

Introduction to Statistical Methods and Econometrics (ECON 403A)
UCLA Fall 2018

Syllabus

Instructor:	Dr. Randall R. Rojas
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Time and Location

Tuesday and Thursday 2:00PM-3:15PM, DODD 161

Course Description

Introduction to probability, statistics, econometrics, and time series methods used in economics, business, and government. Topics include random variables, hypothesis testing, estimation, distribution functions, simple and multiple regression, and estimation with stationary/non-stationary processes.

Textbooks

1. (Required) An R Companion to Applied Regression (2nd Ed.). John Fox & Sanford Weisberg
2. (Required) Probability and Statistics: The Science of Uncertainty (2nd Ed.). Michael J. Evans & Jeffrey S. Rosenthal
3. (Recommended) Probability and Statistics (4th Ed.). Morris H. DeGroot & Mark J. Schervish
4. (Recommended) Principles of Econometrics (5th Ed.). Hill, R. C., Griffiths, W. E. & G. C. Lim

Prerequisites

1. R Bootcamp
2. Mathematics Bootcamp
3. Econometrics. Familiarity with a data analysis software (e.g., R, Excel, Matlab, STATA, etc.) and/or programming experience. For this courses, however, we will be using R exclusively. In addition, you will be required to know LaTeX and R Markdown for preparation of your assignments.

Computation of Course Grade

- 40% Group Projects (Two projects, 20% each)
- 30% Homework (Three assignments, 10% each)
- 30% Final Exam (Cumulative)

Course Enforced Policies

- You need to bring a valid form of picture ID on scheduled days of exams. You will not be allowed to take the exam without one.
- The use of electronic devices such as cellphones, tablets, and devices that allow you to communicate with others, is strictly banned. You will be reported for cheating if caught using them during exams. Therefore, please turn off all your electronic devices during exams.
- Late homework/project assignments will not be accepted under any circumstances.
- There are no extra credit assignments available.
- Scientific/graphing calculators are allowed and recommended during exams.
- All grades are final when filed by the instructor on the Final Grade Report.

Assignment Enforced Policies

- Homework and project answers must be provided in the order in which they are asked on the respective assignment. If they are not in order, you will be deducted 25% of the total points for the respective assignment.
- Homework and projects must be typed using LaTeX and/or R Markdown.
- There are no make up projects or homework assignments. All projects/assignments are due by the end of the lecture on the scheduled due date. Late and/or emailed solutions for projects or homework assignments will not be accepted. No exceptions will be made on this.
- Both projects and homework solutions must be submitted with the respective R code. Therefore, incomplete project and/or homework solutions (e.g., missing the respective R code), will not receive any credit.
- You are advised to start working on the assignments as early as possible in order to have enough time to troubleshoot any R issue(s) you may encounter.
- Although I encourage you to work together on the homework assignments, you must submit your own solution for each one.

R Tutorials/Reference Materials

You can use either R or RStudio (both are free) the only difference between them is the platform on which you write/run your codes.

Please refer to the R Bootcamp resources posted on the course website.

Academic Dishonesty

Any cases of academic dishonesty will be reported to the Office of the Dean of Students. For more details please refer to the Office of the Dean of Students website at <http://www.studentgroups.ucla.edu/dos/>

Tentative Course Schedule

Week	Lecture Topics	Chapters
0 (Sep 27)	Sampling Distributions & Limits	4 ^a
1 (Oct 2, 4)	Statistical Inference	5 ^a
	Likelihood Inference	6 ^a
	Homework 1 (Oct 4)	
2 (Oct 9, 11)	Bayesian Inference	7 ^a
3 (Oct 16, 18)	Stochastic Processes	11 ^a
	Homework 2 (Oct 18)	
4 (Oct 23, 25)	Exploring and Transforming Data	3 ^b
5 (Oct 30, Nov 1)	Linear Regression	4 ^b
	Project 1 (Nov 1)	
6 (Nov 6, 8)	Linear Regression(Continued)	4 ^b
7 (Nov 13, 15)	Generalized Linear Models	5 ^b
8 (Nov 20)	Generalized Linear Models (continued)	5 ^b
	Homework 3 (Nov 20)	
9 (Nov 27, 29)	Heteroskedasticity & Robust Estimation	6 ^b
10 (Dec 4, 6)	Heteroskedasticity & Robust Estimation (continued)	6 ^b
	Project 2 (Dec 6)	
11 (Dec 14)	Final Exam (Friday, Dec 14, 3:00PM-6:00PM)	Cumulative

^aEvans & Rosenthal, ^bFox & Weisberg

Disabled Students and the Center for Accessible Education (CAE)

Any student with a preexisting illness or condition who requests special arrangements must (a) qualify under CAE rules for such special arrangements and (b) must take the exam with CAE. Any such arrangements with CAE must be made the first week of classes. The instructor must be informed of any such arrangement in the first week of classes. For additional information and the qualification conditions of the Center for Accessible Education, please visit their website at <http://www.cae.ucla.edu/>. All other students must take the exam at the scheduled time under the same time constraints. It is the responsibility of all students who request special arrangements with CAE to be familiar with all of their rules as well as the rules of this class.