

Course unit title:	Finite Mathematics for Business
Course unit code:	BUS111
Type of course unit: (Compulsory/optional)	Compulsory
Level of course unit: (First, second or third cycle)	Bachelor (1st cycle)
Year of study:	1
Semester when the unit is delivered:	2
Number of ECTS credits allocated:	5
Name of lecturer(s):	TBA
Learning outcomes of the course unit:	
<p>Upon the successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Manipulate matrices using matrix algebra • Perform operations on matrices such as taking the transpose, adjoint and inverse of a matrix • Solve systems of linear equations using matrix algebra • Determine the equation of a line with given parameters in intercept-slope and point-slope form • Solve graphically systems of linear inequalities • Translate optimization problems using linear inequalities • Use linear programming techniques to maximize/minimize some objective function • Use linear function techniques in problems arising in Business. 	
Mode of delivery:	Face- to- face
Prerequisites and co-requisites:	None
Recommended optional program components:	None
Course Contents:	
<p>Objective: To develop the mathematics skills that a business student must possess in order to solve a class of problems arising in Business. Emphasis is placed on solving problems that can be formulated using matrix algebra. Linear Programming techniques are also developed for solving a class of problems which require optimization. Where appropriate, the computational and graphing capabilities of modern technologies are utilized to enhance the</p>	

learning process.

Description:

Matrix Algebra:

Introduction to Matrix concepts, Transposition, Matrix operations: Addition, Subtraction, Multiplication by Scalar. Inner Product, Matrix Multiplication, Determinant, Method of Cofactors, Inverse of a Matrix. Solution of Linear Systems of Equations using Matrices.

Equation of a line in the Cartesian Plane:

Slope, x-intercept, y-intercept, Graph of a Straight Line, Slope-Intercept Form, Point-Slope Form, Parallel Lines.

Inequalities and Systems of Linear inequalities:

Solution of linear inequalities in one unknown. Graphical solution of systems of linear inequalities in 2 variables.

Introduction to Linear Programming (LP):

Determining Graphically a Region of Feasible Solutions, Determining the Corner Points of a Region of Feasible Solutions, Corner Point Method and the Optimal Solution.

Functions:

Introduction to Function Concepts: Domain, Range, Dependent and Independent Variables, Graphical Representation of Functions, Applications involving Linear Functions: Cost, Revenue and Profit function. Straight Line Depreciation, Linear Demand, Break-Even Analysis.

Applications of finite mathematics concepts in the life and management sciences.

Use of symbolic manipulation and graphics software.

Recent developments and contemporary issues pertaining to the subject-matter of the course.

**Recommended
or
required reading:**

Michael Sullivan, FINITE MATHEMATICS: AN APPLIED APPROACH, 11th Edition, Wiley.

Frank Budnick, S., APPLIED MATHEMATICS FOR BUSINESS, ECONOMICS AND THE SOCIAL SCIENCES McGraw-Hill

John E. Freund/Thomas A. Williams, COLLEGE MATHEMATICS WITH BUSINESS APPLICATIONS 3rd Edition, Prentice Hall

	<p>R. A. Barnett, M. R. Ziegler & K. Byleen, FINITE MATHEMATICS FOR BUSINESS, ECONOMICS, LIFE AND SOCIAL SCIENCES Prentice-Hall, Inc.</p> <p>C.H. Edwards & D. Penney, CALCULUS PROJECTS USING MAPLE, MATHEMATICA, AND MATLAB. Prentice Hall College Div</p> <p>Prichett and Saber, MATHEMATICS WITH APPLICATIONS IN MANAGEMENT AND ECONOMICS Irwin</p> <p>Michael Sullivan, COLLEGE ALGEBRA, Maxwell & Macmillan</p> <p>Goldstein, Schneider & Siegel, FINITE MATHEMATICS AND ITS APPLICATIONS. Prentice Hall</p>						
Planned learning activities and teaching methods:	<table border="1"> <tr> <td>Class Instruction</td> <td>42 Hours</td> </tr> <tr> <td>Consultation</td> <td>15 Hours</td> </tr> </table>	Class Instruction	42 Hours	Consultation	15 Hours		
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Assessment methods and criteria:	<table border="1"> <tr> <td>Examinations</td> <td>95%</td> </tr> <tr> <td>Class Participation</td> <td>5%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Examinations	95%	Class Participation	5%		100%
Examinations	95%						
Class Participation	5%						
	100%						
Language of Instruction:	English						
Work placement(s):	No						
Place of Teaching:	Regular Classroom European University Cyprus, Nicosia						