

ECON 570H: Applied Econometrics

Instructor:	Dr. Stephen Lich
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Office hours:	Gardner 202, Mondays and Wednesdays, 1:00-3:00
Meeting times:	Spring 2017, Mondays, Wednesdays and Fridays; 10:10 – 11:00
Meeting place:	101 Davie Hall
Materials:	Wooldridge: <u>Introductory Econometrics</u> (optional) Intercooled Stata (required; version 12 or later recommended) Study guide and lecture notes on website (required)
Prerequisites:	MATH 231 or STOR 113; STOR 155; ECON 400; ECON 410

Course summary: ECON 570H teaches advanced econometric techniques for empirical analysis. At the end, you will have the skills to independently analyze data in order to answer important economic questions for a government agency, consulting firm, or academic research. The emphasis of the course is practical, but many of the lectures will be theory and technique. The honors version of this course is more rigorous and faster paced than the regular section.

Topics: ECON 570H covers the following topics.

- OLS regression, inference, and complications
- Heteroskedasticity, WLS, and GLS
- Instrumental variables regression
- Systems of equations
- Policy analysis
- Panel data estimators
- Limited dependent variable models (binary, multinomial, ordered, censored, selection)

Attendance: I expect regular attendance. If you miss two consecutive classes, you need to inform me. Regardless of whether you attend, I expect that you submit assignments on time and that you know announcements made in class.

Rescheduled lectures: The usual calendar is not conducive to doing an empirical project. We will not have lectures after April 12th; the last two weeks are for your research only. Instead, these lectures will be rescheduled earlier in the evening earlier in the semester, tentatively on TBD and TBD from 6:00-8:30.

Grading: Your grade is based on homework assignments, two exams, quizzes, and a paper.

Quizzes (online)	10%
Midterm exam (Mon., Feb. 20th)	25%
Final exam (Mon., May 1st, 9:00-11:00)	30%
Empirical project (Fri., Apr. 28)	35%

On the exams and paper, I assign the traditional ordinal grades (... , B+, B, B-,...) In calculating your weighted average, I convert these into numerical values (... , $88\frac{1}{3}$, 85, $81\frac{2}{3}$,...). For each missing, incomplete, or incorrect homework assignment, your overall score is docked up to 2 points. At the end, your overall score is translated back into a letter grade (B+ is $86\frac{2}{3}$ to 90; B is $83\frac{1}{3}$ to $86\frac{2}{3}$, B- is 80 to $83\frac{1}{3}$, and so forth).

Exams: The dates of the exams are almost certain. The final exam is given in compliance with UNC final exam regulations and according to the UNC final exam calendar.

Homework: Most assignments will be submitted online. Other assignments must be turned in at one of two times: either at the end of lecture on the due date or, with permission, at the end of the *next* class.

Quizzes: There will be short online quizzes throughout the semester, often on Sunday evenings. The likely dates are Jan. 29th, Feb. 12th and 25th, Mar. 26th, and Apr. 9th and 23rd. One missed quiz is forgiven; if there is none, then the lowest quiz is dropped.

Empirical project: For the empirical project, you must use data to answer some economic question, using econometric techniques from this course. You must write a paper (approximately 10-15 pages) to explain the research question, data, estimation strategy, and results. My expectations are that: you must use an econometric technique more sophisticated than OLS, and you must state and test a hypothesis clearly and directly.

Extra credit: If there are any opportunities for extra credit, they will always be announced publicly and made available to the entire class.

Academic integrity: In the professional world, the integrity of your data analysis is critical. Inappropriate analysis leads to erroneous policies, and it can destroy your career. These are my guidelines for appropriate and inappropriate behavior.

Homework: Students may collaborate on homework assignments. They may seek assistance from the instructor, classmates, or an in-person tutor. (Online tutoring services are not allowed.) However, each student must submit a unique assignment.

Quizzes: Students may use books, the study guide, and their own notes. They may not work together, and they may not receive assistance from other people.

Exams: Students may use calculator with basic functions.

Project: Students are expected to do their analysis and writing entirely on their own, but otherwise, they may use most resources (people, reference materials, and technology). However, copying any information from another source without citation is plagiarism. "Copying" includes copying directly, extensive paraphrasing, or using a substantive idea. Even materials that are online, in the public domain, or open source must be properly documented.

Archives: Students may not acquire my documents from, or place my documents into, any online or physical archive, other than my course website on Sakai.

Electronics: During lecture, you may not use laptops, tablets, phones, or similar devices, unless I give specific permission, or the device is needed for accessibility, or you wish to follow along with a Stata demonstration on a laptop. Disruptive behavior violates section II.C.1.k of the Honor Code. (And, for your own sake, it interferes with your learning.)

Schedule: Exam dates are almost certain. Other dates are subject to change.

Syllabus changes: The instructor reserves the right to make changes to the syllabus, including due dates and test dates. Changes will be announced as early as possible.