Course Title	Mathematics for Economists				
Course Code	AEF240				
Course Type	Elective				
Level	Bachelor (1st Cycle)				
Year / Semester	2nd Year / 3rd Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	3 Hours / 14 weeks	Laboratories / week	None
Course Purpose and Objectives	To equip students with knowledge and understanding of the fundamental of mathematics; To equip students with the mathematical tools and methods which are used frequently in most economic modules and to demonstrate how they are applied; To familiarize students with the role of mathematical techniques in economic analysis and econometrics.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Identify the key elements of simple economic problems and be able to formulate such problems in mathematical terms; • Select, and apply appropriate mathematical techniques in order to solve such problems; • Interpret the results of solution methods in both economic and graphical terms. • Analyze simple economic problems using the mathematical techniques expounded in lectures; • Discuss how economic problems can be addressed using a suitable mathematical framework; • Explain elementary matrix algebra in a form suitable for application to econometrics and optimization; • Identify calculus of several variables, including optimization of functions of several variables, and be able to apply their knowledge to simple economic problems.				
Prerequisites	AEF100, AEF115	Co-requisites	None		
Course Content	Introduction: Mathematics in Economic Theory; Economic Models. One-Variable Calculus: Foundations and Applications in Economics				

	Static (Or Equilibrium) Analysis: Equilibrium Analysis in Economics; Linear Models and Matrix Algebra; Applications in Economics and Econometrics. Comparative-Static Analysis: Comparative Statics and the Concept of Derivative; Rules of Differentiation and Their Use in Comparative Statics; Comparative-Static Analysis of General-Function Models. Optimization Problems: Optimization and Equilibrium Analysis; Optimization with Equality Constraints; Applications in Economics. Dynamic Analysis: Economic Dynamics and Integral Calculus; First-Order Differential Equations; Applications in Economics. Linear Programming and its Applications in Economics. Nonlinear Programming and its Applications in Economics. Recent developments and contemporary issues pertaining to the subject matter of the course.
Teaching Methodology	Face to Face
Bibliography	Ernest F. Haeussler, Richard, S. Paul and Richard J. Wood: Introductory Mathematical Analysis for Business, Economics and the Life And Social Sciences, Prentice Hall, Latest Edition. Alpha Chiang, C.: Fundamental Methods of Mathematical Economics McGraw-Hill, Latest Edition. Simon C, Blume L.: Mathematics for Economists, Norton, Latest Edition. Dowling/Edward T.: Mathematics for Economists McGraw-Hill, Latest Edition. Ian Jacques: Mathematics for Economics and Business, Prentice Hall, Latest Edition.
Assessment	Examinations 60% Class Participation and Attendance 10% Assignments 30% 100%
Language	English