Course Information

Instructor:	Dr. Jessica Madariaga
Class Mode:	In-person lecture
Class Times:	Tuesdays and Thursdays: 9:25 am-10:40 am
Classroom:	Tate Center for Entrepreneurship 304

Office:	Beatty Center, Room 333
Office Hours:	Monday and Wednesday: 9:30-10:30am
	Friday: 9:30am-11:30am
	Or make an appointment via email and we will meet using Zoom if the above times do not work.
Telephone:	843-953-1992
E-mail:	madariagajf@cofc.edu (Please note I stop checking email after 7PM)

Prerequisites: ECON 200, ECON 201, 6 credit hours of 300-or-400 level ECON courses; MATH 104 or MATH 250; MATH 105 or Math 116 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 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.

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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. Attendance and time commitment;
4. Grading and how to submit assignments;
5. Where to go with technical difficulties.

Course Structure You are expected to actively participate in the class by engaging in all the readings, attending lectures, taking your own notes, and completing all assignments on time. Specifically, students will be expected to complete homework every Sunday night (except when an exam is due), complete three mid-term take-home exams, complete multiple computer labs, and complete 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.

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

Exam dates can be found on the syllabus and can be found in the dropbox tool in OAKS.

Required Text: *Introductory Econometrics: A Modern Approach Economics,*
7th edition, Jeffrey M. Wooldridge. ISBN-13: 978-1337558860

Required Material: OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus, class material, and grades for each assignment, which will be regularly posted. You can locate OAKS through My Charleston https://my.cofc.edu/ or directly at https://lms.cofc.edu/. This means access to a computer or mobile device with high-speed internet is required for this class (this is also due to programming component in the course, see required software below).

Additionally, a certain degree of comfort with technology, such as downloading and uploading files, creating pdfs, scanning documents is needed to be successful in this course.

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: It is my expectation that you will attend class in person unless you have made alternative arrangements with me prior to the start of class due to illness, medical reasons, or the need to isolate or quarantine due to COVID-19. The topics and content explored in the course will be taught and communicated via class demonstrations, activities, and lectures. Therefore, attendance and participation are

crucial for a complete understanding of course material. 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.

In the event you find yourself experiencing COVID-19 related symptoms, I request that you do the following:

1. Stay home! This is the best way to prevent spreading COVID-19 as supported by scientific evidence.

2. Get tested immediately. If you test positive, it is my expectation that you will notify me.

3. It is my expectation (although it is not required) that you will also contact me to guarantee a feasible plan is in place so you can finish the semester. In the case that you are not able to finish the coursework by the end of the semester, we will need to consider options that may include a medical withdrawal or incomplete for the semester.

Face Masks   Until otherwise announced, the College does not require face coverings for members of the campus community. I will always follow College protocol regarding face masks, so please be aware that mandatory face masks may be required if policy changes.

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 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 3 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.

Grading: The level of comprehension that you achieve will be assessed by home-works, 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: 20%	Exam I: 0%	Exam I: 20%
Exam II: 20%	Exam II: 20%	Exam II: 0 %
Exam III: 0%	Exam III: 20%	Exam III: 20%
Homework: 20%	Homework: 20%	Homework: 20%
Labs: 15%	Labs: 15%	Labs: 15%
Final: 25%	Final: 25%	Final: 25%

Exams: Three take-home 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.

The only exception is for College of Charleston sanctioned activities, and the student must bring me a request from the appropriate College official. If you fall in this category, you may be allowed to take a test early, before the scheduled date and time, and if arrangements can be made to do so.

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 problems. 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 located in OAKS. Homework will be due **every Sunday by 11:59 p.m. EST**, **except for the Sundays scheduled for a take home exam to be due or Easter Sunday, where the homework will be due on a Monday, April 10.**

Computer Labs: I will assign computer labs over the course of the semester. The purpose is to increase your practice with the application of econometric problems, give students more training with data analysis, and increase student familiarity with the SAS software. It is essential that students have access to a computer with high-speed internet access in this course.

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 45% 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.

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 one exam, and 2 home works 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.
Substantial Interruption of Instruction	If the College deems it unsafe for the entire class to meet in the classroom during the semester, we will immediately switch to online learning. In this environment, class meetings will be held via Zoom during normal class periods. By attending and remaining in this class, the student consents to being recorded if we need to switch to online learning. In the case of severe weather that results in classes being canceled, the missed lectures will be recorded using Zoom and made available to students through OAKS. In either emergency (COVID-19 or severe weather), students should have continued access to a computer with a web camera, microphone and internet access as they will still be responsible for lectures and assignments posted on OAKS.
Student Behavior in the Learning Environment	As stated in 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." To maintain a respectful and supportive environment, the below outlines expectations regarding 1. Classroom etiquette 2. Online communication with your instructor either through email or office hours, 3. Video call etiquette 4. Where to address technical difficulties

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

Classroom Etiquette	Please be respectful of each other, the instructor, and any guest presenters while in class. All cell phones and pagers are to be turned off or silenced during class. All cell phones are to be put away out of view during class; there is no text messaging, web browsing, etc, during class. Any disrespectful or disruptive

behavior may result in your being dismissed from class and/or an academic penalty. Please remember we are all here to learn!

Email

Most organizations are dependent on email for internal and external communications. As ECON 419 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 419 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 face-to-face), I am more than happy to talk during office hours or over Zoom after an email request for an office hours appointment. I will use Zoom for any times outside 9AM – 3PM hours because it allows for synchronous communication similar to face-to-face- interactions and allows flexibility in our meeting times when I may not be on campus.

Video Etiquette

Should we need to go virtual for a period of time, 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 place 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
<mark>Tentative</mark> Schedule, Spring, 2023

WEEK OF:

January	12	Appendix A: Mathematic Basics
	17	Appendix A: Mathematic Basics
	19	Appendix B: Review of Probability
	24	Appendix B: Review of Probability
	26	<u>Computer Lab</u>
	31	Appendix C: Fundamentals of Mathematical Statistics
February	02	Appendix D: Summary of Matrix Algebra
	07	<u>Computer Lab</u>
	09	Appendix D: Summary of Matrix Algebra
	10	**EXAM 1 posted by 5pm**
	12	**EXAM 1 due by 11:59 pm**
	14	Simple Linear Regression Model, Chapter 2
	16	Simple Linear Regression Model, Chapter 2
	21	Multiple Linear Regression Model, Chapter 3
	23	Multiple Linear Regression Model, Chapter 3
	28	Multiple Regression Analysis: Inference, Chapter 4
March	02	<u>Computer Lab</u>
	14	Multiple Regression Analysis: Further Issues, Chapter 6 and Binary Variables, Chapter 7
	16	<u>Computer Lab</u>
	17	**EXAM 2 posted by 5 pm**
	19	**EXAM 2 due by 11:59 pm**
	21	Multiple Regression Analysis: Binary Variables and Linear Probability Model, Chapter 7
	23	LPM: Chapter 7; Limited Dependent Variables, Chapter 17
	28	Limited Dependent Variables, Chapter 17
	30	<u>Computer Lab</u>
April	04	Heteroskedasticity, Chapter 8
	06	<u>Computer Lab</u>
	11	Heteroskedasticity, Chapter 8
	13	<u>Computer Lab</u>
	14	Exam 3 posted by 5 pm
	16	EXAM 3 due by 11:59 pm
	18	Heteroskedasticity, Chapter 8
	20	Panel Data
	25	<u>Computer Lab</u>
May	**02**	**FINAL EXAM FROM 10:00 am-12:00 pm**