Introduction to Quantitative Methods in Economics

In common with all leading master's programmes in Economics, we require a certain level of knowledge of mathematics (and statistics).

Find out what our minimum requirements and how this course can equip you with the necessary further technical skills that you will need before starting your master's programme.

Who is it for?

Introduction to Quantitative Methods in Economics 2015/16 (ECON60901) course is compulsory for postgraduate students registering for the following programmes:

- MSc Economics
- MSc Financial Economics
- MA Economics

Test results in Introduction to Quantitative Methods in Economics will contribute 10% of the final mark in ECON60081 Mathematical Methods in Economic Analysis.

Test results in Introduction to Quantitative Methods in Economics will contribute 10% of the final mark in ECON61001 Econometric Methods (MSc students) or ECON60611 Introduction to Econometrics (MA students)

This course will equip you with the necessary quantitative skills so that you can engage fully with compulsory economics and econometrics modules that you will encounter.

We expect that students accepted on to the MSc programmes in Economics and Econometrics and Econometrics will already have acquired the requisite technical skills from their undergraduate programme; but further advice on this will be available from the Programme Director.

Students accepted on to the joint MSc programmes in Economics: Development Economics and Policy and Finance and Economics, are strongly advised to attend this free course.

When does the course run?

It runs at the very beginning of the first semester, just before the master's programmes begin. More details will be sent to you prior to your arrival at Manchester, and this information will also appear on this page.

- Timetable for Introduction to Quantitative Methods in Economics 2015-16 (Opens in a new window - Word)

Minimum requirements in mathematics

Here is an outline of what we except students to know, as a minimum, before they start the pre-session course and the areas that the course covers. This list will help you to plan any necessary revision.

You will find it useful to refer to Ian Jacques, Mathematics for Economics and Business, 5th Edn. (2006), Prentice-Hall. ISBN: 10 0-273-70195-9

1. Notation and symbols including Greek letters
2. Indices, powers or exponents (See Jacques pp.141-152)
3. Linear equations (See Jacques, Chapter 1)
4. Non-linear equations and functions (See Jacques, Chapter 2)
5. Compound interest and series (See Jacques, Chapter 3)
6. Differentiation (See Jacques, Chapter 4)
7. Partial differentiation (See Jacques, Chapter 5)
8. Integration (See Jacques, Chapter 6)
9. Basic matrices (See Jacques, Chapter 7)

For a concise summary of the required knowledge of statistics see also our dedicated Econometric Computing Learning Resource (ECLR).

Downloads for further reading

1. Mathematics download (PDF, 304KB)

- Sets, numbers and functions
- Univariate calculus and optimization
- Linear algebra
- Multivariate calculus and optimization
- Integration

2. Statistics (PDF, 301KB)

- Random variables and probability distributions
- Expectation, variance and moments
- Normal and related distributions
- Inference: estimation
- Inference: hypothesis testing
- Bivariate and multiple regression

Please read the materials from "Stats Intro" on the ECLR site along with the PDF file on OLS. This file gives an intro to OLS and some discussion on the ECON61001 which it is very important that you read and feel familiar with. Also please attempt the questions there.

You can access this webpage and the downloadable materials at the following link:

http://www.socialsciences.manchester.ac.uk/study/masters/intro-to-qm/