Course outline

Course description  The overall aim of the course is to introduce students to the practical application of microeconometric methods. Microeconometrics is concerned mainly with the analysis of cross-sectional and short panel data from individuals, households, firms, regions etc. (Macroeconometrics is concerned mainly with analysing economic time series and long panel data from one or more countries.) The course goes beyond the linear regression models used to estimate simple associations between dependent and independent variables. It covers nonlinear models used to analyse for example discrete and censored dependent variables, and it covers estimation of causal effects as opposed to associations. The necessary econometric theory will be covered/reviewed and numerous applications will be discussed. In addition, practical aspects of data analysis will be discussed using the software Stata.

The nature and the number of topics covered will depend on class progress and interests. Examples of potential topics are Monte Carlo simulation methods, nonparametric regression, causal effects, explicitly randomized data designs, regression discontinuity data designs, differences in differences methods, duration analysis, quantile regression, propensity score matching, etc.

The course focuses on developing practical skills in data analysis and a lot of time will be spent in computer labs. Students will learn “high-level” advanced econometric techniques as well as “low-level” data handling and computer programming skills which are not (cannot be) covered in textbooks but rather accumulate with experience.

Learning outcomes  Upon completion of the course, students will be able to:

- Explain the principles and purpose of Monte Carlo simulation methods.
- Explain parametric and nonparametric curve fitting methods.
- Explain econometric concepts such as causality, endogeneity, confounding factors, selection, and simultaneity.
- Explain econometric techniques for estimating causal effects.
- Appreciate econometric research and journal articles using the techniques discussed.
- Investigate the properties of econometric techniques using Monte Carlo simulation.
- Identify issues and problems (such as endogeneity) in empirical applications which may affect the analysis or the interpretation of estimates and tests.
- Use Stata to manage and analyse data.
- Carry out an empirical analysis of data using the econometric techniques discussed.
- Interpret the findings in an empirical analysis, and discuss caveats and potential problems.
Prerequisites  For students enrolled in EMET3006, the prerequisite course is:

- EMET2007 Econometrics I: Econometric Methods

For students enrolled in EMET8001, the prerequisite course is:

- EMET8005 Economic Models and Introductory Econometrics

Course format  Each topic covered will have prescribed texts (journal articles, textbook chapters, chapters of Stata manuals, etc), an overview lecture, a homework set, and a follow-up discussion (e.g. student presentation). The homework problems will typically use a particular journal article as the starting point and may consist of re-doing (reproducing) estimates reported in that article.

For students enrolled in EMET3006, there are 4 contact hours timetabled per week. The aim is to have 3 contact hours per week on average, so “overtime” in a given week will be offset with “undertime” in another. All contact hours are held in a PC computer lab.

For students enrolled in EMET8001, there is additionally 1 contact hour which will mainly be used for student presentations and discussion of academic research papers.

Assessment  For students enrolled in EMET3006, the assessment consists of two parts:

- The mid-semester exam counts 40% of the final mark.
- The final exam counts 60% of the final mark.

For students enrolled in EMET8001, the assessment consists of three parts:

- The mid-semester exam counts 30% of the final mark.
- The final exam counts 50% of the final mark.
- Presentation of academic research paper counts 20% of the final mark.

The papers will be assigned by the instructor. The format and the timing of the presentation will be determined later.

For all students:

- The mid-semester exam will be held in a PC computer lab and the questions can be theoretical and practical (i.e. using Stata to analyze data).
- The final exam will consist of two separate sessions, one theoretical held in an ordinary exam room and one practical held in a PC computer lab.
- Students in EMET3006 and EMET8001 will be assessed according to the standard for the level of study. The final mark is determined as the weighted sum of the raw marks, possibly scaled to conform with CBE and RSE standards (separately for EMET3006 and EMET8001).
- The weighting may be changed for students with approved special consideration.
Readings  The course will be based on journal articles and selected chapters from books. There is no single prescribed textbook for the course.

- See Wattle for notices of prescribed readings and lecture notes.

The course relies heavily on the software Stata and students are expected to consult the Stata manuals frequently throughout the course.

- The Stata manuals can be accessed online in the computer labs.

Suggested readings for students looking for a refresher text include:


Suggested readings for student looking for more in-depth discussions of the topics covered in the class include:

- Baum (2009), *An Introduction to Stata Programming*, Stata Press.


Communication  Notices of prescribed readings, lecture notes, assignments etc will be posted on Wattle.

All email correspondence from students to the instructor should have “EMET3006” or “EMET8001” at the beginning of the subject line (to ensure it is read in a timely fashion).

Students who are unable to see the instructor during scheduled office hours due to a work or study conflict are welcome to arrange an alternative time via email.

Instructor’s contact details
Instructor: Tue Gørgens
Office: Crisp 2084
Hours: See Wattle for current office hours
E-mail: tue.gorgens@anu.edu.au

Please begin the subject line in e-mails with “EMET3006” or “EMET8001”.

University policies  The university has rules covering special examinations, supplementary examinations, misconduct/discipline, and academic honesty. The policies can be found on the university’s web site. Students are responsible for knowing and complying with these rules.