

# Syllabus

**Course Information:**

ECON 4505 – Special Topics Energy Economics  
CRN 21647

Time:

TR 3:30pm - 4:45pm

Room:

Centennial Center 237

**Professor:**

Dr. Alexandre Ribeiro Scarcioffolo

Office:

421 Atkinson Hall

Office Hours:

M 9:00am-11am & T TR 1pm-2:30pm and by appointment

Meeting room

<https://gcsu.webex.com/meet/alexandre.scarcioffolo> ( 120 827 2617)

Email:

[alexandre.scarcioffolo@gcsu.edu](mailto:alexandre.scarcioffolo@gcsu.edu)

Phone:

478-445-1804

**Course Description:** The energy market have become some of the most dynamic markets of the world economy. From crude oil to electricity, the energy sector has seen a shift from heavy regulation to more market-oriented incentives. The goal of this course is to apply economic theory to analyze the energy market as a whole. Topics include effect of competition for the fossil fuel commodities, market power and scarcity on energy prices, extraction and pricing of oil and gas, the development and effect of organized spot, futures, and derivative markets in energy commodities. Additionally, we will cover the renewable sector and the new challenges for the electricity market

The course will primarily consist of lectures combined with class and small group discussion. The emphasis of this course will be developing analytical skills, communication skills, and on the application of economic concepts to real-world situations.

**Prerequisite:** Econ 2106 - Principles of Microeconomics or Equivalent

**Readings:**

- A mix of newspaper articles, academic papers, reports, plus the following textbook:
- Microeconomics, 9th Edition Robert Pindyck, MIT Daniel Rubinfeld, University of California, Berkeley (hereafter PD)
- International Energy Markets: Understanding Pricing, Policies, Profits, 2nd Edition Author Carol Dahl, PennWell Books, 2015 (hereafter CD)
- Keohane, N. and Olmstead, S., Markets and the Environment, Washington, DC: Island Press, 2007 (hereafter KO).

**General Course Policies and Expectations:**

- Attendance is required. Students will be allow to miss up to 3 classes without an official justification. Missing more than 3 classes, the student will receive a F.
- Reading the textbook and material before coming to class is **ESSENTIAL**.

- Please visit me (Webex) during office hours if questions remain after reading the relevant chapter and attending the related lecture. **I am a resource for you!!!.**
- Engaging in private conversations, reading materials unrelated to class, or any other activity that creates negative externalities for others in the class should be avoided. This includes use of electronic devices in the classroom (cellphone, earphones, etc) in a manner that is not consistent with the educational process.
- Students should check the school email regularly as these will be the primary forms of mass communication with the class.

**Grading:** Grading in this course will consist of a mixture of exam, homework, in-class discussion, presentation, and the OPEC game. The grading for the OPEC game will be based on the memo each team will write, performance in the game, and your explanation of that performance during game wrap-ups. These assessments will result in a total of 1000 points possible in the course.

### Grade Breakdown

| Assignment              | Max. Points |
|-------------------------|-------------|
| Exam                    | 200         |
| Homework                | 200         |
| In-class participation  | 200         |
| Presentation and Report | 300         |
| OPEC Game               | 100         |
| <b>Total</b>            | <b>1000</b> |

### Grading Scale

| Score    | Letter Grade |
|----------|--------------|
| 900–1000 | A            |
| 800–899  | B            |
| 700–799  | C            |
| 600–699  | D            |
| 000–599  | F            |

*Exams:* There is only one exam in the course. Exams will be a combination of short writing and calculation questions. Questions may come from assigned readings even if it has not been explicitly covered during lecture. Likewise, questions may be from lecture material not found explicitly in the readings.

### Exam Schedule

| Exam    | Date                |
|---------|---------------------|
| Exam #1 | Thursday 03/16/2021 |

*Exam Policy:*

- There will generally not be make-up exams. Accommodations for university excused absences will be provided if I am notified prior to the exam and provided with the required documentation.
- You cannot use any electronic device during the exams. If a student is observed with cell phone, smart watch, or earphones out during an exam, he or she will automatically receive a zero on that exam.
- The use of calculator, when needed, will be informed in advance.
- Exams will take place in our regular classroom at the regular class time and will be closed book. Students must take exams with their section of the class
- Once you enter the classroom and receive an exam, you may not leave the classroom.
- Students **WILL NOT** have exams handed out after the first student hands in his/her exam.

*Homework:* There will be 5 homework. The homework will be posted on GAVIEW, and you will have one week to **submit it to me in class**. Assignments will be due at the beginning of class. There will be NO LATE ASSIGNMENTS ACCEPTED FOR ANY REASON. The collaboration of students to complete the homework is encouraged, however, each student must turn in his/her own homework. I **will not** accept group homework under any circumstances.

**Homework Schedule**

| Homework | Due Date | Points |
|----------|----------|--------|
| HW# 1    | 2/04     | 40     |
| HW# 2    | 2/25     | 40     |
| HW# 3    | 3/11     | 40     |
| HW# 4    | 4/08     | 40     |
| HW# 5    | 4/22     | 40     |

*In-class participation:* Attendance and participation in class will be critical to learning the material in this class. Sometimes there will be required readings and other activities that I will assign and that you will be expected to complete before class. There will also be in-class activities all with a goal of expanding your knowledge and preparing you for the homework assignments and exams and for your future careers. A portion of your grade will be related to all of these activities. Each student will get three free passes. In other words, you can miss class or not participate up to three times without it affecting your grade. When you attend class, please plan to show up on time and stay through the end of the class period. Showing up late or leaving early is disruptive to your classmates.

*Presentation & Paper:* In order to help you improve your written and oral communication skills, students will be required to present and write a paper on a specific energy sector. I will separate the class into 5 groups. Each group will make a 30-minutes presentation on an article assigned in the beginning of the semester. Other groups are expected to ask questions by the end of the presentation and engage in discussion. The presentation should explain the paper but also include relevant information about the sector that the paper did not mention. Each

group is expected to submit a paper that answer an specific question created by the group on the assigned energy sector. Rubrics will be available on GAVIEW - Please review them before submitting your paper. The paper is due on the last day of class (04/29). I will provide additional details later in the semester. You will have ample time to prepare.

*OPEC Game:* Students will participate in a strategy game. The OPEC game is a series of simulations of the world oil market. Student teams represent countries and try to maximize profits by making output decisions that determine the world oil price. I will provide additional details later in the semester

I reserve the right to award, at my discretion, extra credit for class attendance, extra credit quizzes, and any other various and sundry academic events and activities throughout the course of the semester. These extra credit opportunities will be announced as appropriate.

**Contacting the Instructor and Email Etiquette:**

The best time to ask questions is in class! Outside of class, the best way to reach me is via email. I will respond to emails in a timely manner – in most cases within a few hours. However, be aware that you are unlikely to get responses outside of regular business hours.

Professional email communication is an important skill for career success. I will always send professional emails when communicating with the class or with individual students and I expect that you will do the same when contacting me. When sending me an email, please compose it in a professional manner (an example is shown below) using complete sentences. To avoid it being sent to my spam box, please also ensure that “ECON 4405” is in the subject line; in addition, I suggest sending from a GCSU email address. It is also very important that you provide your full name, as many of your email addresses do not tell me who you are.

*Subject: ECON 4505*

*Alex,*

*I am a student in your ECON 4505 class and I would like to set up an appointment on Thursday, 1/10, to discuss the material covered in class last week. I am available from 9 a.m. to 1:30 p.m.*

*Thank you.*

*Jane Doe*

Georgia College is committed to maintaining a safe and healthy learning environment for all students, faculty, and staff. Encompassed in our campus values of Reason, Respect, and Responsibility is the expectation that every member of the university community will follow specific guidelines to ensure the health and safety of everyone on campus.

Consistent with CDC and State of Georgia guidelines and directives from the University System of Georgia, Georgia College **requires masks in all Georgia College indoor facilities and in outdoor campus areas** where social distancing is not possible. In our modified face-to-face learning environment, you will be **socially-distanced in assigned seats and wear the required CDC-approved face coverings**. Face coverings will be used in addition to social distancing.

Below are additional considerations to mitigate the spread of COVID-19:

- All classrooms have been evaluated and arranged to achieve the required social distancing guidelines. Students should not move the furniture since that will disrupt our institutional plan for health and safety.
- Everyone must follow proper social distancing and personal hygiene measures. This includes: maintaining at least 6 feet of spatial distancing from others, washing your hands frequently for at least 20 seconds, utilizing hand sanitizer, covering your cough and sneeze with a tissue or the inside of your elbow, and avoiding close contact and congested areas without face masks. Anyone not using a face covering when required will be asked to wear one or must leave the area.
- Avoid congregating in commonly trafficked areas such as hallways, bathrooms, and common spaces to reduce people density at any given time.
- Exit the classrooms in an orderly and physically-distanced manner as soon as class ends so that entering faculty members and students have adequate time to prepare their work space (sanitizing if they desire) for the next class. Exiting the classroom and/or building in a manner that promotes physical distancing is important to avoid crowding.
- If you are feeling sick, please do not attend classes. Consult Student Health Services or visit your doctor. Please notify your professor prior to missing class. Faculty members will work with you to receive the necessary course content and assessments.

*GC Keeps Learning:* To help students adapt to the changing learning environment, Georgia College has developed a website of resources, tips, virtual tools, and access to help. Included in this site are tutorials for GeorgiaVIEW, area access to Wi-Fi, academic support tools, and tips for online learning (<https://www.gcsu.edu/gckeepslearning>).

*GC's Campus Reopening Website:* The Campus Reopening website (<https://www.gcsu.edu/return/reopening-faqs>) will provide the latest information about our response to COVID-19. Check here for messages from President Dorman, as well as changes to the academic calendar, information about orientation, dining and residential life, important phone numbers, and the latest message sent to students, faculty, and staff. (<https://www.gcsu.edu/return>).

*Writing Center:* Aside from one-on-one meetings with teachers during office hours, the best way to improve your writing is to work with writing consultants at the Writing Center. Writing consultants will work with any student writer working on any project in any discipline. To learn more about Writing Center locations, hours, scheduling and services, please go to <https://www.gcsu.edu/writingcenter>.

**Academic Dishonesty:** The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of Georgia College & State University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code located at <http://catalog.gcsu.edu/en/2019-2020/Undergraduate-Catalog/Academic-Policies/Student-Code-of-Conduct/Student-Academic-Dishonesty>. Any student who commits any act of academic dishonesty will automatically receive a grade of “F” in this course.

## Lauren’s Promise

### I will listen and believe if someone is threatening you

Lauren McCuskey, a 21-year-old honors student athlete, was murdered on 2018 by a man that she briefly dated on the University of Utah campus. **We must all take action to ensure that this never happens again.**

If you are in immediate danger, call 911.

If you experiencing sexual assault, domestic violence, and/or stalking, please report it to the Title IX Coordinator by calling the Office of Legal Affairs at (478) 445-2037 during business hours. You can also call Georgia College Police at (478) 445-4400 (emergency assistance) to report a possible assault. Off-campus resources include the Crisis Line and Safe House of Central Georgia, their 24/7 hotline number is (478) 745-9292 and the Bright House at (478) 250-8566, their 24/7 crisis hotline number is (770) 477-2177. You can also contact Counseling Services during business hours at (478) 445-5331. For confidential reporting options, please visit this <https://www.gcsu.edu/titleix/filing-complaint>.

## Detailed Outline

- 1/19/21
  - Course Introduction and groups formation
  - World Energy Outlook [Executive Summary](#)
- 1/21/21
  - [Economics of Energy by James L. Sweeney](#) (**Read sections 1 – 6**)
- 1/26/21
  - Review of Demand and Supply - PD (Chapter 2 - part 1 - pages 43-84)
- 1/28/21
  - Review of Demand and Supply - PD (Chapter 2 - part 1 - pages 43-84)
- 2/2/21
  - Perfect Competition and the Coal Industry - CD (pages 43 – 56)
- 2/4/21
  - Paper presentation - The death spiral of coal in the U.S.: will changes in U.S. Policy turn the tide? (Alex)
- 2/9/21
  - Monopoly on Crude oil market - Read first PD (pages 369-376), and then CD (pages 153-158; 165-180)
- 2/11/21
  - Monopoly on Crude oil market - Read first PD (pages 369-376), and then CD (pages 153-158; 165-180)
- 2/16/2021
  - Managing Stocks: Natural Resources as Capital Assets - KO (chapter 6).
- 2/18/2021
  - Managing Stocks: Natural Resources as Capital Assets - KO (chapter 6).
  - Introduction to the OPEC Game
- 2/23/21
  - Paper presentation (Group 1) - J. Hamilton, 2009. “Understanding Crude Oil Prices.” The Energy Journal 30(2): pp. 179-188
- 02/25/21
  - US natural gas markets - CD (Chapter 8 - pg:185 - 191)
  - [Natural gas Explained - EIA](#)

- Alexandre R. Scarcioffolo, and Xiaoli L. Etienne (2019). “How connected are the US regional natural gas markets in the post-deregulation era? Evidence from time-varying connectedness analysis.” Journal of Commodity Markets, 15, p 1-8. (Introduction)
- [Natural gas pricing - CME](#)
- 3/2/21
  - Paper presentation (Group 2) -Paul L. Joskow, 2013. “Forty Years Since the 1973 OPEC Embargo: US energy Policy and Lessons for the Future Natural Gas: From Shortages to Abundance in the United States”
- 3/4/21
  - [The economics of Shale Gas Development](#)
- 3/9/21
  - Paper discussion (Group 3) - Kilian, Lutz 2016. The Impact of the Shale Oil Revolution on U.S. Oil and Gasoline Prices.
- 03/11/21
  - Liquefied Natural Gas - [Global market for LNG](#)
  - [EIA - LNG](#)
- 3/16/21
  - EXAM 1
- 3/18/21
  - Energy Futures Market - CD (Chapter 18)
- 3/23/21
  - OPEC Group Meetings in class
  - Energy Futures Market - CD (Chapter 18)
  - [How negative oil prices revealed the dangers of the futures market](#)
  - [There's Nowhere to Put the Oil](#)
- 3/25/21
  - Energy Options to Manage Risk - CD (Chapter 19)
- 3/30/21
  - Energy Options to Manage Risk - CD (Chapter 19)
- 4/1/21
  - EIA - [Electricity explained](#) - Read all the sections (Also in Electricity explained)
  - Slides - Electricity
- 4/6/21



- EIA - [Electricity explained](#) - Read all the sections (Also in Electricity explained)
- Slides - Electricity
- 4/8/21
  - EIA - [Electricity explained](#) - Read all the sections (Also in Electricity explained)
  - Slides - Electricity
- 04/13/21
  - OPEC Game Debriefing in class item EIA - [Electricity explained](#) - Read all the sections (Also in Electricity explained)
  - Slides - Electricity
- 4/15/21
  - Paper discussion (Group 4) - S. Borenstein, 2002. The Trouble with Electricity Markets.
- 04/20/21
  - Renewable overview - Covert et al 2016. [Will We Ever Stop Using Fossil Fuels?](#)
  - [The United States consumed a record amount of renewable energy in 2019](#)
- 04/22/21
  - Paper discussion (Group 5) - S. Borenstein, 2012. “The Private and Public Economics of Renewable Electricity Generation”.
- 4/27/21
  - [Why did renewables become so cheap so fast? And what can we do to use this global opportunity for green growth?](#)
  - [Jevon’s Paradox](#)
- 04/29/21
  - Role of Storage -
  - [Unbridled Energy: Predicting Volatile Wind, Sun](#)
  - Renewable Energy Policy
  - J. Deign, “More ‘Subsidy-Free’ Offshore Wind Emerges in Europe”, Greentech Media
  - N. Groom, “Billions in U.S. Solar Projects Shelved after Trump Panel Tariff”
  - A. Swanson, “To Protect U.S. Solar Manufacturing, Trade Body Recommends Limits on Imports”, New York Times.
- N. Groom, “Billions in U.S. Solar Projects Shelved after Trump Panel Tariff”
- A. Swanson, “To Protect U.S. Solar Manufacturing, Trade Body Recommends Limits on Imports”, New York Times.