Economics 570
Introduction to Econometrics
Course Syllabus for Fall 2017

Course Time

- Section 005: Tuesdays and Thursdays, 11h00am-12h15pm
  Course Room: Gardner Hall - Room 308
- Section 002: Tuesdays and Thursdays, 12h30pm-1h45pm
  Course Room: Gardner Hall - Room 309

Instructor

Valentin Verdier
Office: Gardner 208B
Office Hour: Tuesday and Thursday 10h00am-11h00am and by appointment
Course Website: Sakai
E-mail: vverdier@email.unc.edu

Textbook (Required)

Introductory Econometrics, 4th or 5th edition, Jeffrey Wooldridge, Thomson SouthWestern 2009 or 2012

Course Objectives

Econometrics is the name of the quantitative methods used to answer questions originated from economic theory using economic data that document the behavior of economic agents or the history of objects of interest to economists (GDP, stock prices,...). Econometrics has generated a huge amount of research over the last decades, hence it is not possible to cover the entire field (or even a significant portion of it) in a semester. However, one of the goals of this course is to equip students with enough knowledge so that they can answer in a simple but informative way empirical questions they will face in professional or academic settings.

The other objective of this course is to lay the foundations for further training in econometrics, either at your future job or in more advanced courses.

Thus this course will try to balance theory and applications. Both of these are complementary and **require a lot of practice**. This is a technical course, and the key to success is to read the textbook to fully grasp the material and to practice as much as possible using the problem sets and the exercises at the end of the chapters.

Course Requirements

There will be five or six problem sets. There will also be two midterm exams and a final exam. All exams will be in-class and closed book.

Dates for the exams will be announced during lecture as they will depend on how much time is spent on the Math and Stats review. The first midterm will occur soon after the review on mathematics and statistics is over. The second midterm will occur as soon as Part 1 of the syllabus is over. The final exam will take place during the time slot allocated by the registrar's office. Finally there will also be a term paper due during the last week of classes.

The grades will be weighted as following:
10% Problem sets
10% Term paper
10% First midterm
35% Second midterm
35% Final

The final grade will be determined by the following table:

Final Grade	From	To
4.0	95.00%	100%
3.7	90.00%	94.99%
3.3	84.92%	89.99%
3.0	81.67%	84.91%
2.7	78.42%	81.66%
2.3	74.08%	78.41%
2.0	70.83%	74.07%
1.7	67.58%	70.82%
1.3	63.25%	67.57%
1.0	60.00%	63.24%
0.0	0.00%	59.99%

Prerequisites

Econ 101 and 400

Academic Integrity

This course will be consistent with university policies, see https://studentconduct.unc.edu.

Additional notes

Please feel free to contact me with any question or concern you might have.

Students who require accommodation for a disability should contact me as soon as possible to set up arrangements.

Course outline and Reading List

Introduction

Chapter 1

Mathematics and Statistics review

Appendices A, B and C

Part 1: Econometrics with cross-sectional data

Simple regression

Chapter 2

Multiple regression: Estimation

Chapter 3

Multiple regression: Inference

Chapter 4

Part 2: Econometrics with panel data

Pooling cross sections across time

13.1, 13.2

Simple solutions to unobserved heterogeneity

13.3, 13.4, 13.5

Measuring positive externalities from Lojack

Paper will be posted on Sakai

Part 3: Additional topics on multiple regression

6.1, 6.2, 6.4, 7.1, 7.2, 7.3, 7.4, 7.6

Part 4: Asymptotic Theory and Inference

Weak laws of large numbers and central limit theorems

Inference without normality in regression analysis

5.1, 5.2

Inference with heteroscedasticity

8.1, 8.2

Inference without random sampling

1. **Panel Data**

2. **Time Series (if time permits)**