Brown University
Department Of Economics
ECON 1630
Spring 2017

Lectures: TTh 2:30-3:50pm (MacMillan Hall 115)

Professor: Andriy Norets, andriy_norets@brown.edu
Office hours: M 1:30-2:30pm, 209 Robinson Hall

Course webpage: http://canvas.brown.edu

TA sessions: Th 5-6pm, Fr 1-2pm (from Feb 2), Location TBA
TA for the first part of the course: Chao Chen, chao_chen@brown.edu
TA for the second part of the course: Hyojin Han, hyojin_han@brown.edu

Course description

Econometrics is a sub-discipline of statistics that provides methods for inferring economic structure from data. This course has two goals. The first goal is to give you means to evaluate an econometric analysis critically and logically. Second, you should be able to analyze a dataset methodically and comprehensively using the tools of econometrics.
The multivariate linear regression model is treated in detail. Other topics include: asymptotic analysis, instrumental variable estimation, panel data, maximum likelihood, and basic time series models. Convergence concepts and matrix algebra are used extensively. A basic understanding of derivatives is essential for this course as well.

Prerequisites:

ECON 0110 or advanced placement; and ECON 1110 or 1130; and APMA 1650, MATH 1620, or ECON 1620; or equivalent.

Readings:

Required text: Stock and Watson, Introduction to Econometrics. Pearson Addison Wesley; 3d edition, updated.

Grading:

Final Exam: 50%
Midterm: 25%

- The midterm will take place in-class on Thursday March 23.

Problem Set(s): 25%

- There will be a number of problem sets (approximately one per week). You may work with other students on the problem sets, but the answers you submit must represent your own understanding of the solutions. Direct copying is not permitted and will be treated as cheating. **We will not accept late problem sets, but we will ignore the two lowest problem set grades.**

Computer Work:

Computer work is an integral part of econometrics and the problems that will be assigned assume general computer literacy. You will be given brief introduction to STATA in the first conference. Brown Software Catalog provides a description of how to install STATA: https://www.brown.edu/information-technology/software/catalog/stata-se-0.

Timing of Events:

1. Problem sets will be usually posted on canvas by Wednesday and will be due by 5pm the following Wednesday in the plastic box marked ECON1630 located in the basement of Robinson Hall.
2. Make-ups for the midterm can be scheduled only if you have a written request from the Dean.
3. The final exam will be scheduled by the Office of the Registrar.

Hours:

Over 13 weeks, students will spend 3 hours per week in class (39 hours total), and 1 hour per week in TA session (13 hours). Homework, reading, and studying for the midterm examination will take approximately 8 hours per week (104 hours total). In addition, there is a 3-hour final exam for which approximately 24 hours of review is assumed.

Other information:

Email communications should be used for administrative issues. Questions of substance should be raised in oral communications.
Students are strongly encouraged to ask and answer questions on canvas' discussion board. The discussion board will be supervised by the TA.

Course Outline:

1. Review of Probability and Statistics (Stock and Watson, Chapters 2, 3, 17.2)
2. Linear Regression Model
    - Regression with one regressor (Stock and Watson, Chapters 4, 5, 17)
    - Regression with multiple regressors (Stock and Watson, Chapters 6-9, 18, lecture notes)
3. Panel Data (Stock and Watson, Chapter 10)
4. Instrumental Variables (Stock and Watson, Chapter 12, 18.7)
5. Maximum likelihood and Bayesian methods (Stock and Watson, Chapter 11 and lecture notes)
6. Binary Choice (Stock and Watson, Chapter 11)
7. Introduction to Time Series (Stock and Watson, Chapters 14 and 15)