

W3412 Introduction to Econometrics (Section 3)

General Information

- Professor: Miikka Rokkanen (mr3454@columbia.edu)
 - Office hours: Tuesdays and Thursdays at 10.00am-11.00am
 - Office: 1103B International Affairs Building
- Class meets on Tuesdays and Thursdays at 8.40am-9.55am at 702 Hamilton Hall
- Textbook:
 - Required: Stock, James H. and Watson, Mark W. Introduction to Econometrics, Addison Wesley Publishing, (3rd edition) 2011
 - Recommended: Wooldridge, Jeffrey M. Introductory Econometrics: A Modern Approach, South-Western Publishing, (4th edition) 2009.
- Teaching Assistants:
 - Names and email addresses will be posted soon
 - Teaching assistants will hold 75min recitations and 1h office hours per week (schedule will be posted soon)

Course Description

Economics W3412 introduces students to multiple regression and related methods for analyzing data in economics and related disciplines. Additional topics include regression with discrete random variables, instrumental variables regression, analysis of random experiments and quasi-experiments, and regression with time series data. Students will learn how to conduct – and how to critique – empirical studies in economics and related fields. Accordingly, the emphasis of the course is on empirical applications. The mathematics of econometrics will be introduced only as needed and will not be a central focus. Students seeking a treatment of econometric theory with a higher level of mathematics should take Economics W4412. Prerequisite: Economics W3211 OR W3213 (Intermediate Microeconomics or Macroeconomics); Mathematics V1201 (Calculus III); and Statistics W1211 (Introduction to Statistics).

Assignments

There will be weekly problem sets, each of which involves empirical analysis. The course statistical software is STATA. Teaching assistants will instruct you on using STATA. You may purchase STATA through Columbia at a reduced academic price but this is strictly optional. Problem sets and data will be posted on the course Web page. Please hand in your homework assignments at the beginning of class the day they are due (within the first 5 minutes) to receive full credit. Problem sets that are handed in after the beginning of class but before solutions are posted will receive 50% credit. Assignments handed in after solutions are posted on Courseworks will not be graded. Solutions are posted every Wednesday at 9 pm. Late assignments are NOT accepted under any circumstances.

Grading

Teaching assistants will grade problem sets and the lowest grade out of 9 problem sets will be dropped. At the end of the semester, teaching assistants will report the average problem set grade by averaging the highest 8 problem set grades. Let this be PS . The PS grade will always count in the overall grade even if you do better in the final. There will be one midterm exam, which will take place on Tuesday October 21st in class. You will receive a grade out of 100 (denote this grade MT). There will be no make-up midterm exams, but the midterm will not count if you do better in the final. The final exam (which is cumulative) will receive a grade out of 100 (call it FI). The overall course grade (CG) will be determined like this:

$$CG = 0.2 \times PS + 0.3 \times \max\{MT, FI\} + 0.5 \times FI$$

Class Schedule

Date	Topic	Readings	PS Posted	PS Due
Sep 2	Introduction, Review of Statistics I	1,2,3		
Sep 4	Review of Statistics II	1,2,3		
Sep 9	Review of Statistics III, Bivariate Regression I	2,3,4	PS#1	
Sep 11	Bivariate Regression II	4,5		
Sep 16	Bivariate Regression III	4,5	PS#2	PS#1
Sep 18	Multiple Regression I	6,7		
Sep 23	Multiple Regression II	6,7	PS#3	PS#2
Sep 25	Multiple Regression III	7		
Sep 30	Nonlinear Models I	8	PS#4	PS#3
Oct 2	Nonlinear Models II	8		
Oct 7	Nonlinear Models III	8	PS#5	PS#4
Oct 9	Assessing Regression Studies I	9		
Oct 14	Assessing Regression Studies II	9		PS#5
Oct 16	Panel Data I, Midterm Review	10		
Oct 21	Midterm			
Oct 23	Panel Data II	10		
Oct 28	Panel Data III, Binary Dependent Variable I	10,11		
Oct 30	Binary Dependent Variable II	11		
Nov 4	No Class		PS#6	
Nov 6	Binary Dependent Variable III	11		
Nov 11	Instrumental Variable Regression I	12	PS#7	PS#6
Nov 13	Instrumental Variable Regression II	12		
Nov 18	Instrumental Variable Regression III, Experiments	12,13.1-13.2	PS#8	PS#7
Nov 20	Time Series Regression I	14.1-14.4		
Nov 25	Time Series Regression II	15		PS#8
Nov 27	No Class			
Dec 2	Time Series Regression III	15	PS#9	
Dec 4	Time Series Regression IV, Exam Review	16.1-16.2		PS#9