

BOSTON COLLEGE

Department of Economics

EC 228 01: Econometric Methods, Fall 2012

Course homepage: <http://fmwww.bc.edu/EC-C/F2012/228/>

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Office Hours: T 9:30–11:00 AM, Th 2:00–4:00 PM and by appt.

This course is designed to introduce students to *econometrics*: the field of economics which develops the methods by which statistical tools are employed in empirical research. We will focus on estimation and inference in the context of the most widely used methodology, linear regression analysis of a single equation. Students completing the course will gain an understanding of the analytical foundations of econometric analysis as well as acquiring significant hands-on experience with data analysis and the economic interpretation of empirical findings.

EC 228 is a required course for the A&S Economics major. At least one semester of calculus is a required prerequisite (as it is for EC 201 and EC 202, the intermediate theory courses). An understanding of partial derivatives is valuable. EC 228 is the first course of a two-course sequence in econometrics offered at Boston College. The second course, EC 327, Financial Econometrics, is offered only in the spring semester.

For the first time this fall, EC 228 is now a four-credit-hour course, with three hours of lecture and a mandatory one-hour lab section. The lab sections involve applied work and graded homework assignments, which will be worth 20% of the course grade. You will be introduced to the *Stata* statistical package, available on <http://apps.bc.edu>, which will be used in EC 151 and EC 228 labs from Fall 2012.

You will need to sign up for a lab section. There are six lab sections per week, on Thursdays and Fridays. You may sign up for any section that works for your schedule. To give everyone a fair chance of getting their desired section, the online signup system will not be available until **12:00 noon on Friday, 7 September 2012**. At that time, go to the Economics Department home page, <http://www.bc.edu/economics>, and follow the link to **Quantitative Methods Lab Section Signup**. Lab meetings will begin in the following week on 13 or 14 September.

Required text/software: J.M. Wooldridge (W), *Introductory Econometrics: A Modern Approach*, (South-Western College Publishing, 4th ed., 2009) and access to the *Stata* statistical package. *Stata* is available to all BC community members via the BC Applications Server on <http://apps.bc.edu>; it may also be used in the O’Neill Library CTRC. Off-campus use may require the use of VPN on your machine (see the Help Center). Personal copies may also be purchased through the *Stata* GradPlan.¹ Materials ordered through the GradPlan will be distributed in class within 1–2 business days.

Recommended text: C.F. Baum, *An Introduction to Modern Econometrics Using Stata*, Stata Press (<http://stata-press.com/books/imeus.html>), 2006.² On reserve at O’Neill Library.

Expected background: (a) Completion of EC 151 or EC 155, Economic Statistics, or equivalent (b) familiarity with the materials in W Appendices A, B, which will not be covered. Appendix C will be briefly reviewed in lecture.

Course requirements: 35% final examination; 25% midterm examination; 20% graded homework assignments; 20% lab exercises. No makeup examinations will be given. Homework assignments in the lecture will involve both analytical exercises and some computer work. The assignments are to be your own work and will not be accepted after their due dates. You are responsible for familiarity with the College of Arts & Sciences’ policy on academic integrity:

<http://www.bc.edu/offices/stserv/academic/resources/policy/#integrity>

You are expected to attend each lecture, having adequately prepared the material to be discussed. Please help us keep to the schedule by arriving and getting settled before the lecture is scheduled to commence.

Software: The lab exercises and homework assignments will require you to become familiar with *Stata*, a general-purpose statistical package in wide use across social science disciplines. The first several weeks’ labs will provide you with information on the use of *Stata* as needed for class exercises. *Stata* has the same “look and feel” on all platforms on which it runs: Mac OS X, Windows, Linux, and Unix. There are extensive web-based tutorials on the use of *Stata* for regression analysis accessible via the course home

¹<http://www.stata.com/order/new/edu/gradplans/gp-campus.html>

²Check the Stata Press price if you’re thinking of buying from Amazon or the BC Bookstore.

page. There is also extensive on-line help within the program, and links from Stata's "findit" command to Internet-accessible resources as well. You may submit any questions on Stata use to me via email, which I read and answer seven days a week.

Tentative Schedule

Meetings	Dates	Material
1	S 4	Ch. 1: Nature of Econometrics
2, 3	S 6, 11	App. C, Mathematical statistics
<i>No lecture Thursday 13 September</i>		
4, 5, 6	S 18, 20, 25	Ch. 2: Simple regression model
7, 8, 9	S 27, O 2, 4	Ch. 3: Multiple regression analysis: Estimation
10, 11	O 9, 11	Ch. 4: Multiple regression analysis: Inference
12	O 16	Ch. 6: Multiple regression analysis: Further issues
<i>No lectures Tue–Thu, 23–25 Oct; lab section meets</i>		
13, 14	O 18, 30	Ch. 7.1–7.4: Dummy variables
15	N 1	Midterm exam, Chapters 1–4, 6–7
16, 17	N 6, 8	Ch. 8.1–8.4: Heteroskedasticity
18, 19	N 13, 15	Ch. 9.1–9.2, 9.4–9.5: Specification and data problems
20, 21, 22	N 20, 27, 29	Ch. 10, 12.1–12.5: Regression with time series data
23, 24	D 4, 6	Ch. 15.1–15.7: Instrumental variables, 2SLS
	D 19, 9:00–11:30 AM	Final exam