

# Econ 141 Section Syllabus

Jon Schellenberg

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## About This Course

- Instructor: Evgeniya Duzhak
- GSI: Jon Schellenberg (ME!)
- Lectures: TuTh 9:30-11 AM, 534 Davis
- Section 101: Th 12:30-2 PM, 6 Evans
- Section 102: Tu 8-9:30 AM, B51 Hildebrand

## Prerequisites

- Economic Theory (Econ 100A-100B or Econ 101A-101B)
- Introduction to Stats with calculus (Stat 20, 21, 25, or 131A)
- Multivariable Calculus & Linear Algebra (Math 53-54)

## Grading

- 5% Term Project
- 15% Assignments
- 35% Midterm (3/1 in class)
- 45% Final Exam (5/11, 11:30 AM - 2:30 PM)

## Contact Me

My office hours are on Fridays, 10 AM - 12 PM, in 630 Evans (go straight through the door directly in front of the main elevators - it is the first door on your left)

There will be a Piazza webpage (an online forum) for the class that I will be moderating. This is a great way to collaborate with your peers outside of the classroom. However, while discussion of concepts is very much encouraged through this platform, DO NOT use this web forum to ask for or share solutions to the homework assignments.

If you have any questions, you can also email me at [jschellenberg@econ.berkeley.edu](mailto:jschellenberg@econ.berkeley.edu). Please include [Econ 141] in the subject line. I will do my best to respond within 24 hours. I will not respond to emails sent on the day of exams.

## Enrollment

All enrollment questions should be directed to the Head GSI at [headgsi@econ.berkeley.edu](mailto:headgsi@econ.berkeley.edu). More information can be found at <https://www.econ.berkeley.edu/undergrad/home/enrollment-procedures>

## Resources for Course

- **Textbook:** *Introduction to Econometrics* by Stock and Watson, 3<sup>rd</sup> edition (required)
- **Software:**
  - Microsoft Excel (required) - if you do not have it already, it is free for all Berkeley students. More information can be found at <https://software.berkeley.edu/microsoft>
  - Stata (required) - see below for information on how to get access
  - Gretl (optional) - this program is free and can be downloaded at <http://gretl.sourceforge.net/>

All three of these programs will be used in this course. Excel will be used early on, and Professor Duzhak will occasionally use Gretl in lecture. However, the majority of the course, and likely all of the assignments requiring the use of statistical software, will be done with Stata.

There are three different ways you can get Stata on your computer:

1. Virtual Lab (free). Follow instructions here: <http://guides.lib.berkeley.edu/citrix> (I will go over this again in future sections)
2. Data Lab computers in Doe Library (Stata is installed on these computers)
3. Buy it here: <http://www.stata.com/order/new/edu/gradplans/student-pricing/>. There are two suitable options for this course:
  - **Small Stata** (\$38 for 6-months)
  - **Stata/IC** (\$75 for 6-months)

I would recommend using one of the first two options - all of the work required for this course can be done using the remote desktop and/or library versions, and both are free. That being said, these two versions are limited in their availability - a maximum of 20 students can use Virtual Lab at a given time, and the Data Lab is only open on weekdays during business hours. If you choose to purchase Stata, I would suggest Stata/IC, since Small Stata is very limited in its capabilities, and you may not be able to do all of the homework assignments/term project with this less powerful version.

## Attendance Policy

Attendance to the first week of section is required - if you do not attend, you will automatically be dropped from the course. Beyond that, attendance to section is highly recommended but not mandatory.

## Special Accommodations

If you need disability-related accommodations in class, if you have emergency medical information you wish to share with me, or if you need special arrangements in case the building must be evacuated, please let me know as soon as possible -please see me privately after section or in office hours. For disability-related accommodations, you will need to obtain an accommodations letter from DSP at <http://dsp.berkeley.edu>, which will be sent directly to the professor.

## Academic Integrity

I will not tolerate cheating or plagiarism in any form. No excuses, no exceptions.

## Section Objectives

Section has three main objectives. First, section is meant to show how to apply the theory taught in lecture. In order to achieve this, we will go over many example problems. Second, section will show how to use statistical software to perform the regression analyses taught in lecture. I will show you how to use Excel and Stata, with a heavy focus on the latter. It is essential to understand statistical software to conduct any data analysis in economics (and you will need to know how to use these software packages for your term project). Third, section will provide additional insight into the theory discussed in lecture. This class will focus heavily on the mathematical foundations, so a solid understanding of the fundamental theory will be essential to succeed in this course.

## Section Schedule of Topics

This is subject to change. A couple of notes:

- Section will be canceled on 3/1, the day of the midterm. This section will be rescheduled for later in the week (time and location TBA).
- I will hold a 2-hour review session about a week before each exam (time and location TBA).
- Please bring your laptops to section if we are using statistical software. The starred dates in the tentative schedule below correspond to the days I plan to use computers in section. However, these are subject to change - I will email everyone before section if we are using Stata/Excel in class.

Week	Date(s)	Tentative Topics
1	1/19 (Tu) & 1/21 (Th)	Syllabus and review of statistics and probability
2*	1/26 (Tu) & 1/28 (Th)	Probability & statistics review (cont.), introduction to Stata and Excel
3	2/2 (Tu) & 2/4 (Th)	Probability and stat review (cont.), introduction into SLR
4*	2/9 (Tu) & 2/11 (Th)	SLR (cont.), regressions in Excel and Stata
5	2/16 (Tu) & 2/18 (Th)	Asymptotic properties of SLR model, homoskedasticity and heteroskedasticity
6	2/23 (Tu) & 2/25 (Th)	Hypothesis testing
REVIEW	TBA	Review session for midterm
7*	TBA & 3/3 (Th)	Summary of midterm, Stata tutorials
8	3/8 (Tu) & 3/10 (Th)	Linear algebra review, MLR
9	3/15 (Tu) & 3/17 (Th)	Linear algebra review (cont.), MLR (cont), OVB
10	3/22 (Tu) & 3/29 (Th)	<b>NO CLASS - SPRING BREAK</b>
11	3/29 (Tu) & 3/31 (Th)	Joint hypothesis testing
12*	4/5 (Tu) & 4/7 (Th)	Types of models and interpretations of coefficients, fixed effects, fixed effects in Stata
13	4/12 (Tu) & 4/14 (Th)	Internal validity
14	4/19 (Tu) & 4/21 (Th)	External validity, WLS and GLS
15*	4/26 (Tu) & 4/28 (Th)	Instrumental variables, IV in Stata
REVIEW	TBA	Review session for final