UCSD Department of Economics

UNIVERSITY OF CALIFORNIA, SAN DIEGO

Econ 120B Winter 2009

Instructor: Chin-Hwa (Jenny) Sun, Ph.D., Cornell University, 1994
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Office Hours: Mon 1:50p-3:50p in ECON ANNEX TRAILER 103.

Teaching Assistants:

Ghanem, Dalia dghanem@ucsd.edu Office: SH 140, Tu, 12:30-1:30p; F, 11a-12p
Chou, Tiffany tmchou@ucsd.edu Office: ECON 118, M, 1-2p; W, 1-2p.
Hirakawa, Oana otocoian@ucsd.edu Office: ECON 127, W, 9:30a-11:30a

Regular Schedule Lecture: TuTh 2:00p - 3:20p, YORK 2722.
Discussion : W 3:00p - 3:50p, CENTR 119.

Important Dates STATA tutorial 1-1: W, January 7, 3:00p - 3:50p, CENTR 119.
STATA tutorial 1-2: W, January 14, 3:00p - 3:50p, CENTR 119.
STATA tutorial 2: W, February 18, 3:00p - 3:50p, CENTR 119.
Midterm: Th, February 5, 2:00p - 3:20p, YORK 2722.
Final: Th, March 19, 3:00p - 5:59p, TBA.

Goals

Econ 120B is a sequel to Econ 120A, Math 183, or ECE109. The course aims to prepare students for practical empirical research in an academic or business setting. It introduces the three basic concepts in econometrics: quantifying uncertainty with confidence intervals; using regression to infer causal relationships; and using regression for prediction. The course provides the standard tools necessary to perform and read empirical research.

These methods are also widely used in business, finance, and other fields. Throughout, we will focus on both understanding and doing. The understanding will come from lectures, class discussions, and problem solving. The doing will come from extensive statistical software use. This course requires a quarter-long commitment.

Course Materials: WebCT.ucsd.edu

- Please access the WebCT regularly in order to keep abreast of changes.
- I will make announcements through the mail function in WebCT. Please set up a forwarding address if you prefer to get the announcement in your regular email account.
- You can make anonymous comments via the course webpage. I will also conduct some surveys on teaching effectiveness via the WebCT system.

Textbooks: Stock, James and Mark Watson, 2007, *Introduction to Econometrics*, Second Edition, Addison Wesley. Chapters to be covered: 1-7, 9, and 12.

STATA

We will learn to use an econometrics program called *Stata*. *Stata* is essential for problem sets and the exam questions may involve understanding the STATA outputs. Two *Stata* Tutorials will be provided by the TAs. Students have access to *Stata* in the computer lab in Econ #100 or check available lab at Academic Computing Services (micros.ucsd.edu/softwareLookup/index.php?action=loaded&id=1330). Individual copies of *Small* STATA can be purchased at www.stata.com/order/new/edu/gradplan.html for $48.

Problem Sets

There will be three assignments, which will be collected and graded. Group study and free discussion are encouraged, but you should work on your own answers. There are weekly discussion sections for problem set, which will start on the week of January 7th. If you have any question on the problem sets, please come to the office hours. Our office hours are for you. I prefer to talk to you in person. However, if you have a time conflict, feel free to drop us a line.

Extra office hours will be announced before each exam on the WebCT. Office hours are for you. You are encouraged to just stop by and introduce yourself.

Quizzes

There will be 8 quizzes given in every Thursday lectures except on the 5th and 10th week over topics of special interest or difficulty. Each quiz will be distributed during the lecture and will cover a current course topic which students will be expected to master by the end of the quarter. The quiz question will be discussed and answered in lecture. Students who submit a quiz with a reasonable answer will automatically receive 1 quiz point. 8 quiz points will count for 4% of the overall course grade.

Examinations and Grading

There will be a midterm exam (worth 35% of the grade), a final (45%), three problem sets (worth 5%, 5% and 5%, respectively), 8 quizzes (4%) and two surveys (1% together).

There will be no make-up exams. If you miss a midterm for a justifiable and verifiable medical/legal reason, then the final exam will carry its weight but 5% of the score will be deducted as a penalty. No exceptions!! All grading problems must be rectified within a week from the time an exam is returned. If you write in pencil, check the grading immediately with TAs, and take care of complaints before leaving the room.

The course grade will be assigned as follows. First, if the mean score of an exam (the mid-term and the final) is below 65 points, points will be added to all scores to bring the mean score to 65 points. Second, a weighted average of numerical scores will be obtained. Finally, letter grades will be assigned using the following scale:

>=95	[90, 95)	[85, 90)	[80, 85)	[75, 80)	[70, 75)	[65, 70)	[60, 65)	[55, 60)	[50, 55)	< 50
A +	**A**	**A -**	**B+**	**B**	**B-**	**C+**	**C**	**C -**	**D**	**F**

Date	Course Contents: Topics and Assignments
Week 1 1/6, 1/8	**I. Why Study Econometrics?** (Chap. 1-3) Correlation vs. causality; Policy analysis vs. prediction Who needs data anyway? If you had some, what would you do with it? • Econometric models: parameter estimates, prediction and the testing of economic theories. • Data: Experimental vs. nonexperimental data. Cross-sections, Time-Series, Panels. • **STATA tutorial 1-1: W January 7, 3:00p - 3:50p, CENTR 119.** • Review of Probability and Statistics: random variables, the normal distribution and the central limit theorem, inference, confidence intervals and hypothesis testing. Asymptotics of the sample mean.
Week 2 1/13, 1/15 Problem Set #1 due 1/20	**II. Linear Regression with One Regressor (Chapter 4 and 5)** Fitting a line through a cloud of points. • Least Square principle, unbiased estimates, consistent estimates, R^2. • Sampling distribution of OLS estimator (data generating process) • **STATA tutorial 1-2: W January 20, 3:00p - 3:50p, ECON 100.** • **Survey of Student's Preparation: January 8 to 15 on WebCT.**
Week 3 1/20, 1/22	• Confidence interval and hypothesis testing: single (t) vs. multiple (F). • Use regression with only intercept to infer about the mean • Use dummy variable regression to compare means from subpopulations.
Week 4 1/27, 1/29	**III. Linear Reg. with Multiple Regressors (Chapter 6 and 7)** • Omitted variable bias • Problem Set #2 due 1/28
Week 5 2/3, 2/5	• Measures of Fit • **Midterm Review: W, February 4, 3:00p - 3:50p, CENTR 119.** • **Midterm: Th, February 5, 2:00p - 3:20p, YORK 2722.**
Week 6 2/10, 2/12	• Sampling distribution of the OLS estimator Confidence interval and hypothesis testing for a single coefficient. • **Midterm Distribution: W, February 11, 3:00p - 3:50p, CENTR 119.** • joint hypothesis testing for more than one coefficient • **Course and Professor Evaluation: February 10 to 19 on WebCT.**
Week 7 2/17, 2/19	**IV. Topics in Multiple Regression** • Sources of OLS biases (Chapter 9) • **STATA tutorial 2: W, February 18, 3:00p - 3:50p, CENTR 119.** • Measurement error, omitted variable bias.
Week 8 2/24, 2/27	• simultaneity and sample selection • Problem Set #3 due 3/4
Week 9 3/3, 3/5	• Instrumental variable regression: a single endogenous regressor and a single instrument (Chapter 12.1)
Week 10 3/10, 3/12	• The Identification Problem **Final Review 1: W, March 11, 3:00p - 3:50p, CENTR 119.** **Final Review 2: Th, March 12, 2:00p - 3:20p, YORK 2722.** **Final: Th, March 19, 3:00p - 5:59p, place to be arranged.**

Information for Exams:

The chapters of the textbook covered on the midterm are presented in the table below.

Chapters	Sections
Chapter 1	All
Chapter 2	All but the sections on Chi-Squared, F and Student t distributions
Chapter 3	All
Chapter 4	All
Chapter 5	All
Chapter 6	Section 6.1 only

Please arrive **at least five minutes ahead of time, to find a seat not adjacent to each other and get settled**. The midterm exam starts at 2:00 PM sharp.

The final exam is comprehensive and covers all the material, including those tested in the midterm exam. Exams may be proctored using video. All exams will be closed book, but you can bring ONE page (one-sided, no larger than 8.5in by 11in) of note. It must be hand-written; photo reducing and pasting is not permitted. Sometimes students ask whether they can bring two pages of notes for the final exam. The answer is no. No need to bring a calculator or a blue book.

Reviewing class notes with knowledgeable friends, solving problem sets, reviewing practice exams, and reading the text are good ways to prepare for exams. Disabilities will be accommodated. Please refer to OSD policy on what we do to help. http://www-senate.ucsd.edu/manual/appendices/app3.htm.

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STUDENT CONSENT FOR RELEASE OF STUDENT INFORMATION (Buckley Waiver)

I hereby authorize the UCSD Economics Department to return my graded examinations and problem sets by placing them in a location accessible to all students in the course. I understand that the return of my examinations and problem sets as described above may result in disclosure of personally identifiable information, that is not public information as defined in UCSD PPM 160-2, and I hereby consent to the disclosure of such information.

Quarter **Winter 09** **Course** **ECON120B** **Date**________________

Instructor **Chin-Hwa (Jenny) Sun**___

Student ID#__________________________ **Print Name**______________________________

Signature____