

# BOSTON COLLEGE

## Department of Economics

EC 228 01: **Econometric Methods**, Fall 2008

Course homepage: <http://fmwww.bc.edu/EC-C/F2008/228/>

Prof. Christopher Baum

<http://ideas.repec.org/e/pba1.html>

LCOB 486, 552-3673, [baum@bc.edu](mailto:baum@bc.edu) (7x24)

Office Hours: T,Th 1:30–3:00 PM and by appt.

Lectures held in Carney 204

Tutor: Ms. Shannon Phillips

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 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.

This fall's offerings of EC228 by Prof. Baum (section 01) and Prof. Seitz (section 02) include an optional 4th-hour tutorial section. The one-hour tutorial will be presented three times weekly (times and rooms TBA). We will ask you to sign up for one of those three times so that we might roughly balance the number of students in each session. You are free to attend any of the three sessions. The tutorial session will help you gain familiarity with the statistical package employed in the course and provide assistance with homework problems.

**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, version 9.x or 10, through the CTRC or a personal copy. See below regarding GradPlan purchase options.

**Recommended text:** C.F. Baum, *An Introduction to Modern Econometrics Using Stata*, Stata Press (<http://stata-press.com/books/imeus.html>),

2006.<sup>1</sup> On reserve at O'Neill Library.

**Expected background:**

(a) Completion of EC 151, 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 class.

Calculus will be employed, if sparingly. One semester of calculus (e.g., MT100) is prerequisite to this course. An understanding of partial derivatives is valuable.

**Course requirements:**

35% final examination; 30% midterm examination; 35% graded homework assignments. No makeup examinations will be given. Homework assignments, which will involve both analytical exercises and computer work, 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 homework assignments will require you to become familiar with **Stata**, a general-purpose statistical package in wide use across social science disciplines. A short tutorial on the use of Stata will be provided in class. 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 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.

An adequate number of copies of Stata for both Windows and Macintosh machines have been installed in the CTRC in O'Neill. If you would like to acquire a copy of Small Stata (the student version) for Windows, Macintosh or Linux for your own use, you may order it through the Stata GradPlan (<http://www.stata.com/order/new/edu/gradplans/gp-campus.html>). Materials ordered by phone or fax through the GradPlan are ready for pickup in 1–2 business days from Mrs. Tubman in the Economics office, LCOB 412B.

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<sup>1</sup>Check the Stata Press price if you're thinking of buying from Amazon.

The student version, Small Stata, is limited in the number of observations and variables which may be analyzed, but otherwise is a full version of Stata. Stata/IC is more appropriate if you are thinking of using the software for a senior thesis project. You will need access to the Internet to work with the datasets that will be analyzed in homework assignments.

### Tentative Schedule

Meetings	Dates	Material
1, 2	S 2,4	Ch.1: Nature of Econometrics
3	S 9	Stata tutorial (Ms. Phillips)
4, 5	S 11, 16	App. C, Math. statistics
6, 7, 8	S 18, 23, 25	Ch. 2: Simple regression model
9, 10, 11	S30, O 2, 7	Ch. 3: Multiple regression analysis: Estimation
12, 13	O 9, 14	Ch. 4: Multiple regression analysis: Inference
14	O 16	Ch. 6: Multiple regression analysis: Further issues
15, 16	O 21, 23	Ch. 7.1–7.4: Dummy variables
17	O 28	<b>Midterm exam, Chapters 1–6</b>
18, 19	O 30, N 4	Ch. 8.1–8.4: Heteroskedasticity
20	N 6	Ch. 9.1-9.2, 9.4-9.5: Specification and data problems
21, 22	N 11, 18	Ch. 10: Regression with time series data
	N 13	<b>No class meeting</b>
23, 24	N 20, 25	Ch. 12.1–12.5: Serial correlation in time series data
25, 26	D 2, 4	Ch. 15.1–15.7: Instrumental variables, 2SLS
	Tues D 16, 9:00 AM	<b>Final exam</b>