

# Econ 120C, Spring 2008

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## Course Objectives

Econ 120C is a sequel to Econ 120A and Econ 120B. The objective of the course is to provide you with knowledge of econometrics in theory and applications. By the end of the course, you should be skilled users of basic econometric methods and critical interpreters of empirical studies.

## Lecture and Discussion Section Information

The course meetings include two lectures and two discussion section meetings per week. The locations, meeting times and discussion leaders (for section meetings) are as follows:

Lecture TuTh 3:30p – 4:50p Warren Lecture Hall 2001

Discussion Section Tu 7:00p - 7:50p Peterson 110

Discussion Section Tu 8:00p - 8:50p Peterson 110

Note: Students may attend either section as suits their schedule.

## Web Page

The course web page may be accessed at <http://webct.ucsd.edu>. Students are strongly advised to become familiar with accessing the web page early on, as this will be a repository for course lecture notes, problem sets and data. Please access the course web site regularly in order to keep abreast of any changes. If you have any question regarding grading policy, exam format or any other issues, consult the course web page first. Chances are that you can find the answer there. If you cannot, please contact one of the TAs or me by e-mail.

## Textbooks

*Required:* The required text for this class is *Introduction to Econometrics*, James Stock and Mark Watson (2<sup>nd</sup> Edition, Addison Wesley 2007). I have asked that copies of the book be placed on reserve at SSH.

*Alternative Text* (for reference): *Introductory Econometrics*, Jeffrey M. Wooldridge (Southwestern: 2002). This is another widely used textbook. This book is more advanced than the one by Stock and Watson, and is recommended for students who are not afraid of challenges. This book will also be placed on reserve at SSH.

## Problem Sets

There will be five assignments, one for each two-week period of the course. The assignments

will not be collected and graded, but students will be expected to complete them independently and be prepared to answer similar questions on exams. Solutions will be posted on the course web site one week after a given problem set is assigned.

The assignments will involve both theoretical and empirical work. Group study and free discussion are encouraged, but you should write up your own answers to ensure your independent understanding. TAs will devote section time to answering questions on the problem sets and to go over the answers once they are posted.

If you have any question on the problem sets, please ask a TA or me during our office hours. If you do not have time to come by in person, you may also send your questions by e-mail, but note that e-mail is not an ideal medium for clearing up econometric questions.

### **Daily Quizzes**

There will be short daily quizzes given in lecture over topics of special interest or difficulty. Each quiz will be distributed at the start of 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 in lecture and answered through group discussion. Students who submit a quiz with a reasonable answer will automatically receive full credit for that day's quiz. The daily quiz average will count for 10% of the overall course grade. Students may miss up to two quizzes without penalty to their quiz average.

### **Examinations**

There will be two mid-term exams, each carrying a weight of 20%. The cumulative final exam will carry a 50% weight. All exams will be closed book. Bring a calculator which is capable of computing log and exponential functions. (Note: You should be able to find a suitable calculator for less than \$20 if you do not already own one.) Students may not bring their own paper to the exams, but exam copies will be one-sided, and students may write on the blank back sides of the copies if extra space is needed.

There will be no make-up exams. An exception will be made for valid emergencies, in which case documentary evidence is required to avoid receiving a zero on the exam. If you miss the midterm for reasons of an emergency and provide acceptable evidence, then the final exam will carry its weight.

### **Honors Section Requirements**

A small number of students in the course are also enrolled in an honors section which carries an additional unit of credit. Students in the honors section will be required to obtain a data set and conduct an empirical analysis using one of the methods covered in the Econ 120 course sequence. The results of the analysis must be written up in a short paper (5 pages minimum). We will schedule a meeting time at the end of the quarter for the honors section students to present their papers and offer mutual (constructive) criticism of each other's work.

## Grading

All grading problems must be rectified within a week from the time a graded exam or quiz is returned.

- **Re-grading of exams will only be considered in cases of blatant grading error.** Re-grading will not be allowed for exams which were written in pencil. If you write in pencil, however, you can look over the exam at my office, and resolve grading disputes before leaving the office. Please address exam re-grading requests to me.
- Quizzes will be graded on a point / no-point basis, which will hopefully minimize grading disputes. If you have any questions or complaints on the grading of a quiz, please resolve them with the TA who graded it.
- Re-grading of exam questions should also be resolved with the TA who graded the answer which is in dispute.

Course grades will be computed as follows. First, if the mean score of any exam (including the mid-term and the final) is below 75 percentage points, points will be added to all scores to bring the mean score for the exam in question up to 75. Second, a weighted average of numerical scores will be obtained. Suppose your quiz score for the quarter is 90 (meaning you received credit for taking 90 percent of the in-class quizzes). Further, assume your midterm scores are 83 and 85, and your final exam score is 90 (possibly after adjustments). Then the final course average will be computed as the weighted average rounded to the nearest integer, and the course grade will be computed directly off this average:  $90 \cdot 10\% + 83 \cdot 20\% + 85 \cdot 20\% + 90 \cdot 50\% = 87.6 = 88$ . The weights on the quizzes, midterm and final exams cannot be changed. Finally, letter grades will be assigned using the following scale:

$\geq 95$ A+	[80,85) B+	[65, 70) C+	[50 55) D
[90,95) A	[75,80) B	[60, 65) C	< 50 F
[85,90) A-	[70,75) B-	[55, 60) C-	

## Policy on Academic Dishonesty

Academic dishonesty will be treated in this course as a serious violation of university rules. The university's policy on academic dishonesty may be found at this web site: <http://www-senate.ucsd.edu/manual/appendices/app2.htm>. Students caught cheating on the exams will have their cases referred to the Dean of Student Affairs of the student's college, which could potentially lead to a formal hearing of the case by the Academic Dishonesty Hearing Board and a failing course grade which remains on the student's permanent record.

## E-mail and Office Hours

TAs: Justin Rao (50% time) [jmrao@ucsd.edu](mailto:jmrao@ucsd.edu)

Hee Seung Yang (50% time) [h2yang@ucsd.edu](mailto:h2yang@ucsd.edu)

Chim Lau (50% time)      [chimlau@ucsd.edu](mailto:chimlau@ucsd.edu)

Office Hours: (Instructor) Immediately after class, on request; otherwise, by appointment.

TAs: TBA.

## Topics

<u>Basic Topic</u>	<u>Text Readings</u>	<u>Week</u>
Review	Ch 2, Sections 6.1, 9.2 and 12.1 (Ch 2, Sections 5.1, 5.11, 7.2 and 10.1)	1
Nonlinear Models		
Nonlinear regression functions	Ch 8 (Ch 6)	2
Discrete choice models		3
Linear probability model	Ch 11 (Ch 9)	4
Probit and Logit		
Maximum likelihood estimation and inference		
First Midterm Exam		5
Thursday May 1, 2008, 3:30p-4:50p (Warren Lecture Hall 2001)		
Failure of OLS and IV estimation		
General instrumental variable	Ch 12 (Ch 8)	5
regression model		6
Panel data regression: fixed effects and time effects	Ch 10 (Ch 10)	7
Second Midterm Exam		8
Thursday May 22, 2008, 3:30p-4:50p (Warren Lecture Hall 2001)		
Basic Time Series Analysis	Sections 14.1-14.5 (Sections 12.1-12.5)	
Introduction to time series data: autocovariance and autocorrelation		8
Stationarity		9
AR(p) model: estimation and forecasting		10
ADL(p,q) model: estimation and forecasting		
Regression with autocorrelated errors: HAC standard errors		
Final Exam		11
Monday June 9, 2008, 3:00p-6:00p (Location TBA)		

Note: Parenthesized references are to sections in the 1<sup>st</sup> edition of Stock and Watson; non-parenthesized references are for the 2<sup>nd</sup> edition.