



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
ECON-390	Mathematics for Economics & Business	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
ECON-261, ECON-262, MATH-108	Accounting, Economics and Finance	Fall
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Economics	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Mr Marios Christou	3 <sup>rd</sup> , 4 <sup>th</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Co-requisites</b>
Face to Face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Offer a good understanding of mathematical techniques used in Economics and Business.
- Introduce mathematical concepts as these can be used in economics and business.
- Develop mathematical skills for application in economics and business problems

### Learning Outcomes:

After completion of the course students are expected to be able to:

- Demonstrate an understanding on how mathematical techniques are useful to approach economic theory and practice.
- Explain how mathematical techniques are applied in economics and business and used as a decision making tools.
- Perform an economic and business analysis using a mathematical approaches.
- Distinguish basic principles in Mathematics and their application in Economics and Business.
- Apply mathematical methods to problem solving

**Course Content:**

1. Introduction to the Nature of Mathematical Economics
2. Static or Equilibrium Analysis (Linear Models and Matrix Algebra)
3. Comparative Static Analysis (Differentiation and its Use in Comparative Statics)
4. Optimisation (Exponential Functions, More than One Choice Variable, Constrains)
5. Higher Order Differential Calculus.
6. Simultaneous Differential Equations

**Learning Activities and Teaching Methods:**

Lectures, tutorials, practical exercises

**Assessment Methods:**

Midterm exam, final exam, class participation

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Mathematics for Economics and Business	Jacques, Ian	Pearson	2023	9781292720128

**Recommended Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Fundamental Methods of Mathematical Economics	Chiang A. and K. Wainwright	McGraw Hill	2013	9780071238236