

SYLLABUS

Economics 571: Intermediate Econometrics

Spring 2008

Professor: Justin L. Tobias

Office: 367 Heady

Office Hours: Wednesday 2:00-4:00

email: tobiasj@iastate.edu

Course Web Site: <http://www.econ.iastate.edu/classes/econ571/tobias/index.htm>

Teaching Assistant: Jin Yu

Office: 77 Heady

Office Hours: Tuesday, 1:00-3:00

email: yujin@iastate.edu

1. Course Description

This course serves as an introduction to econometrics and places particular emphasis on estimation and interpretation of the standard linear regression model.

Our first series of lectures will be devoted to a quick review of concepts in statistics and probability. Topics covered include marginal, joint and conditional densities, moments of scalars and vectors, and notions convergence of random variables.

We then proceed to analyze the linear regression model. In the context of this simple regression model, we discuss the models' assumptions, estimation, prediction, and coefficient interpretation under common transformations. We then move on to the general k -variable model, and use linear algebra in the context of its discussion. Topics covered include point estimation, properties of the OLS estimators, omitted variables and multicollinearity. Additional topics include testing, the use of dummy variables, heteroscedasticity and panel data. Time permitting, we will also investigate departures from the standard linear model including discussions of mean-independence violations, instrumental variables estimation and topics in discrete choice analysis. Students will apply the techniques learned in this course using STATA (This software package will be made available in the computer labs in 64 Heady).

2. Grading

The final grade will be based on problem sets and a combined examination score. The problem sets and exams will constitute 35 and 65 percent of your final grade, respectively. Three examinations will be given throughout the semester. All three of these exams will count toward the examination portion of your final grade. However, I will weight these exams as follows: 45 percent of the weight will be given to the highest of the three scores; 30 percent of the weight will be given to the second-highest score and 25 percent of the weight will be given to the lowest score.

3. Lectures

The lectures will generally follow the topics covered in the required textbook for the course, *Introductory Econometrics* by Wooldridge. Additional material not found in the text will also be covered to supplement your understanding of the topics. This is particularly true for the statistics review at the beginning of the course, and for the linear-algebra based treatment of the multiple regression model.

4. Course Web Site

The course website, <http://www.econ.iastate.edu/classes/econ571/tobias/index.htm> will be a vital tool throughout this class. The course web site will contain: the problem sets for the course, the problem set solutions and data sets required for completing the problem sets. A general course outline for current, past and (potentially) future weeks will also be provided. Finally, the course web site will contain other important announcements such as due dates for the problem sets.

5. Textbooks

The required textbook is *Introductory Econometrics* (2006) by Wooldridge. This is the updated, third edition of the book.

Other texts that you may find helpful are:

J. Stock and M. Watson, *Introduction to Econometrics*, 2003.

Gujarati, D. N. *Basic Econometrics*, 4th edition, 2003.

Madalla, G. S. *Introduction to Econometrics*, 2nd edition, 1992.

Kmenta, Jan *Elements of Econometrics*, 2nd edition, 1986.

Kennedy, Peter. *A Guide to Econometrics*, 3rd edition, 1992.

Please note that this class will be based **exclusively on material covered in the lecture notes**. Use the textbook to support your understanding of class discussion. I will never ask you questions on an exam or quiz that is contained in the text, but was not covered in the lectures.