

**Economics 120B  
Econometrics B  
Class Syllabus**

Instructor:	Patrik Guggenberger ( <a href="mailto:econ120b@gmail.com">econ120b@gmail.com</a> )
Office:	Department of Economics, Room 315
Office hours:	We, 11am-12:30pm or by appointment
Teaching assistants:	M. Ayelen Banegas <a href="mailto:mbanegas@ucsd.edu">mbanegas@ucsd.edu</a> Linchun Chen <a href="mailto:lic026@ucsd.edu">lic026@ucsd.edu</a> David Kaplan <a href="mailto:dkaplan@ucsd.edu">dkaplan@ucsd.edu</a> Troy Kravitz <a href="mailto:tkravitz@ucsd.edu">tkravitz@ucsd.edu</a> Ben Miller <a href="mailto:b5miller@ucsd.edu">b5miller@ucsd.edu</a> Kelly Paulson <a href="mailto:kcpaulson@ucsd.edu">kcpaulson@ucsd.edu</a> Juwon Seo <a href="mailto:jus006@ucsd.edu">jus006@ucsd.edu</a>
Class time and location:	There are two sections offered, one meets at 1) Tue, Th 12:30-1:50pm Center Hall 101 The other one at 2) Tue, Th 2:00-3:20pm PCYNH 109
Discussion section:	1) Th 8-8:50 or 9-9:50 pm in York 2622 2) Fr 3:00-3:50 or 4:00-4:50pm in York 2622
TA office hours:	David Kaplan, Monday 12:30-2pm, Econ 124 Ben Miller, Friday 8:30-10am, SH235 Kelly Paulson, Tuesday 5:15-6:45pm, Econ 113

**Course description**

In this course you will learn to estimate and evaluate statistical models for the analysis of economic data. We will consider the basic regression model – which is still the most widely used model in the real world – and some of its extensions (as time allows), such as regression with discrete random variables. You will learn how to construct the appropriate model depending on the nature of the data and on the relevant question, how to estimate the model and finally, how to critically interpret the results of the estimation. The focus is primarily on practical applications using actual data; the theory will be introduced only as needed. The first lectures will be dedicated to a brief review of statistical concepts that are useful for the class. Prerequisite is ECON 120A: Econometrics A or a comparable course.

**Textbook**

J. Stock and M. Watson, Introduction to Econometrics (second edition), Addison Wesley 2007. (referred to as SW below)

Optional reading: J.M. Wooldridge, Introductory Econometrics, South-Western College Publishing (the book offers a complementary treatment of the same topic). (referred to as W below)

**Assignments**

There will be 6 or 7 problem sets which involve to a great deal empirical exercises. The software used for the course is STATA. In the first week the basics of STATA will be covered in the discussion sections.

Students have access to STATA in the following computer labs: Econ 100, ERC 117 and CLICS-263/GH263. For lab Info see: [http://acs.ucsd.edu/instructional/labs\\_servers.php](http://acs.ucsd.edu/instructional/labs_servers.php)  
Individual copies of \*Small STATA can be purchased at <http://www.stata.com/order/schoollist.html> for about \$50.

STATA is essential for problem sets. Exam questions may involve STATA outputs.

The homeworks are graded on a scale from 0 to 100. The homework questions will be phrased as multiple choice (at least most of them) and will be sent out through webct. Problem sets and data will be posted on the course webpage. Solutions will be posted shortly after the class on the day the assignments are due. Assignments handed in after the solutions are posted will receive no credit.

### **Grading**

Problem sets: 25%; Midterm exam 25%; Final exam 50%. In computing the final grade for the problem sets, the lowest grade of the problem sets will be dropped. The final grade for the course is determined using a curve.

Graded exams and problem sets are returned by the TA during discussion session. The exam cannot be taken home, but can be carefully examined during the discussion session.

Any grade dispute should be put in writing and given to the TA in your session. The written dispute can only be given to the TA within two weeks from the time the exam or homework was returned.

Incompletes may be granted for medical reasons. However, please note that if you show up for the final exam, an incomplete can no longer be given.

### **Exams**

Midterm: April 28<sup>th</sup> 2011

Final: A00 June 6<sup>th</sup> 11:30-2:29, B00 June 7<sup>th</sup> 2011, 3:00-5:59pm

The dates of the exams are fixed. I will not make individual exceptions to these dates, unless there is a certified medical reason.

In both midterm and final, you can bring a single (two-sided) 8.5x11 sheet of notes and a calculator. However, no textbooks, computers, cell phones are allowed. The final exam is cumulative.

### **E-mail policy**

E-mail messages should be kept to a minimum and should only concern important matters and clarifications that cannot be addressed by attending class and discussion sessions regularly and by checking the syllabus and the class webpage. I will generally not discuss the course material over email. You are always welcome to come to my office hours for help. It is a good idea to contact the TA with questions.

### **Finally**

After the University add deadline, students with extraordinary circumstances or with documentation of a university error may petition the Department of Economics to add courses. Extraordinary circumstances do not include: not being added to the course from the waitlist, forgetting to add a course, etc. Students with an extraordinary circumstance may submit a completed petition,

with a written explanation (and documentation, if applicable) to Sequoyah Hall room 245.

### Course outline

This is a rough guideline of the material that we will cover during the quarter. The actual schedule of the course may slightly differ in the end. I will update the schedule as we move on.

LecDate	Lecture topic	readings in SW
1 on 3/29	introduction, review statistics	2.1-2.3
2 on 3/31	review statistics	2.5-2.6, 3.1-3.2 (Optional: W: Appendix B and C (not C5))
3 on 4/5	review statistics	3.2(cont') and 3.3 (Optional: W: C5)
4 on 4/7	homework 1 preparation	
5 on 4/12	simple linear regression model	4.1, 4.4 (Optional: W: 2.1)
6 on 4/14	simple linear regression model	4.2 (Optional:W: 2.2-3)
7 on 4/19	simple linear regression model	4.5 , 5.1 , 5.4 (Optional:W: 2.5)
8 on 4/21	continued/multiple lin reg model	4.3, 5.2, 6.1 (Opt:W: 2.4, 3.1)
9 on 4/26	multiple linear regression	6.2-8,not 6.4 (Opt:W: 3.2-3)
10 on 4/28	<b>midterm: bring student ID!</b>	
11 on 5/3	OVB, hypothesis tests and CIs	6.1,7.1-3 (Opt: W: 4)
12 on 5/5	cont, model specification	6.4, 7.4-6
13 on 5/10	nonlinear regression	8.1 (Opt: W: 6.2)
14 on 5/12	continued	8.2
15 on 5/17	continued	8.3
16 on 5/19	binary dependent variable, MLE	11
17 on 5/24	continued	
18 on 5/26	continued	
19 on 5/31	continued	
20 on 6/2	review session for final exam	

### Homeworks:

1	Posted on 4/4	Due on 4/12 1pm	Topic: Review of Econ120A
2	Posted on 4/19	Due on 4/27 9am	Topic: Simple linear regression
3	Posted on 5/3	Due on 5/10 9am	Topic: Multiple linear regression
4	Posted on 5/10	Due on 5/20 9am	Topic: Nonlinear regression