

ECON 470 — Econometrics
University of North Carolina, Spring 2022

Course information

Instructor: Christopher Handy, chandy@unc.edu

Class meetings

ECON 400-001: Tuesday and Thursday, 9:30am-10:45am, Gardner 08

ECON 400-002: Tuesday and Thursday, 11:00am-12:15pm, Gardner 08

Office hours: see information on Sakai

Course description

Econometrics is the application of statistical methods and economic theory to the problem of identifying, estimating, and testing economic models. This course covers concepts and methods used in empirical economic research. You will learn how to conduct and how to critique empirical studies in economics.

Prerequisites: ECON 400 and 410 with a grade of C or better in both courses

Course objectives

In this course you will ...

- study correlations and make comparisons using linear regression, and understand the conditions under which an estimated regression coefficient would have a causal interpretation;
- interpret and communicate the magnitude, economic significance, and statistical significance of econometric results;
- understand the usefulness and limitations of research designs aimed at isolating causal effects, and be able to implement the associated econometric analyses; and
- further develop skill in data management and programming by using statistical software to clean data, generate estimates, and write script files.

Materials

Suggested texts

Wooldridge, *Introductory Econometrics: A Modern Approach*, any edition

Stock and Watson, *Introduction to Econometrics*, any edition

Software: Stata/BE, available at www.stata.com/order/new/edu/profplus/student-pricing/ and in campus computer labs

Website: Sakai, sakai.unc.edu

Course components and grading

Your grade will be determined from the following components.

Assignments	25%
Exam 1	20%
Exam 2	20%
Final exam	30%
Highest exam	5%

I will use the following grading scale, although I may curve numerical grades to higher letter grades at the end of the semester if needed. I do not round grades to the nearest whole number.

A	[93, 100]	C+	[77, 80)
A-	[90, 93)	C	[73, 77)
B+	[87, 90)	C-	[70, 73)
B	[83, 87)	D+	[67, 70)
B-	[80, 83)	D	[60, 67)
		F	[0, 60)

Assignments: The assignments will typically include a mix of theoretical questions and empirical work for which you will use Stata. There will be approximately six assignments, and tentative due dates are included on the schedule below. I will drop the lowest assignment score before computing your assignment average. You must first attempt each assignment on your own. After that, you may work with classmates, but you may not simply share answers.

Midterm exams: There will be two in-class exams. The dates of these are on the schedule below.

Final exam: The final exam details for each section are listed below. In general, you must take the exam with the section for which you are registered. If you obtain an official exam excuse, you will take the exam with the other section if possible, or on Wednesday, May 4, at a time and place to be announced closer to that date.

ECON 470-001 (meeting TR 9:30am): Tuesday, May 3, 8:00-11:00am, Gardner 08

ECON 470-002 (meeting TR 11:00am): Friday, April 29, 12:00-3:00pm, Gardner 08

Highest exam: I will use the highest of your three exam scores for this component of your grade. For example, if you do particularly well on exam 1 but have a bad day for exam 2, then exam 1 will end up counting a little more toward your grade than exam 2.

Academic policies

Attendance: I expect you to attend class if you are able, and to prepare for class by doing any assigned reading and watching any assigned videos. I will post a recording of each day's class, and you should watch it if you have to miss class for any reason.

Conduct: Please respect your fellow students by behaving professionally. This includes arriving on time, not leaving class unnecessarily, and not distracting others.

Course delivery: As long as it is possible to do so safely, we will be meeting in person this semester. I understand the ongoing COVID-19 pandemic may require changes to this plan and will be monitoring the situation closely. If I need to change the format of the course temporarily due to outbreaks of illness, I will announce this via email and the course Sakai site.

Honor code: I expect you to follow the guidelines of the UNC honor code; each of you has pledged "not to lie, cheat, or steal." You may not consult materials from any previous offering of this course for any reason, and I expect you not to share materials with any future students of this course. If you have questions about the honor code, please ask me or consult the [Honor System webpage](#).

Late assignments: Assignment due dates are firm. I know that things like personal emergencies or computer problems may prevent you from submitting an assignment, which is why I drop the lowest assignment score before computing your assignment average. Exceptions to this policy will generally only be made if you accumulate a significant number of University Approved Absences.

Missed exams: If you miss a midterm exam and you have a University Approved Absence, I will replace the grade on that exam with the average of your other exam grades. For the final exam, the university policy is that you may only take the exam outside the scheduled time if you have an [official final exam excuse](#), and requests involving religious observance or a scheduling conflict must be made no later than the final day of classes. Exams missed without an official approval or excuse will generally receive a reduced grade or a grade of zero.

Syllabus changes: I reserve the right to make changes to the syllabus, including assignment due dates and exam dates. These changes will be announced as early as possible.

University mask policy: This semester, while we are in the midst of a global pandemic, all enrolled students are required to wear a mask covering your mouth and nose at all times in our classroom. This requirement is to protect our educational community — your classmates and me — as we learn together. If you choose not to wear a mask, or wear it improperly, I will ask you to leave immediately, and I will submit a report to the Office of Student Conduct. At that point you will be disenrolled from this course for the protection of our educational community. Students who have an authorized accommodation from Accessibility Resources and Service have an exception. For additional information, see [Carolina Together](#).

Academic resources and student support

Accessibility Resources and Services: The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities. Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the [ARS Website](#) for contact information or email ars@unc.edu.

Counseling and Psychological Services: CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to [their website](#) or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Title IX resources: Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made [online to the EOC](#). Please contact the University's Title IX Coordinator (Elizabeth Hall, interim, titleixcoordinator@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.

Schedule of topics and assessments

Week	Dates	Tuesday	Thursday	Sunday
1	Jan. 10–16	Math and stats review	Math and stats review	
2	Jan. 17–23	Math and stats review	Simple regression	A1 due
3	Jan. 24–30	Simple regression	Simple regression	
4	Jan. 31–Feb. 6	Multiple regression estimation	Multiple regression estimation	A2 due
5	Feb. 7–13	Multiple regression estimation	Exam 1	
6	Feb. 14–20	Multiple regression inference	Multiple regression inference	
7	Feb. 21–27	Multiple regression inference	OLS asymptotics	A3 due
8	Feb. 28–Mar. 6	OLS asymptotics	Regression topics	
9	Mar. 7–13	Regression topics	Regression topics	
10	Mar. 14–20	No class: Spring Break	No class: Spring Break	A4 due
11	Mar. 21–27	Regression topics	Exam 2	
12	Mar. 28–Apr. 3	Panel data	Panel data	
13	Apr. 4–10	Panel data	Differences in differences	A5 due
14	Apr. 11–17	Differences in differences	No class: Wellness day	
15	Apr. 18–24	Instrumental variables	Instrumental variables	A6 due
16	Apr. 25–May 1	Catch-up and review		

Final exam, section 1: Tuesday, May 3, 8:00–11:00am, Gardner 08

Final exam, section 2: Friday, April 29, 12:00–3:00pm, Gardner 08