Economics 6100: Introduction to Econometrics  
Winter 2004  
M W 4:30-6:20

Tomomi Kumagai, Ph.D.  
Email: TKumagai@wayne.edu  
2097 FAB, 577-3355  
Office Hours: Wed 1-3 or by appointment

Course Description:
This course is an introduction to econometrics intended to provide graduate students with the basic skills for analyzing relationships between economic variables. The students will learn how to use observed data to test economic theories. By the end of the semester, students will understand the basics of regression analysis, be able to estimate parameters in regressions, and be able to conduct tests of different hypotheses.

Students are assumed to have had at least one semester of calculus. Knowledge of elementary statistics, probability and linear algebra are not required, but would be helpful.

Class Etiquette
The class will meet from 4:30-6:20 on Mondays and Wednesdays in Cohn Building Room 115. Please put all pagers and cellular telephones (or anything else that may make noise) in silent mode. If you must answer your telephone, please do so outside the classroom.

Required Text:

Other Useful Texts: (on reserve)

Course Requirements:
4 Problem Sets: Tentative due dates: Jan. 28, Feb 16, Mar. 29, Apr 19  
1 Mid-term Exam: Tentative exam date: March 1  
1 Final Exam (30%): Final Exam date: Wednesday, April 28, 2004 (4:30-6:20)

The course grade will be based on problem sets (40% total), mid-term exam (30%) and a final exam (30%).

Problem Sets:
Problem Sets are due in the beginning of the class. Late assignments can be handed in for half credit until the following class. Solutions will be available in the class following the due date. Students are permitted to work together on problem sets.

Mid-term and Final Exams:
Students are required to work alone during all exams. Cheating will result in a FAILING grade for the exam and possibly for the course. Please refer to the pages in the WSU handbook regarding university's policy on academic dishonesty. Make-up exams are provided for special circumstances, which must be approved before the exam date. Only medical emergencies (with a doctor’s note) will be accepted after the exam date.
Course Outline and Tentative Schedule:

1. Basic Probability and Statistics
   a. Statistical Concepts (chp. 2)
   b. Estimating Mean and Variance (chp 3)
   c. Hypothesis Testing (chp 4)

2. Simple Regression Model (bi-variate)
   a. Ordinary Least Squares (OLS) (chp 5)
   b. Heteroscedasticity, Autocorrelation
   c. Inference and Hypothesis Testing (chp 6, 7)

3. General Regression Model (multi-variate)
   a. Matrix notation of Regression (chp 3B)
   b. Ordinary Least Squares (chp 8)
   c. Inference and Hypothesis Testing (chp 9, 10)

4. Regression Assumptions and Problems
   a. Omitted variable, Multi-collinearity (chp 13)
   b. Heteroscedasticity and Generalized Least Squares (GLS) (chp 15)
   c. Autocorrelation and AR model (chp 16)