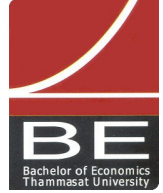




B.E. International Program

Faculty of Economics, Thammasat University



Course Outline

Introductory Econometrics (EE325)

SEMESTER 1/2019

Number of credits: 3 credits (3-0-6)
Lecture Time: TR 9:30-11:00 hrs
Lecture Venue: Room 203, 2nd floor, Faculty of Economics
Thammasat University, Tha Prachan campus
Instructor: Assistant Professor Dr. Kaewkwan Tangtipongkul
Office: 458
Email: kaewkwan@econ.tu.ac.th
Office hours: by appointment

Course description:

Application of statistical and economic theories in analyzing economic data, with emphases on parameter estimation techniques and applications of simple and multiple regression models to economic analyses. Use of computer application in practice is also covered.

Enrollment key for BE Moodle: 1568

Prerequisites:

EE 211, EE212, MA216 (or MA211), and ST216 (or ST211).
(Credits will not be awarded to students who are taking or have completed EE425)

Aims and objectives:

This course provides an introduction to basic results and techniques of econometric theory. The emphasis will be on principles of econometrics and the application of econometric techniques rather than the derivation of theoretical statements. It is expected that at the completion of the course, students will be able to employ econometric investigation in their preparation for writing a seminar paper and to read critically empirical literature.

Instructor's note:

This is an introductory course for econometric analysis. To understand and be able to apply it effectively, you need to learn some basic theories and the reasoning underlying an

estimated equation. Some applied examples will be discussed in class but exercises in homework will provide various examples of econometric application for students. Students are expected to use an econometrics computer package to do the homework. We will primarily use Stata statistical and econometrics software package for computer work in this course. There will be 2-3 STATA workshops in the student computer lab. Each of these workshops will last 1.5 hours. The dates and times will be announced in class accordingly. Homework will be assigned on a regular schedule. An assortment of assignments based on theory and some computer applications that involve programming. Homework assignments are expected to be handed on time. There will be both online- and paper-based homework. Late submission will be graded on the basis of 50% of the total scores of that assignment. More than two-day late homework will not be accepted. There will be occasional, possibly unannounced, quizzes during the semester. Missed quizzes may not be made up (unless this is the result of an officially excused absence)

Textbooks and other document materials:

Required Textbooks:

1. ** Wooldridge, J. M. Introductory Econometrics: A Modern Approach. 6th ed. Thompson: South-Western, 2016.
2. ** Gujarati, D.N., and D.C. Porter, Basic Econometrics. 5th ed., N.Y., McGraw-Hill, 2009.

**Main Text – you should be supplied with either a hard copy or an online account.

Recommended Texts for Further Study

Joshua D. Angrist and Jörn-Steffen Pischke, Mostly Harmless Econometrics: An Empiricist's Companion, Princeton University Press (2009)
ISBN-13: 978-0-691-12035-5

Other teaching materials:

Teaching notes will be uploaded on Moodle at least 1 days prior to class.

Important dates:

Class Begins	August 13, 2019
Adding and Dropping Course	August 13 - 26, 2019
Midterm Exam Period	September 30 - October 5, 2019
Midterm Exam	Thursday, October 3, 2019 09.00 – 11.00 AM
<i>(No lectures will be given during the Mid-term week of September 30 – October 5, 2019)</i>	
Course Withdrawal with “W”	October 16 - 21, 2019
Class Ends	December 1, 2019
Final Exam	Friday, December 6, 2019 09.00 AM – noon

Grading The final grade of the course will be based on the following items:

Homework Assignments and Quizzes	20 points
Midterm Exam	35 points
Final Exam	45 points

Note: Midterm and final exam dates are not changed due to the official schedule from BE program. Only physical condition with approval medical document is allowed for postponing the exam.

Academic Honesty

You are expected to be honest in all of your academic work. Copying is plagiarism and will be treated as an honor code violation. Potential sanctions include failure in the course and suspension from the university.

Conduct and Manner

Ethics is all above everything, far more valuable than merely subject knowledge. Accordingly, plagiarism and cheating, including any possible plagiarism and cheating, will be subject to penalties as stated in the University Regulations. More importantly, to achieve overall objectives of learning, it is strongly advised that all students of EE325 class behave in proper manner with socially acceptable and right conduct.

Below is advised code of conduct to be performed in EE325 class. Achieving and maintaining the code of conduct throughout the course will surely be awarded.

1. No mobile phones used. This includes silent mode, message sending, LINE, and all social network communication that would interfere teaching and learning.
2. Be punctual. Yet it is understood that students may have continuing classes that cause delay. It is acceptable if it is a few minutes late. But unnecessary delay should be avoided. Even if students are on time, they are advised not to leave the room without unnecessary purposes.
3. Behave. Other socially acceptable manner should be practiced here. For example, this is a classroom whereby food and drink is not allowed. This is the university whereby students wear proper dress.

Expected Learning Outcomes:

1. Morality and Ethics

Applicability	Learning Goals
•	Students demonstrate integrity
○	Students prioritize social and public benefits over personal ones.
•	Students are punctual and comply with the code of conduct of the institution and society at large.
○	Students are responsible and accountable to society, the nation, and the subject of economics.
○	Students realize the cultural and environmental value of the sustainable society.

2. Knowledge

Applicability	Learning Goals
•	Students know and understand modern economics principles and theories, and are up to date with new developments.
○	Students know and understand Thai and global economic structure, and the importance of major international economic events.
•	Students know and understand instruments of economic analysis.
•	Students know and understand applied fields in economics, including monetary, public, international, business, natural resource and environmental, industrial, agricultural, cooperative, political, developmental, and entrepreneurial economics as well as agribusiness.
○	Students are informed about related fields including sociology, business administration, education, law policy, and science.

3. Intellectual Development

Applicability	Learning Goals
•	Students have developed individual critical thinking.
○	Students are sufficiently trained in research skills.
•	Students demonstrate an ability to analyze and synthesize data, as well as appropriately integrate economics concepts to understand causes of current economic problems in Thailand. Based on analysis and synthesis, students demonstrate an ability to propose policy guidelines to resolve problems.

4. Interpersonal Skills and Responsibilities

Applicability	Learning Goals
•	Students are responsible for assigned tasks and work in groups effectively.
○	Students have problem-solving skills.
○	Students show leadership skills and team spirit.
○	Students are always improving themselves.
○	Students have good interpersonal skills, adapting and working under different conditions.

5. Quantitative Analysis, Communication and Information Technology

Applicability	Learning Goals
•	Students select and apply appropriate statistical and mathematical methods for data processing, interpretation, conclusions, and recommendations to resolve problems.
○	Students communicate effectively and select appropriate presentation methods.
•	Students use information and communication technologies appropriately to gather data as well as process, interpret, and present results.

Course outline

Introduction

- What is econometrics?
- Methodology of econometrics
- Types of economic data

Reading Lists: Gujarati, ch. 1 or Wooldridge, ch.1

Review of Some Statistical Concepts

- Random variables and distributions
- Expectation, variance, covariance and correlation
- Estimators and desirable properties of estimators

Reading Lists: Gujarati, Appendix A, pp.869-912 or Wooldridge, Appendix B

Simple Regression Models

- Principle, assumptions and derivation of ordinary least squares (OLS) estimators
- Properties of OLS estimators
- Statistical inference
- Prediction
- Regression Through the Origin

Reading Lists: Gujarati, chs. 2 – 6 or Wooldridge, ch. 2

Multiple Regression Analysis (Estimation)

- Motivation
- Model and assumptions
- Estimation of parameters and properties of estimators o Meaning of partial regression coefficients
- Measuring goodness of fit: R^2 and adjusted R^2

Reading Lists: Gujarati: ch. 7, Appendix B, C or Wooldridge, ch. 3

=====MIDTERM EXAM=====

Multiple Regression Analysis (Inference)

- Sampling Distribution of the OLS estimators
- Test on individual regression coefficients
- Testing the multiple linear restrictions
- Testing the equality of two regression coefficients
- Testing for equality or stability of parameters (Chow test) o Prediction with general linear model

Reading Lists: Gujarati: ch. 8 or Wooldridge, ch. 4

Multiple Regression Analysis (Extensions)

- Data scaling on OLS statistics o More on functional forms

Reading Lists: Wooldridge, ch. 6, (6.1 and 6.2))

Dummy Variable Regression Models

- Describing Qualitative Information
- Models with a single dummy independent variable o Using dummy variables for multiple categories
- Interactions involving dummy variables

Reading Lists: Gujarati: ch. 15 or Wooldridge, ch. 7

Heteroscedasticity Problem

- Nature and Consequences of heteroscedasticity for OLS o Testing for heteroscedasticity
- Remedial measures (weighted least squares estimation)

Reading Lists: Gujarati, ch. 11 or Wooldridge, ch. 8

Specification Errors and Data Problems

- Type of specification errors
- Consequences of specification error
- Tests of specification error
- Errors of measurement

Reading Lists: Gujarati: ch. 13 or Wooldridge ch. 9

Multicollinearity Problem

- Nature and Consequences of Multicollinearity
- Detecting Multicollinearity

Reading Lists: Gujarati, ch. 10 or Wooldridge, ch. 3 (3.4)

Autocorrelation Problem

- Nature and Consequences of Autocorrelation, Serial Correlation
- Testing for Autocorrelation
- Remedial measures

Reading Lists: Gujarati, ch. 12 or Wooldridge, ch. 12 (12.1-12.3)

=====FINAL EXAM=====