

COLLEGE OF CHARLESTON
Department of Economics
Introduction to Econometrics (ECON 419), Section 01
Online Synchronous, Spring 2021

Course Information

Instructor: Dr. Jessica Madariaga
Class Times: TR 9:25-10:40 am via Zoom (online synchronous)
Office: Beatty Center, Room 333
Office Hours: Make an appointment via email and we will meet using Zoom.
Tel: 843-953-1992
E-mail: madariagajf@cofc.edu (Please note I stop checking email after 7 PM)

Course Learning Outcome: The purpose of this course is to introduce the student to applying statistical techniques to economic issues. The course will cover practical methods for organizing and analyzing economic data, testing economic hypotheses, and measuring economic relationships. Regression analysis is the main empirical method, and basic statistical and probability theory is included. Both mathematical derivations and applied econometric analysis will be presented to help solidify the student's understanding of the principles of econometric analysis. Students will get experience formulating models, obtaining relevant data, estimating models, and interpreting the results. More importantly, the student should learn from this course to be a thoughtful consumer and a careful practitioner of economic research.

School of Business/ Economics Learning Outcome: **Quantitative Fluency:** Students demonstrate the ability to draw insights about economic behavior from the application of mathematical tools. Supports Strategic Initiative 1: Enhance the undergraduate academic core.

Synthesis: Students demonstrate the ability to access existing knowledge by retrieving, assembling and organizing information on particular topics and issues in economics. Supports Strategic Initiative I: Enhance the undergraduate economic core.

Communication Skills: Students demonstrate the ability to clearly communicate the analysis of an economic issue. Supports Strategic Initiative 1: Enhance the undergraduate academic core.

Prerequisites: ECON 200, ECON 201, 6 credit hours of 300-or-400 level ECON courses; MATH 104 or MATH 250; MATH 105 or MATH 120; MATH 350 or DSCI 232; or instructor permission

Catalog Description: ECON 419, Introduction to Econometrics
An introduction to the use of economic theory, statistical analysis, and mathematical model building to explain economic relationships.

Course Map: Below you will find details how the course will progress. This includes explanations regarding:

1. How the course is structured;
2. Required material, textbook, and software;
3. Participation and time commitment;
4. Grading and how to submit assignments;
5. Where to go with technical difficulties.

**Course
Structure**

This class is run like a traditional (meet in person) class, except that the lectures, content, and assignments will be delivered in a non-traditional (online) manner.

Please note the class format is synchronous, so we will meet over Zoom every Tuesday and Thursday between 9:25am – 10:40 am. You are expected to actively participate in the class by engaging in all the readings, attending online lectures and taking your own notes, and completing all assignments on time. Specifically, students will be expected to complete in-class assignments every Tuesday and Thursday, complete homework every week, complete three in-class exams and a final exam.

Homework assignments are due on Sunday by 11:59 p.m. EST and can be found in the dropbox tool in OAKS.

“In-class” assignments are due on Tuesday and Thursday by 11:59 p.m. EST and can be found in the dropbox tool in OAKS.

Lab assignments will be due the day of the computer lab by **11:59 p.m. EST** and can be found in the dropbox tool in OAKS.

“In-class” exam dates can be found on the syllabus and can be found in the dropbox tool in OAKS.

**Required
Material:**

OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus, class material, readings, and grades for each assignment, which will be regularly posted. Students will need access to a computer or mobile device with high-speed internet access in this course.

Class meetings will be held via Zoom. Class sessions will be recorded via both voice and video recording. By attending and remaining in this class, the student consents to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class.

Required Text: *Introductory Econometrics: A Modern Approach Economics*, 5th edition, Jeffrey M. Wooldridge. ISBN-13: 978-1111531041

**Required
Software:**

The software used in class for analysis is the SAS statistical package. This software is available on the cloud for students in this class. Detailed instructions on how to access the software are on the class OAKS page. Several classes are designated as computer lab days in order to provide more in-depth and comprehensive treatment of SAS applications for the concepts learned in class.

Attendance:

Because class attendance is crucial for any course, students are expected to attend all classes and laboratory meetings. Students are expected to arrive on time and to remain for the entire class period. When in class students should turn cell phones off or to vibrate. Do not answer your cell phone during class. If it is an emergency, please excuse yourself from class.

If I find that a certain student is disrupting the class, he/she will be issued one warning, failing which, he/she will be asked to leave the classroom. If I ask you to leave the lecture, I will take five points from your final grade for each incidence.

**Time
Commitment
for Success:**

It is essential that you stay on top of the course assignments. I will post due dates and reminders, but it is your responsibility to make sure you do not fall behind. **The class has the same academic rigor as a traditional class-do not make the mistake of thinking this is an easy class because the class format is online.** The material is challenging and may take a significant amount of effort to master.

To be successful in the class,

1. **Expect approximately nine to ten hours a week of active work in the class.**
2. **Anticipate logging into the course at least 5 days per week** to stay current.
3. **Complete assignments on time.** In econometrics, every new concept is built on previous material so give yourself enough time to process and fully understand the material.
4. **Ask questions related to course content and reading as they arise.** Questions can either be emailed to me, asked during class, or asked during office hours. Remember, econometrics builds on itself, the more you understand the early material, the easier the class becomes in the latter part of the semester.

Participation:

Participation is not graded. However, participation is highly valued and to encourage participation I adopt the following policy. I will *increase* your exam score if you have been active in class discussions, usually one-half to a full point for all correctly answered questions during lecture or insightful questions asked. I will *never* decrease your grade if you do not talk or if your comments were totally off. Such grade increases due to participation are **not negotiable**. Historically, this policy has helped around 30-35% of students to move up to a higher grade relative to their grade in the absence of the policy.

Grading:

The level of comprehension that you achieve will be assessed by in-class assignments, homework, computer labs, exams (3 given but the lowest score is dropped) and a comprehensive final. The final grade in this class will be calculated as the best grade earned under the following three methods. **A standard 10 point grading scale applies.**

Method 1	Method 2	Method 3
Exam I: 17.5%	Exam I: 0%	Exam I: 17.5%
Exam II: 17.5%	Exam II: 17.5%	Exam II: 0 %
Exam III: 0%	Exam III: 17.5%	Exam III: 17.5%
In-Class Work: 15%	In-Class Work: 15%	In-Class Work: 15%
Homework: 15%	Homework: 15%	Homework: 15%
Labs: 10%	Labs: 10%	Labs: 10%
Final: 25%	Final: 25%	Final: 25%

Exams:

Three exams and a final will be given during the term. Exams will consist primarily of mathematical derivations, problem solving, interpretation of regression results, and applied economic problems using SAS. The emphasis in this course is on problem solving and critical thinking.

The "take three, drop one" format is designed to allow students to miss class periods if needed, for any reason. *Their purpose is not to help you get a better grade, but rather to allow you to manage any scheduling conflicts that may arise during the course of the semester.* Make-up tests will not be given.

Students will be allowed to use their book and notes for the exams, BUT students are forbidden from using the internet or have assistance /collaboration from any other individual during exams. If students engage in this behavior, expect an F in the course and an immediate notification of the student's violation to the Honor Board.

Homework:

I will assign homework over the course of the semester. Please take note of the following guidelines:

1. Murphy's Law: "Anything that can go wrong, will go wrong." Laptops are stolen. Hard drives crash. Your wireless connection fails. So, do not wait until the last minute to submit homework assignments.
2. Late homework will not be accepted under ANY circumstances.
3. There will be no extensions granted for individual students under any circumstances.
4. I require that all homework assignments are typed. The only exception is if you have graphical problem. If the assignment is not typed, I will not grade the homework. I ask that homework be typed to help increase the turn-around time in giving assignments back.
5. I require that all homework assignments are done through the dropbox tool in OAKS tool. Homework will be due **every Sunday by 11:59 p.m. EST, except for the Sundays following an exam or the first week in March.**

In-Class Work:

I will assign "in-class assignments" over the course of the semester. The purpose is to increase your practice with the application of econometric problems as well as give feedback to help you internalize the concepts presented during lectures. **In-class assignments are due Tuesday and Thursday by 11:59 p.m. EST.**

Final Exam:

Students who cannot take the final exam at the regularly scheduled time should not take this class. The final exam is comprehensive. If a student performs better on the final exam than the remaining lowest exam score, I will replace the lowest test score with the final exam grade. Therefore, the final exam has the potential to be worth 42.5% of a student's grade.

Grading Policy:

Any disagreement with the grade given in any homework or exam can only be contested in written form. Submit in writing (not email) both the question that you believe was unfairly graded along with the economic reasoning for why your answer was correct. A written response will be given to you afterwards. Please note that if you do submit a disagreement, I will not only look at the answer in question but also the entire exam. This means all questions and partial credit will be under review. A written response will be given to you afterwards. Under no circumstances will a grade be changed by email or any other means. In addition, grades may not be discussed over email.

No make-up assignments, including taking exams early, will be offered for any reason. Students are expected to complete online assignments far enough in advance to avoid losing points due to computer malfunctions, power outages, or

similar rare events. If a student will be unable to complete a graded assignment, they should inform the professor (prior to the assignment's due date if possible) and up to two homeworks, one lab, and two in-class assignments may be excused from the student's grade at the professor's discretion.

How to Succeed In the Course:

Econometrics is a challenging subject for most students. We combine three difficult subjects: economics, statistics, and programming. Econometrics requires work, and more importantly, thought. Work and thought take time and effort. To get much out of this course, you will have to put effort into it. A serious student puts into any course about twice as many hours outside the class as inside the class, usually earlier in the semester and less later. In the case of this course, which is worth 3 credit hours, this means students should expect to work 6 hours outside the classroom every week in order to earn an average grade. Some students will need to invest more time than this, and students seeking higher grades will likely need to correspondingly increase their time investment. If you are willing to do the required work, you should learn many interesting and useful things. It's all a matter of how you want to spend your time, which is a choice only you can make.

Student Behavior in the Online Learning Environment:

As stated on page 75 of the Student Handbook: "a college classroom requires a higher level of courtesy than many people exercise in ordinary public space. Everyone in a classroom is there for the purpose of learning, and no one should be able to deprive another person of the chance to learn. Expressions of rudeness and even carelessness degrades the high purpose of learning that should be paramount in a college classroom." This applies equally to the online classroom.

To maintain a respectful and supportive environment, the below outlines expectations regarding

1. Online communication with your instructor either through email or office hours,
2. Video call etiquette
3. Where to address technical difficulties

Email:

Most organizations are dependent on email for internal and external communications. As ECON 201 is in the business school, I will enforce each student to use email etiquette so that it will be second nature when you enter the labor force. When corresponding with me, please:

1. Include ECON 201 in the subject line
2. Include a respectful greeting (Hi Dr. Madariaga or Dear Dr. Madariaga)
3. Use complete sentences
4. Proofread your email

Typically, I will respond to your email within 24 hours during the weekday, although my response time will be slower on the weekends (48 hours). I stop responding to emails after 7 pm. If you do not receive a reply within 48 hours, please re-send your message. **My response time is the same for emergency and non-emergencies.**

Office Hours

If email does not sufficiently answer your question (or you would simply like to talk virtually face-to-face), I am more than happy to talk over Zoom after an email request for an office hours appointment. I will use Zoom for virtual office hours because it allows for synchronous communication similar to face-to-face-interactions.

Video Etiquette

I expect all students to comport themselves online just as they would in a classroom. Students should be appropriately attired. Backgrounds should not be

distracting. Microphones should be muted. Students who consistently don't meet well-known standards will be warned. If students do not change their behavior after being warned, then I reserve the right to bring students before the Honor Board for obstructing the education of their peers.

Technical Difficulties

If you have technical problems, please contact Student Computing Support or Helpdesk using these methods:

1. Student Computing Support: (843-953-5457) or studentcomputingsupport@cofc.edu
2. IT Service Desk: (843-953-3375) or itservicedesk@cofc.edu

Disability Statement

The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services/SNAP, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed. For more information regarding these services, please visit the SNAP website <https://disabilityservices.cofc.edu/> or call (843)-953-1431.

Center for Student Learning

I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies, speaking & writing skills, and course content. They offer tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843) 953- 5635.

Honor Code

The College of Charleston Honor Code is in effect in this class. As such and as indicated in the Honor Code, all violations, when identified, are investigated. Cases of Suspected academic dishonesty must be reported to the Dean of Students and will be handled by the Honor Board.

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor board for academic dishonesty will receive an XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration—working together without permission—is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from other's exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the Student Handbook:

<http://deanofstudents.cofc.edu/honor-system/studenthandbook/>

ECON 419, ECONOMETRICS
Tentative Schedule, Spring, 2021

WEEK OF:

January	12	Appendix A: Mathematic Basics
	14	Appendix A: Mathematic Basics
	19	Appendix B: Review of Probability
	21	Appendix B and C: Review of Probability
	26	<u>Computer Lab</u>
	28	Appendix D: Summary of Matrix Algebra
February	02	<u>Computer Lab</u>
	04	EXAM 1
	09	Simple Linear Regression Model, Chapter 2
	11	Simple Linear Regression Model, Chapter 2
	16	<u>Computer Lab</u>
	18	Multiple Linear Regression Model, Chapter 3
March	23	Multiple Linear Regression Model, Chapter 3
	25	Multiple Regression Analysis: Inference, Chapter 4
	02	No Class, Reading Day
	04	No Class, Reading Day
	09	<u>Computer Lab</u>
	11	Multiple Regression Analysis: Further Issues, Chapter 6 and Binary Variables, Chapter 7
	16	<u>Computer Lab</u>
	18	Exam 2
April	23	Limited Dependent Variables, Chapter 17
	25	Limited Dependent Variables, Chapter 17
	30	<u>Computer Lab</u>
	01	Heteroskedasticity, Chapter 8
	06	Heteroskedasticity, Chapter 8
	08	<u>Computer Lab</u>
	13	Panel Data, Chapter 14
	15	<u>Computer Lab</u>
	20	Exam 3
21	<u>Last day of class</u>	
27	FINAL EXAM FROM 8 AM-10AM	