

Course unit title:	Mathematics/Calculus								
Course unit code:	MAT 101								
Type of course unit (compulsory, optional):	Compulsory								
Level of course unit:	Certificate (One-tier-Programme)								
Year of study:	1								
Semester when the course unit is delivered:	1								
Number of ECTS credits allocated:	6								
Name of lecturer(s):	Dr. Neophytos Mikellides								
Learning outcomes of the course unit:	<ul style="list-style-type: none"> • Use problem solving techniques to make calculations in whole/rational/real numbers and elementary number theory. • Produce graphs of functions and transform graphs. • Solve exercises on polynomials as well as adding, subtracting and multiplying polynomials. • Use the factorisation technique for simplifying polynomials. • Solve algebraic problems including, linear, quadratic and polynomial relations as well as exponential logarithmic relations. • Solve various coordinate geometry problems. • Differentiate various forms of simple functions, composite functions using the chain rule, products using the product rule, quotients using the quotient rule. • Use quadratic functions and techniques to solve break-even analysis problems. • Apply concepts of linear algebra. • Use the laws of logarithms for solving equations. • Use linear algebra in solving equations (using matrix theory). 								
Mode of delivery:	Face-to-face								
Prerequisites and co-requisites:	None								
Recommended optional programme components:	None								
Course contents:	The aim of this course is to introduce students to the fundamental themes of calculus, to master the principal techniques associated with these results, and to apply these techniques and theories to the solution of real problems.								
Recommended or required reading:	Required reading: Barnett et al. (2008). <i>Calculus for business, economics, life sciences and social sciences</i> . 11 th Edition. Pearson Prentice Hall.								
Planned learning activities and teaching methods:	Lectures, homework.								
Assessment methods and criteria:	<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">Class Participation:</td> <td style="text-align: right;">5%</td> </tr> <tr> <td>Assignment:</td> <td style="text-align: right;">10%</td> </tr> <tr> <td>Mid-Term Test:</td> <td style="text-align: right;">15%</td> </tr> <tr> <td>Final Examination:</td> <td style="text-align: right;">70%</td> </tr> </table>	Class Participation:	5%	Assignment:	10%	Mid-Term Test:	15%	Final Examination:	70%
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Assignment:	10%								
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Language of instruction:	English								
Work placements:	No								