ECON 3033 Econometrics I

National Tsing Hua University

Fall 2007

Instructor: Shih-Chang Lin

Contact Information: Office: HSS-A407, Email: `slin@mx.nthu.edu.tw`, Phone: 574-2729

Time and Location: Monday 1:00-4:00 pm, HSS-A420

Office Hours: By appointment

Course Webpage: Course materials will be available on the web through **Blackboard**.

Teaching Assistant: Wan-Yi Lai [`g9672503@oz.nthu.edu.tw`]
 You are lucky to have Wan-Yi to be your TA.

Teaching Assistant Hours: TBA
 TA will hold the office hours and also be available for consultation on homework.

Course Description:
 There are two sequences for undergraduate econometrics. This course is the first part of the introduction to econometrics sequence. We will review probability and statistics at the first beginning and then introduce the basic idea of regression models. You are expected to have a firm grasp of the types of empirical research designs that can lead to convincing analysis and be comfortable working with actual data sets.

 Although the aim will remain on the underlying theory, students will be given several opportunities to gain "hand on" experience with real data set through homework assignments. I would encourage students to make use of my office hours (or TA's office hours) during the semester and not wait until the day before the exam. If you are having difficulty with concepts early on, then it is likely that your difficulties will snowball and that there will be insufficient time to deal with your puzzles close to the exams. So please make use of my office hours to sort out difficulties as they arise.

Prerequisites:
 Calculus, Probability, and Statistics

Required Textbook:
   Basically, I will hand out weekly lecture notes which are the summary of textbooks.

- Stock, J. H. and M. W. Watson, 2007, *Introduction to Econometrics*, Addison-Wesley.

Of course, there are lots of textbooks related to this course. If you have enough time, it would be also beneficial to check out some of the following references.

References:
   Note that you don't need to buy the following books. The book list is just for your reference.

- Gujarati, D. N., 2003, *Basic Econometrics*, McGraw-Hill.

  It is the former textbook in this course.

- Wooldridge, J. M., 2003, *Introductory Econometrics: A modern approach*, South-Western.

  It is a very popular undergraduate level textbook adopted in US. This book gives a huge amount of empirical examples and illustrates econometric concepts intuitively.

- Maddala, G. S., 2001, *Introduction to Econometrics*, 3rd edition, Wiley.

  This book is well written and in general is deeper than our textbook. You could also find some fancy topics in Maddala's book such as bootstrap, Jackknife and GMM.

- Kennedy, P. A., 1998, *A guide to Econometrics*, 4th edition, MIT Press.

  This book tries to verbally explain difficult econometric ideas and avoids heavy math.

- Pindyck, R. S. and L. R. Rubinfeld, 1998, *Econometric Models and Economic Forecasts*, McGraw-Hill.

  Ths is my econometric textbook when I was a junior. It is quite easy to read.

- Ramanathan R., 2002, *Introductory Econometrics with Applications*, 5th edition, South-Western.

  This book provides a number of practical applications. It is also self-contained. In Chapter 14, the author demonstrates the various steps involved in carrying out an empirical research project.

- Johnston and DiNardo, 1997, *Econometric Methods,* 4th edition, McGraw-Hill.

  If you are sort of familiar with matrix algebra, it is a nice book to build up the foundation of econometrics. It also serves the bridge to compensate the gap between undergraduate and graduate level econometrics.

Software: You are welcome to use any econometric packages such as *TSP, Stata, Eview, or Limdep.*

Grading: Several problem sets will be passed out during the semester. Although there are benefits to be obtained from working in groups I would advise against students free-riding off other students. There will be two midterms and a final. Note that overdue assignment will **NOT** be accepted unless accompanied by a medical certificate. The same is true for the exams. Your final grade will base on the following table. Note that **NO** make-up exam will be offered.

Assignments	20%
Midterm I	25%
Midterm II	25%
Final	30%.

Course Organization: 17 weeks / lectures [Tentative!!]

1. **Organization**
   Sept. 10

2. **Introduction and Review**
   Sept. 17

3. **Moon Festival – No Class**
   Sept. 24

4. **Probability and Statistics**
   Oct. 1

5. **Simple Linear Regression I**
   Oct. 8

6. **Oct. 15: Midterm Exam I [In class]**

7. **Simple Linear Regression II**
   Oct. 22

8. **Simple Linear Regression III**
   Oct. 29

9. **Multiple Linear Regression I**
   Nov. 5

10. **Multiple Linear Regression II**
    Nov. 12

11. **Nov. 19: Midterm Exam II [In class]**

12. **Multiple Linear Regression III**
    Nov. 26

13. **Nonlinear Regression I**
    Dec. 3

14. **Out of Town for Seminar – No Class**
    Dec. 10

15. **Nonlinear Regression II**
    Dec. 17

16. **Other Topics**
    Dec. 24

17. **Dec. 31: Final Exam [In class]**