

L.DeMarco  
ldemarco@econ.rutgers.edu  
Fall 2017

**Energy Economics**  
**220: 334**

Rutgers University  
Department of Economics

**Class Hours:** T,F 9:50 am-11:10 am

**Classroom :**AB-1170

**Office Hours:** Monday 9:50a-11 am  
Thursday 9:50a – 11 am and by appointment

**Office :**NJ Hall 405

## Econ 334(3 credits): Energy Economics is a “lower “ level elective

This course takes an economic approach towards international energy markets. We will address the fundamental and applications of models to understand markets for oil, gas, coal, electricity, and renewable energy resources. Models, modeling techniques, and issues included are supply and demand, market structure, futures markets, environmental issues, energy policy, energy regulation, energy conservation. We will gain introduction to data analysis, regression, economic forecasting, game theory, and optimization. We will also support our course with current articles and data sets.

**Prerequisite :** 220: 102 Introduction to Microeconomics  
220: 103 Introduction to Macroeconomics  
*All prerequisites require a minimum grade of C*

**Text :** *International Energy Markets 2<sup>nd</sup>* edition by Carol Dahl  
ISBN: **978-1-59370-291-5**

**Data analysis tool :**Microsoft Excel

### Learning Goals:

Upon conclusion student will have researched and practiced:

- Fundamental energy market dynamics through an economic lens
- Describe current energy market trends and relate current conditions to historical markets
- Employ analytical tools to guide decision making under uncertainty
- Your role as an energy analyst to address the energy economic challenge

### Pedagogy:

- This course will employ lectures, supplemental reading and additional online resources, quizzes and *RP* (see *NOTES* page 3)

**Grading :** (2) Midterm ( in-class each 25% ) 50%  
(2) quizzes (Sakai) 15%  
**No make-up quizzes**

(5) RP (Groups of 4) 25%  
Attendance/Participation 10 % <http://sims.rutgers.edu/ssra>

**All of our course materials (slides and excels) are for our course use only, redistribution is prohibited and protected.**

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## **Academic Integrity**

*Cheating and Plagiarism will not be tolerated. I will give enough opportunity to earn high grades by yourself there is no need for me to find any cheating or plagiarism of any sort. Professor Sopher will be notified immediately.*

All quizzes and RP will be completed by their due dates, **no late work to be accepted.**

## **Attendance**

Students are expected to attend all classes. If you expect to miss more than one or two classes because of illness or a family emergency, please use the University absence reporting website <http://sims.rutgers.edu/ssra> to indicate the date and reason for your absence. An email is automatically sent to me.

## **Class Conduct**

It is the expectation of mutual respect throughout the course, not only between instructor and student but between you and your peers.

## **Sakai**

The quizzes will be administered via our Sakai coursesite module. Any issues taking quizzes via Sakai module will impede your course be aware of this from the start of our course. Discuss with me your issues with this type of testing ASAP. Everything you will need will be available through our Sakai coursesite as well.

## **Communication:**

Rutgers e-mail: [ldemarco@econ.rutgers.edu](mailto:ldemarco@econ.rutgers.edu)

**E-mails are expected to be professional and proper, only e-mails of this type will be answered.**

## **Missed quizzes/exams:**

A missed quiz will earn a zero points, no make-up for quizzes.

A missed exam will earn zero points. Departmental Make-Up Exams will only be given under extraordinary circumstances. Students should check with me before missing an exam to see whether their particular circumstances meet my very limited definition of extraordinary.

## **Notes:**

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- Quizzes and Midterms will be multiple choice, T/F and/or fill in questions that test concept and/or calculation
  - They are to be completed individually
- RP in this course are research and/or practice assignments
  - Groups of 4 or less
- Attendance/Participation will include in class and in addition online interaction:
  - (1) Asking at least 1 question each week on our course website
  - (2) Answering at least 1 question each week on our course website

**All quizzes and RP will be completed by their due dates, no late work to be accepted.**

**All grades achieved during the semester are finalized by the last day of class.**

**Any RP grades for review must be in writing within 5 days of grade return.**

**Important Dates**

Tuesday Nov 21 is a Thursday schedule – No class

Wednesday Nov 22 is Friday schedule – We have class

[Rutgers NB Fall 2017 Undergrad Calendar](#)

	<b>Topics</b>	<b>Chapters</b>	<b>RP</b>	<b>Quizzes</b>
Week 1 9/3	Microeconomics refresher Energy markets and data <a href="#">Today in Energy</a>	<i>P13-27</i>		
Week 2 9/10	Supply, Demand and Price formations in competitive markets	<i>Ch 3 MIT Salt Seller Sim</i>		<b>End of week Quiz 1</b>
Week 3 9/17	Energy Taxes, Subsidies, and Social Welfare Market Structure	<i>Ch 4, Ch 11</i>	<b>Release RP1</b>	
Week 4 9/24	Energy market structure: Oil , OPEC, pricing , world oil and energy security, Keystone XL pipeline	<i>Ch 7</i>		
Week 5 10/1	Natural Gas market structure and pricing, LNG, regulation and deregulation, locational constraints	<i>Ch 8 , Ch 9, Ch 10</i>	<b>Release RP2</b>	
Week 6 10/8	Intro to regression analysis Modeling Energy Demand and Oil			
Week 7 10/15	... continued Modeling natural gas <b>Tuesday 10/17 Midterm 1</b>			<b>Mid 1</b>
Week 8 10/22	Energy market structure: Coal, Electricity Regulation and deregulation of Electricity markets, LMP pricing and PJM	<i>Ch 5, Ch 6</i>		
Week 9 10/29	... continued Modeling Electricity and coal markets		<b>Release RP3</b>	
Week 10 11/5	Renewable Energy : types, market structures and pricing, impact at grid level, energy storage as the future of renewables			
Week 11 11/12	<b>Tuesday 10/14 Midterm 2</b> Risk management through futures and derivatives Weather derivatives	<i>Ch 18, Ch 19</i>		<b>Mid 2</b>
Week 12 11/19	Energy and the environment: Climate change, impact on energy markets, After Kyoto <b>Thanksgiving</b>	<i>Ch 12</i>	<b>Release RP4</b>	
Week 13 11/26	Externalities: Emissions markets, cap and trade mechanisms	<i>Ch 11, Ch 13</i>		
Week 14 12/3	Future of international energy markets Market forces and government intervention	<i>Ch 20, Ch 21</i>	<b>Release RP5</b>	<b>Quiz 2</b>
Week 15 12/10	The current energy analyst and your toolbox to address the energy economic challenge			

**Disclaimer:** The dates of quizzes, midterms and RP are tentative, they can change due to our class meetings. I will discuss in advance before release and due dates. I reserve the right to make any changes to the syllabus.

**GRADE BRACKETS**

A	$90 \leq x \leq 100$
B+	$85 \leq x < 90$
B	$80 \leq x < 85$
C+	$75 \leq x < 80$
C	$70 \leq x < 75$
D	$60 \leq x < 70$
F	$x < 60$

**Disclaimer:** I reserve the right to curve final grades due to the level of difficulty in the nature of the course. No additional points will be given to grades; the grade brackets will shift to support the curve.

**Student-Wellness Services:**

**Just In Case Web App**, for a mental health crisis for you are a friend:

<http://codu.co/cee05e>

**Counseling, ADAP & Psychiatric Services (CAPS)**, for non-emergency psychological health issues:

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 [www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

**Violence Prevention & Victim Assistance (VPVA)**

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

**Disability Services**

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

**Scarlet Listeners**, for confidential peer counseling and referral hotline:

<http://www.scarletlisteners.com/> or call (732) 247-5555