

ECON 7022: Econometrics I

Georgia Institute of Technology

Fall 2026

Course Information:

Instructor: Karen Yan (xyan306@gatech.edu)

Office: Old CE Building Room 324

Office hours: MW 11:15-12:15pm (or by appointment)

Class time & location: MW 12:30 —1:45pm @ Old CE Building G10

Course Description:

The primary goal of this course is for you to develop a deep understanding of the econometric techniques that are frequently used in applied economics. We will focus on the classical linear regression model and causal inference. Emphasis is placed on both theory and empirical applications. After this course students are expected to be able to implement the methods discussed in class for research.

Readings: I will provide lecture notes with related references you can read. The class will follow my lecture notes. Since the topics in this class are standard and covered in many textbooks, there is no required textbook for this class and here I only recommend some books:

[1] William Greene (2018), *Econometric Analysis*, Pearson Press

Online Appendix:

https://media.pearsoncmg.com/ph/bp/bridgepages/bp_greene_bridgepage/Econometric_Analysis_8/

[2] Angrist, Joshua and Jorn-Steffen Pischke (2008), *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press (a nice book for empirics).

[3] Cameron, A. Colin and Pravin K. Trivedi (2005), *Microeconometrics: Methods and Applications*, New York: Cambridge University Press (a comprehensive review of econometrics that is more aimed at researchers)

[4] Bruce Hansen (2022), *Econometrics*, Princeton University Press

[5] Bruce Hansen (2021), *Introduction to Econometrics Notes* (posted on canvas).

Exams:

There will be one in-class midterm on and one final exam. The final exam is non-cumulative.

Homework:

The homework assignments include both theoretical and empirical questions, and there will be 5-6 homeworks throughout the semester. Students will also be asked to use software to solve empirical problems. Stata software is recommended. However, students can also use other statistical software such as R, Matlab.

The homework due date will be announced both in class and on canvas. **Late homework will only receive partial credits (50% of grades) unless for an excused absence. However, if homework solutions are given, late homework will not be accepted in any case.**

Homework can be either typed or handwritten but **must be submitted through Canvas**. Hard copy and emailed copy will not be accepted. To receive full credit, homework must be well written and complete. **Any homework not legible or incomplete will receive partial or no credit.**

You're encouraged to discuss the homework with your classmates, but you should **submit your own answer**. Group homework is not accepted.

Expectations: (1) You're very welcome to ask me questions during or outside classes, and I highly encourage you to ask in person (e.g., during or after class; office hours) if you have long questions; (2) Emails sent on weekends and after 5:00pm on weekdays may be replied to until the next weekday; (3) I will not help you check your answer keys before you submit your homework.

Grading:

Grades will be based on the homework (30%), midterm (35%), and final (35%).

Your final grade will be assigned as a letter grade according to the following scale:

A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: 0-59%

Accommodations for Students with Disabilities:

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/> as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Academic Integrity :

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

CARE Center, Counseling Center, Stamps Health Services, and the Student Center:

These uncertain times can be difficult, and many students may need help in dealing with stress and mental health. The [CARE Center](#) and the [Counseling Center](#) and [Stamps Health Services](#) will offer both in-person and virtual appointments. For more information on these and other student services, contact the Vice President and Dean of Students or the [Division of Student Life](#).

Tentative Topics:

Week	Topic	Reference
1-2	Math Review	Intro and Math Review Notes
3-4	Regression I	Lecture Notes 1
5	Regression II	Lecture Notes 2
6	Regression III	Lecture Notes 3
7	Endogeneity	Lecture Notes 4
8-9	IV and LATE	Lecture Notes 5
10	Midterm Exam Week	
11	Differences in Differences I	Lecture Notes 6
12-13	Differences in Differences II	Lecture Notes 7
13-15	Nonparametrics	Lecture Notes 8
16	Review Week	

*** The topics and class schedule are subject to changes.

