Part IIA Paper 6 Mathematics and Statistics for Economists
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Course Content

This paper covers essential mathematics for econometrics and problems of optimal choice. Faculty teaching is by lecture and example sheets for each component. College based supervisors will also provide instruction on class exercises.

Aims and Objectives

This paper builds upon the material covered in Part I Paper 3. As such it is assumed that students have a basic grasp of statistical reasoning, linear algebra and univariate calculus. The principal objective of this paper is to provide students with tools that are required to understand and develop theoretical models of economic processes and evaluate economic hypotheses.

Lecture Courses

Mathematics for economists (Dr M Safronov, 16 lectures, weeks 1-8, Michaelmas term). The course consists of three parts. The first part covers some essential tools in linear algebra, which will be later used in econometrics.

The second part contains a revision of some basic mathematic concepts and a full presentation of the Lagrange (Kuhn- Tucker) method. The third part is an introduction into dynamic optimization, in particular optimal control. We will also study some applications for the second and the third part. There will be 4 problem sets.

Econometrics (Prof. A. Onatskiy, 16 lectures, weeks 1-8, Lent term). The course covers some essential mathematics for econometrics, specifically Probability theory and Statistics. There will be typed up notes in pdf format. We encourage students to learn a computer language such as Matlab/R/Mathematica, which can be used to solve problems and present results. There will be four problem sets, mostly involving analytic work, but some may involve computer calculation using Matlab/R.

For details of the examination structure, please refer to the Form and Conduct Notice pages on Moodle.