ARE/ECN 240A  ECONOMETRIC METHODS  Winter 2015

Instructor:  Professor Óscar Jordà
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CLASS URL:

Class Meets:  T-R, 9-10:20am. Room: WELLMAN 115

Section Meets:  Friday, 10-10:50am. Room: WELLMAN 115 (led by T.A.)

Office Hours:  Wednesdays, 9 – 10am; Thursdays 2-4pm, or by appointment

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T.A. Office Hours:  Mondays, 9-10am, Fridays 10-11am (Section) and 2-3pm, or by appointment

Textbook: I will follow Econometric Analysis of Cross Section and Panel Data (2nd Edition) by Jeffrey M. Wooldridge. In previous years I used my own notes, which I constructed from different sources. Although I will not teach directly from these, they will be available from my website as a complement to the textbook only if you find them helpful.

Professor Dalia Ghanem, the 240B instructor, will also use the same textbook. This should make the transition from 240A to 240B a little easier.

Among many other textbooks, you may find the following helpful: Econometric Theory and Methods by Davidson and McKinnon (Oxford University Press); Econometrics by Fumio Hayashi (Princeton University Press); and Econometric Analysis by William Greene.
Some of the material in my notes borrows from the textbook that Bruce Hansen makes available in his website: http://www.ssc.wisc.edu/~bhansen/econometrics/. I like his approach on a number of topics although for some others, the level may be too high for this course.

**Assignments:** Wooldridge provides helpful problems. You can do these at your own pace to check your understanding of the material. The T.A. will be able to assist you during section whenever a problem poses difficulties and, of course, both the T.A. and I will be available during office hours. The problems will not be graded.

In addition, Wooldridge provides empirical exercises. The T.A. will discuss in section how to do selected exercises using STATA. Again, these exercises will not be graded.

**Grading:** There will be two components to your grade, midterm (40%) and final (60%).

**Important Dates:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 19</td>
<td>Martin Luther King’s Day</td>
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<tr>
<td>February 3</td>
<td>Midterm</td>
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<tr>
<td>February 16</td>
<td>President’s Day</td>
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<tr>
<td>March 21: 10:30am-12:30pm</td>
<td>FINAL</td>
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**Outline of Topics:** chapters refer to Wooldridge’s textbook.

- **Topic 1. Introduction. Chapter 1**
- **Topic 2. Review of Statistics, Matrix Algebra and Conditional Expectations.** Chapter 2. Basic statistical concepts. Basic matrix algebra. Conditional expectations in econometrics. Linear projections (also Topic 0 of my notes could be helpful)
- **Topic 3. Basic Asymptotic Theory. Chapter 3**
- **Topic 4. Single-Equation Linear Model and Ordinary Least Squares Estimation. Chapter 4**
  - Basic assumptions and asymptotic properties of OLS (Topic 1 in my notes)
  - Inference (Topic 3 in my notes)
  - Failures of basic assumptions (Topic 2 in my notes)
- **Topic 5. Instrumental Variables Estimation of Single-Equation Linear Models. Chapter 5.** (Topic 6 in my notes)
- **Topic 6. Additional Single-Equation Topics. Chapter 6**
- **Topic 7. M-Estimation and Nonlinear Regression. Chapter 12 except 12.10.** (Topic 4 and part of Topic 7 in my notes).
- **Topic 8. Maximum Likelihood Estimation. Chapter 13 excluding sections 13.8-13.10 and 13.11.4.**
- **Topic 10. Generalized Method of Moments. Chapter 14 except 14.3-14.6.**