Aims
The course aims to deepen students’ understanding of econometric theory and its applications, so they can appreciate and undertake applied economic work. The course will include theoretical core methods and a variety of models used to investigate economic phenomena and techniques to deal with different econometric problems.

Learning Outcomes
Successful students will

- Understand the theoretical properties of different econometric estimation and testing procedures under various modelling assumptions
- Be able to demonstrate an ability to apply regression techniques
- Understand how to evaluate the appropriateness of each econometric estimation method under different data limitations and modelling assumptions
- Be able to apply relevant econometric and statistical techniques to real data. Improving students’ ability to use stata for a range of different data/model types.

Assessment:
Progress and learning outcomes will be evaluated by:

- One 2-hour unseen examination, taken in the Summer term, comprising 90% of the final mark.
- One assessed problem set, comprising 10% of the final mark, to be completed in week 11

A Note on Stata
Although not the basis for this course, some elements will require students to use Stata to attempt problem sets. Stata IC is available in all the PC labs on campus. Although this is not a requirement, students can purchase their own copy of Stata, at a reduced price under the GradPlan scheme, directly
from Timberlake. Email info@timberlake.co.uk for information on how to order. See option 3 on this page for current pricing: http://www.timberlake.co.uk/Stata?id=372

**Suggested textbooks:**

The core textbook for this course will be:


Students may also wish to refer to:

Jeffrey M. Wooldridge "Econometric Analysis of Cross Section and Panel Data", MIT Press


Note that not all topics will be covered by all textbooks.

**Syllabus:**

**Autumn Term**

- Review of basic probabilistic and statistical concepts: Probability Theory, Common Families of Distributions, Properties of Random Samples
- Reintroduction to Stata
- Review of linear algebra
- Introduction to Statistical Inference: Point Estimation, Hypothesis Testing
- Linear Models: Finite-Sample Properties of Ordinary Least Squares
- Identification strategy and Causality
- Large-Sample Theory: Limit Theorems, Large Sample Distribution of OLS
- Regression in Practice