ECON0019: Quantitative Methods (Term 1) Syllabus

Autumn 2019

Lecturer: Dennis Kristensen <d.kristensen@ucl.ac.uk>.
Student Support Hours: Thu 11:00-12:00 and 16:00-17:00, Room 225, Drayton House.

Prerequisites
ECON0002: Economics; ECON0005: Statistical Methods in Economics; ECON0004: Applied Economics (or equivalents).

Course Description
To provide students with a thorough understanding of core techniques used in quantitative economics and econometrics and their applications to testing economic theories and measuring magnitudes relevant for economic policy. The course serves as a foundation for subsequent studies of econometric methods. The main focus of Term 1 will be the analysis of cross sectional data using OLS regression techniques.

Incoming students will already have seen how regression models can be used to analyse and answer economic questions. Term 1 of this course will provide them with a more rigorous understanding of regression models and statistical inference for these. A good grasp of the theory will help the students understand the strengths and weaknesses of these models. The students will furthermore be taught more advanced tools and concepts of regression analysis that are useful in carrying out independent empirical research. It will also prepare them for the introduction of more advanced econometric techniques in Term 2.

Objectives
At the end of Term 1, students should:

- Understand the main techniques (most importantly, OLS regression) of quantitative economics and econometrics, including their theoretical properties.
- Understand how these techniques can be applied to test economic theories and measure economic magnitudes.
- Gained practical experience through empirical applications of the techniques using the software package STATA.

Instruction

- The instruction will be a mix of video recordings, quizzes, problem sets and live sessions. More details will be made available on the course Moodle page at the beginning of Term 1.
- There will 8 problem sets of which 4 will have to be turned in for marking. The problem sets will include both theoretical and empirical exercises, the latter will require an econometric software package such as STATA. The assignments will be not count towards the final mark.
- Moodle quizzes will be posted regularly. These will not count towards the final mark.
- Course materials (slides, problem sets, answer keys, video recordings, etc.) will be uploaded onto the Moodle course page.

Assessment

- Students taking the full course (Terms 1–2) will have to complete:
  - A 2-hour written examination at the end of Term 1 (sometime in the period 4-8 Jan 2020).
  - An empirical project at the end of Term 2.
  - A 2-hour written examination in Term 3.

  Each of the two exams will count 40% while the empirical project will count 20% towards the final mark.
- Affiliate students (Term 1 only) will have to complete the same 2 hours written examination as regular students at the end of Term 1. Their final marks will be solely based on this exam.

Reading List

The course will be based on the following text book:

Jeffrey Wooldridge (2014): Introductory Econometrics: Europe, Middle East, & Africa (EMEA) Edition, 1st edition.

This is an inexpensive version of Wooldridge's original textbook which does not have technical appendices. It is available at Waterstones, 82 Gower Street for about £54, and also online at:

`https://www.cengage.co.uk/books/9781408093757` (hardcopy)

`https://www.cengage.co.uk/books/9781473707320` (Ebook version)

There are 4 copies of the book at the Main Library on 1 week loan and 1 copy in short loan, with 2 at SSEES. For the curious student, who wants to see all the technical details and is willing to pay extra for these, the complete version can be found here:

`https://www.cengage.co.uk/books/9781305270107/`