



Mathematical and Statistical Methods A

Module Code: ECU22031

Module Name: Mathematical and Statistical Methods A

- **ECTS Weighting:** 5
- **Semester/Term Taught:** Semester 1
- **Contact Hours:** 22 hours of lectures and 10 hours of tutorials
- **Module Personnel:** Lecturer - Professor Nicola Fontana

Module Learning Outcomes

Having successfully completed this module, you will be able to:

- Explain and apply mathematical terminology.
- Formulate economic problems in the language and abstractions of mathematics (and correctly solve them!)
- Set-up and solve problems related to mathematical optimization.

Satisfactory completion of this module will particularly contribute to the development of the following key skills:

- Abstraction from concrete problems to generic concepts.
- Problem-solving using quantitative methods.

Module Learning Aims

This module will develop the calculus from the JF Maths module, with increased depth of coverage and further applications. The aim of the module is to consolidate and develop skills developed in JF Mathematics so as to provide a solid basis for any calculus you might meet in the Sophister years.

Module Content

- Single Variable Calculus
- Matrix Algebra
- Multivariate Calculus



- Unconstrained and Constrained Optimization
- Integration
- Applications in consumer theory, producer theory, labour supply and macroeconomics.

Recommended Reading List

Alpha C. Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, McGraw-Hill, 4th Edition, 2005.

Module Co-Requisite

ECU22032 Mathematical & Statistical Methods B

Assessment Details

Weekly problem sets worth 20% of the overall grade, a final exam worth 80% of the overall grade.

Module Website

Blackboard