National Taiwan University of Science and Technology

2020 Summer Program

ECON 400 Introduction to Econometrics

Course Outline

Term: July 06-August 07,2020

Class Hours: 12:00-13:50 (Monday through Friday)

Course Code: ECON 400

Instructor: Sean Brocklebank

Home Institution: University of Edinburgh

Email: sean.brocklebank@ed.ac.uk

Office Hours: By Appointment

Credits: 4

Class Hours:
According to the regulations of Minister of Education, R.O.C, 18 class hours could be counted as 1 academic credit in all universities in Taiwan. This course will have 72 class hours, including 40 lecture hours, professor 10 office hours, 10-hour TA discussion sessions, 2-hour review sessions, 10-hour extra classes.

Course Description:
This is an introduction to econometrics for students who have already taken a course in introductory statistics. The purpose of this course is to help students learn how the core econometric methods are used in practical applications; what kinds of problems we can solve, and what are the limitations of our methods. This course is oriented towards the applications of economic theory with econometric methods rather than the theoretical development of these subjects.

Prerequisites:
1. Principles of Microeconomics or equivalent
2. Introductory Statistics, Statistics for Economics, or equivalent

Textbooks:
- *Introductory Econometrics* by Jeffrey M. Wooldridge (Required).
- *Mastering 'Metrics* by Joshua Angrist & Jorn-Steffen Pischke (This is a great one to read on your own before you arrive if you can find the time. It is **not** required.)

Grading & Evaluation:

Midterm Exam	40%
Final Exam	40%
Homework	20%

Note: both the Midterm and Final exams will have an MCQ section and a written section, where the written section provides some choice over which questions to answer. A mock exam will be provided.

Plus/Minus Grade Cutoffs

A+	97% to 100%	B+	87% to 89%	C+	77% to 79%	D+	67% to 69%	F under 60%
A	93% to 96%	B	83% to 86%	C	73% to 76%	D	63% to 66%	
A-	90% to 92%	B-	80% to 82%	C-	70% to 72%	D-	60% to 62%	

Course Schedule (tentative, but any changes will be notified in advance)**:**

Week 1
Session 1: Chapter 1: The Nature of Econometrics and Economic Data
Session 2: Chapter 2: The Simple Regression Model
Session 3: Chapter 3: Multiple Regression Analysis: Estimation
Session 4: TA Review Session

Week 2
Session 5: Chapter 4: Multiple Regression Analysis: Inference
Session 6: Chapter 5: Multiple Regression Analysis: OLS Asymptotics
Session 7: Chapter 6: Multiple Regression Analysis: Further Issues
Session 8: TA Review Session

Week 3
Session 9: Midterm Exam
Session 10: Chapter 7: Multiple Regression Analysis with Qualitative Information
Session 11: Chapter 8: Heteroskedasticity
Session 12: TA Review Session

Week 4
Session 13: Chapter 10: Basic Regression Analysis with Time Series Data
Session 14: Chapter 12: Serial Correlation and Heteroskedasticity in Time Series Regressions
Session 15: Chapter 13: Pooling Cross Sections Across Time: Simple Panel Data Methods
Session 16: TA Review Session

Week 5
Session 17: Chapter 15: Instrumental Variables Estimation and Two Stage Least Squares
Session 18: Semester Review Session
Session 19: Final Exam