The purpose of this course is to introduce the student to applying statistical
learning 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.

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 1: Enhance the undergraduate
economic core.

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

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

Text: *Introductory Econometrics: A Modern Approach Economics,*

Software: The software used in class for analysis is the SAS statistical package. This
software is available on the computers in our classroom and computers at the
library. 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: Students are expected to attend all classes and examinations in accordance with the general College requirements. Students are expected to arrive on time and to remain for the entire class period. If you miss more than six classes (even if the absence is excused), I will decrease your overall class score by a full letter grade. 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.

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.

Computers: I strongly prefer that you don’t play with your laptop during lectures. But I will not forbid you to do so. Playing with your laptop pretty much guarantees that you lose the benefits identified in the “Class Participation” section above. The exception to this policy is if you are using the laptop to take notes or if the laptop is otherwise necessary for your learning needs. In this case, please come and talk to me before or during the first class. In general, it is very easy for me to infer whether you use your laptop during class to produce (e.g. to take notes or follow the slides) or to consume (e.g. watch movies/surf the web).

Grading: The level of comprehension that you achieve will be assessed by homeworks, 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.

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<thead>
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<th>Method 1</th>
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**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.

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 & time, if necessary, and if arrangements can be made to do so.

According to the College handbook, students are required to submit documentation of their College representation related commitment from the appropriate College authority at least one week prior to the scheduled absence in order to be eligible for reasonable accommodations by the instructor.

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

1. Homework is due by the deadline indicated at the top of every homework assignment.
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. Homework must be typed in either a word or pdf file, SAS problems must also include the code so results can be replicated, and all submissions must go through the dropbox function in OAKS.

**Final:** 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 50% 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.

**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.

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.

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.
ECON 419, ECONOMETRICS
Tentative Schedule, Spring, 2019

WEEK OF:

January
08  Appendix A: Mathematic Basics
10  Appendix A: Mathematic Basics
15  Appendix B: Review of Probability
17  Appendix B and C: Review of Probability
22  Computer Lab
24  Appendix D: Summary of Matrix Algebra
29  Appendix D: Summary of Matrix Algebra
31  Computer Lab

February
05  EXAM 1
07  Simple Linear Regression Model, Chapter 2
12  Simple Linear Regression Model, Chapter 2
14  Computer Lab
19  Multiple Linear Regression Model, Chapter 3
21  Multiple Linear Regression Model, Chapter 3
26  Multiple Regression Analysis: Inference, Chapter 4
28  Computer Lab

March
05  Multiple Regression Analysis: Further Issues, Chapter 6 and
    Binary Variables, Chapter 7
07  Binary Variables, Chapter 7
12  Computer Lab
14  EXAM 2
16-23  SPRING BREAK
26  Limited Dependent Variables, Chapter 17
28  Computer Lab

April
02  Heteroskedasticity, Chapter 8
04  Computer Lab
09  Panel Data, Chapter 14
11  Panel Data, Chapter 14
16  Computer Lab
18  Exam 3
23  Pick up Exam 3
25  FINAL EXAM FROM 8 AM-11AM

Students can find the complete Honor Code and all related processes in the Student Handbook:
http://studentaffairs.cofc.edu/honorsystem/studenthandbook/index.php