



蘇州大學  
Soochow University

## ECO 406 Econometrics

Summer 2023

**Course Credits:** 4

**Contact Hours:** 55 hours

**Instructor:** TBA

**Email:** TBA

### COURSE OBJECTIVES

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This course introduces students to the theory and methods of econometrics, which is the application of statistical and mathematical tools to economic data. Students will learn how to estimate and test economic models using regression analysis, and how to interpret and communicate the results. Topics covered include simple and multiple regression, hypothesis testing, confidence intervals, and model specification. The course emphasizes hands-on experience with data and the use of statistical software.

Upon Completion of this Course, students will be able to:

1. Understand the basic principles of econometrics, including the assumptions and limitations of regression analysis
2. Use statistical software to estimate and test economic models using regression analysis
3. Interpret the results of regression analysis, including hypothesis testing, confidence intervals, and model specification
4. Apply econometric methods to real-world economic data
5. Communicate econometric results clearly and effectively in written and oral formats

### PREREQUISITES

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ECO 209 Analysis of Economic Data

### GRADING

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Grades will be determined by accumulating points, with 100 points being the



maximum, as follows:

ITEM	POINTS
Quizzes	20 Points
Midterm 1	20 Points
Midterm 2	20 Points
Final Exam	40 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

$$A \geq 90 > B \geq 80 > C \geq 70 > D \geq 60 > F.$$

We reserve the right to make adjustments to the overall grading policy.

## COURSE MATERIALS

### **Required Texts:**

W.H. Greene, *Econometric Analysis*, 7th. ed., Upper Saddle River, NJ: Pearson Education (Prentice-Hall), 2012.

### **Recommended (Optional) Texts or Other Materials:**

None

## COURSE TOPICS

MODULE	TASKS
Module 1	<b>Topics:</b> Topic 1: Course Overview Topic 2: Probability Theory Topic 3: Random Variables and Probability Distributions Topic 4: Expected Values, Means and Variance <b>Assessments:</b> Quiz#1



Module 2	<b>Topics:</b> Topic 5: Statistics Theory Topic 6: Hypothesis Tests concerning the Population Mean Topic 7: Fundamentals of Regression Analysis Topic 8: Simple Linear Regression <b>Assessments:</b> Quiz#2
Module 3	<b>Topics:</b> Topic 9: Hypothesis Tests Confidence Intervals in Simple Linear Regression Topic 10: Asymptotic Theory of Simple Linear Regression Topic 11: Multiple Linear Regression Topic 12: Hypothesis Tests Confidence Intervals in Multiple Linear Regression <b>Assessments:</b> Midterm#1
Module 4	<b>Topics:</b> Topic 13: Instrumental Variable Regression Topic 14: Multiple Regression Model Topic 15: Asymptotic Theory of Multiple Regression Topic 16: Nonlinear Regression <b>Assessments:</b> Midterm#2
Module 5	<b>Topics:</b> Topic 17: General Strategy for Modeling Nonlinear Regression Functions Topic 18: Nonlinear Functions of a Single Independent Variable Topic 19: Interactions between Independent Variables Topic 20: Nonlinear Effects on Test Scores of the Student-Teacher Ratio <b>Assessments:</b> Final Exam

## ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately



prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

## **LEARNING REQUIREMENTS**

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- 1) Late assignments are not acceptable and are subjected to grade deductions.
- 2) Assignments submitted in the wrong format will be counted as not submitted.
- 3) Failure to submit or fulfill any required course component results in failure of the class.
- 4) Make-up for midterm and final exams only with valid excuses, as defined by the University.
- 5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

## **TECHNOLOGY POLICY**

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The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

## **ACADEMIC INTEGRITY POLICY**

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Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed. The record might be shown on the official university transcript.

## **DISABILITY ACCOMMODATION**

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Soochow University is committed to maintaining a barrier-free environment so that



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students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.