



MARMARA UNIVERSITY - Faculty of Business Administration

Business Administration (in English)

SYLLABUS

Course Code	Course Title	Type of Course	Course Group * for electives	Weekly Course Hours		ECTS Credits	Prerequisite to minimum letter grade
				T	P		
MATH1045	Business Mathematics	Compulsory		3	0	5	
Prerequisite		Minimum grade				Grade	
Language of Instruction							
Course Lecturer							
Short Course Content	This course covers equations and inequalities, functions and graphs, exponential and logoritmic functions, mathematics of finance, limits and continuity, differentiation, higher order derivatives, applications of differentiation, integration , methods of applications of integration, area between curves, and matrix algebra.						
Course Objectives	The course provides a mathematical foundation for students in business. Upon completion of this course students should have learned the basic calculus ideas and techniques that are useful in understanding and solving problems arising in economics and business. It will enhance problem solving skills, critical thinking, rational decision making and appreciation for mathematics.						
Recommended or Required Reading	1.	Haeussler, C.F., Paul, R.S., (2018). Introductory Mathematical Analysis for Business,Economics, and the Life and the Social Science, (14th Ed.). Pearson Pub.					
Learning Outcomes	1.	equilibrium points					
	2.	Applying the notion of differentiation to basic business optimization problems such as finding the maxima/minima of functions					
	3.	Demonstrating the connection between area and the definite integral					
	4.	Developing analytical thinking skills					
	5.	Applying mathematics of finance in many practical business problems					
Planned Learning Activities and Teaching Methods							
WEEK	Date	Course Contents					
Week 1		Functions: Break-even and Equilibrium points, second order functions and graphs					
Week 2		Mathematics of Finance: Simple interest, compound interest, future value and present value					
Week 3		Mathematics of Finance : Annuities					
Week 4		Limits and continuity					
Week 5		Differentiation: Introduction to derivative and rules of differentiation					
Week 6		Differentiation : Chain rule					
Week 7		Differentiation: Derivatives of logaritmic and exponential functions, implicit differentiation and higher order derivatives					
Week 8		Midterm(s)					
Week 9		Differentiation: Applications of differentiation					
Week 10		Curve sketching: First and second derivative test					
Week 11		Business Applications of differentiation					
Week 12		Integration: Indefinite integral, definite integral, area between curves					
Week 13		Business Applications of integration					
Week 14		Matrix Algebra: Matrix manipulation					
Week 15		Matrix Algebra: Determinants and Inverse					
Week 16		Study week					
Week 17		Final					
Assessment Methods		Assessment Method	Quantity	Date		Weight in Total (%)	Weight in Semester Evaluation (%)
		Final Exam	1			50	0
		Final Make-up Exam (if exists)	1			50	0
		Semester Evaluation				50	100

Methods and Criteria	Midterm(s)		1		30	60.0
	Quiz(zes)					
	Project(s)					
	Homework(s)		7		20	40.0
	Laboratory					
	Other					
*** ECTS Credit Calculation ***						
Evaluation Tool	Hour/Quantity	Student Workload Hours		Evaluation Tool	Quantity	Student Workload Hours
Theoretical hours	3.0	42.0		Quiz & preparation		
Applied hours				Homework	30	30.0
Laboratory				Project		
Pre-class self study				Research and presentation		
Post-class self study	1.0	14.0		Seminar		
Post-application self study				Field study		
Exam preparation & Midterm	20	20.0		Atelier		
Exam preparation & Final	20	20.0		Other		
GENERAL TOTAL :					74.0	126.0
Recommended ECTS Credit (Total Hours / 25) :						5