Week 14 – T Nov. 19, R Nov. 21)

Thanksgiving W, R, F Nov. 27-29 (No class R Nov. 28)

2. Competitive Electricity Restructuring: Chapter 13 (Week 15 -- T Nov. 26, T Dec. 3)

W Dec. 4: Last Day of Classes; R Dec. 5: Reading Day

FINAL EXAM: R Dec. 12 11:00 am-1:30 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. If it cannot be scheduled before the exam is returned, the make-up will take place on Wednesday, Dec. 4 1:00-2:15 pm, or if necessary, an alternate time on that day, the day before, or the day after.

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 in class and on Canvas.

Academic Integrity

Students are required to abide by the UNC Charlotte Code of Student Academic Integrity. Violations of the Code will result in disciplinary action as provided in the Code. The Code is available from the Dean of Students Office or online at <http://www.legal.uncc.edu/policies/ps-105.html>.

Disability Accommodations

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information about accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

The Belk College of Business Diversity Statement

The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

Safety and Security Information

Posted in each classroom