



EASTERN MEDITERRANEAN UNIVERSITY
Faculty of Arts and Sciences
Department of Mathematics

Course code:	MATH103	Course name:	Mathematics for Business and Economics I		
Course level:	Undergraduate	Academic year:	2019 – 2020	Semester:	Fall
Course credit:	(3,0,1) 3		Duration of the course:		One semester
Prerequisites:	-----	Corequisites:	-----	ECTS Value:	6
Web link:	http://brahms.emu.edu.tr/fbayramoglu		e – mail		Office no. Tel no.
Instructors:	(1) Dr. Fatma Bayramoğlu Rızaner (2) Dr. Şerife Bekâr Ünlüer (3) Dr. Şerife Bekâr Ünlüer (4) Dr. Havva Kaffaoğlu (5) Asst. Prof. Dr. Nidai Şemi	fatma.bayramoglu@emu.edu.tr serife.bekar@emu.edu.tr serife.bekar@emu.edu.tr havva.kaffaoglu@emu.edu.tr nidai.semi@emu.edu.tr	AS 118 AS 119 AS 119 AS 146 AS 258	22 81 13 75 13 75 23 45 12 38	
Teaching Assistants:	(1) Res. Asst. Erol Azmidolu (2) Res. Asst. Erol Azmidolu (3) Res. Asst. Erol Azmidolu (4) Res. Asst. İsmail Hüseyinov (5) Res. Asst. Arzu Ahmadova	erol.azmidolu@emu.edu.tr erol.azmidolu@emu.edu.tr erol.azmidolu@emu.edu.tr ismail.huseynov@emu.edu.tr arzu.ahmadova@emu.edu.tr	AS 102 AS 102 AS 102 AS 249 AS 249	15 30 15 30 15 30 10 31 10 31	
Text Book:	Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences. Ernest F. Haeussler, Jr., Richard S. Paul. Prentice Hall.				
Other References:	Applied Mathematics for Business, Economics and the Social Sciences. Fourth Edition, Frank S. Budnick, McGraw Hill.				
Catalogue description:	Linear equations. Radical equations. Rational equations. Absolute value equalities. Quadratic equations. Linear inequalities. Absolute value inequalities. Quadratic inequalities. Rational inequalities. Rectangular coordinates. Linear functions. Lines. Paralel lines, Perpendicular lines. Applications of linear functions; revenue, cost, profit applications, break – even point and equilibrium point. Linear inequalities. Applications of linear inequalities. Multiproduct Analysis. Systems of linear equations; 2x2, 3x3, 2x3 and 3x2 systems. Unique solution, infinitely many solution and no solution cases. Applications to the systems of linear equations. Quadratic functions. Parabolas. Applications of quadratic functions; revenue, cost, profit applications. Compound interest. Present value. Systems of linear inequalities. Linear Programming. Corner point method. LP Applications. Vectors. Matrices. Matrix operations. Transpose of a matrix. Determinants; determinants of 2x2 and 3x3 matrices. Applications of matrices.				
Aim and Objectives	This course is designed to review and improve basic mathematical concepts needed by the students. The main objective of this course is to provide a mathematical background needed for solving simple business and economics problems.				
General Learning Outcomes:	On successful completion of this course, all students will have developed; <ul style="list-style-type: none"> • their skills in mathematics, • how to construct a mathematical model for solving a problem, • how to handle business and economic problems mathematically. 				
Relations with the other courses:	The course is prerequisite of the course Math104 – Mathematics for Business and Economics II. It is also essential for the students to follow the courses Statistics (STAT201) and Quantitative Analysis (MGMT322).				

Attendance:	Attendance to the lectures is compulsory. Any student whose attendance is less than 60% will get NG grade.	
Method of Assessment	<ul style="list-style-type: none"> ✓ Quiz 1 : 05% ✓ Midterm Exam 1 : 25% ✓ Quiz 2 : 05% ✓ Midterm Exam 2: 25% ✓ Quiz 3 : 05% 	<ul style="list-style-type: none"> ✓ Participation : 05% ✓ Final Exam : 35% <p><i>Note: Best 2 quizzes will be accepted. No make – up will be given for quizzes.</i></p>
Method of assessment:	<p>A : 85 – 100; A– : 80 – 84; Excellent performance</p> <p>B+ : 75 – 79; B : 70 – 74 ; B– : 66 – 69; Performance over expectations</p> <p>C+ : 63 – 65; C : 59 – 62; Satisfactory performance</p> <p>C– : 56 – 58; D+ : 53 – 55; D : 50 – 52; Conditional satisfactory performance</p> <p>D– : 35 – 49; F : 00 – 34; Unsatisfactory performance</p> <p>NG : May be given the students having poor attendance and / or missing 2 exams</p> <p><u>Important note:</u> <i>The grading intervals given above may be changed depending on the class average and distribution.</i></p>	
Course content:	Week 1.	<p>Chapter 1: Equations and Inequalities</p> <p>Linear equations. Solution of linear equations. Radical equations. Rational equations. Absolute value equalities. Quadratic equations.</p>
	Week 2.	<p>Factorization. Solution of quadratic equations; roots. Linear inequalities. Absolute value inequalities. Quadratic inequalities. Rational inequalities; sign table.</p>
	Week 3.	<p>Chapter 2: Systems of Linear Equations</p> <p>Systems of linear equations; solution of 2x2 and 3x3 systems. Unique solution, infinitely many solution and no solution cases. 3 equations in 2 unknowns. 2 equations in 3 unknowns. Applications to the systems of linear equations.</p>
	Week 4.	<p>Chapter 3: Linear Functions and Applications</p> <p>Rectangular coordinates. Linear functions. Graph of linear functions, Lines. Properties of lines; parallel lines, perpendicular lines.</p>
	Week 5.	<p>Applications of linear functions; revenue, cost, profit applications, break – even point and equilibrium point. Linear inequalities. Applications of linear inequalities. Multiproduct Analysis.</p>
	Week 6.	<p>Chapter 4: Linear Programming</p> <p>Systems of linear inequalities; area determined by systems of linear inequalities. Linear Programming. Corner point method.</p>
	Week 7.	<p>LP Applications</p>
	Week 8. & 9.	<p>First Midterm Examinations Period</p>
	Week 10.	<p>Chapter 5: Quadratic Functions and Applications</p> <p>Quadratic functions. Graph of a quadratic function; Parabolas. Properties of parabolas.</p>

	Week 11.	Applications of quadratic functions; revenue, cost, profit applications.
	Week 12.	Chapter 6: Mathematics of Finance Compound interest. Present value.
	-----	Second Midterm Examinations
	Week 13.	Chapter 7: Matrix Algebra Vectors; row vector, column vector. Matrices. Types of matrices; square matrix, diagonal matrix, identity matrix. Matrix operations; addition, subtraction, scalar multiplication, matrix multiplication. Transpose of a matrix.
	Week 14.	Determinants; determinants of 2x2 and 3x3 matrices. Inverse matrix, Applications of matrices.
	Week 15. & 16.	Final Examinations Period
Course timetable:	<ul style="list-style-type: none"> ✓ Group 1: Tuesday, 14:30 – 16:20 CL 203 Thursday, 12:30 – 13:20 CL 203 (<i>Tutorial</i>) 13:30 – 14:20 CL 203 ✓ Group 2: Wednesday, 14:30 – 15:20 CL 109 (<i>Tutorial</i>) Thursday, 14:30 – 15:20 CL 103 Friday, 08:30 – 10:20 CL 109 ✓ Group 3: Tuesday, 14:30 – 16:20 CL 211 Thursday, 12:30 – 13:20 CL 209 13:30 – 14:20 CL 209 (<i>Tutorial</i>) ✓ Group 4: Wednesday, 14:30 – 15:20 CL 110 Wednesday, 15:30 – 16:20 CL 110 (<i>Tutorial</i>) Friday, 08:30 – 10:20 CL 110 ✓ Group 5: Monday, 08:30 – 09:20 CL A22 Monday, 09:30 – 10:20 CL A22 (<i>Tutorial</i>) Tuesday, 14:30 – 16:20 CL 210 	
Important dates:	<ul style="list-style-type: none"> ○ Commerce of classes: 23.09.2019 ○ Last day for add and drop: 07.10.2019 ○ Quiz 1: 14 – 18.10.2019 week, at the tutorial hour ○ National Holiday (<i>TR Republic day</i>): 29.10.2019 ○ Quiz 2: 04 – 08.11.2019 week, at the tutorial hour ○ Religious Holiday (<i>Mevlid Kandili</i>): 09.11.2019 ○ Commemoration of Atatürk: 10.11.2019 ○ Midterm Examinations Period: 11.11.2019 – 23.11.2019 ○ National Holiday (<i>TRNC Republic Day</i>): 15.11.2019 ○ Quiz 3: 09 – 13.12.2019 week, at the tutorial hour ○ Last day for course withdrawal: 10.12.2019 ○ Last day for leave of absence: 10.12.2019 ○ Second Midterm Exam: (<i>to be announced later</i>) 	

	<ul style="list-style-type: none"> ○ Christmas day: 25.12.2019 ○ Last day of lecturing: 30.12.2019 ○ New Year's Day: 01.01.2020 ○ Final examinations period: 02.01.2020 – 17.01.2020 ○ Make up examinations period: (<i>after final exams period</i>) ○ Online Application to Resit Exams: 22.01.2020 – 26.01.2020 ○ Resit examinations period: 30.01.2020 – 05.02.2020
<p>Important notes:</p>	<ul style="list-style-type: none"> ✓ Best 2 quizzes will be accepted. No make – up will be given for quizzes. ✓ Students missing an examination should provide a valid excuse within three days following the examination they missed. ✓ All make – up examinations will be given at the end of the semester after final examination period at the same time and same duration. (<i>No extra time for each make – up</i>) ✓ Attendance is compulsory. Any student, whose attendance is less than 60% or misses at least two examinations without providing valid excuse and also does not take make up exam, will be given 'NG' grade. ✓ Any student whose grade is NG can not apply to resit examination. ✓ The weight of the resit examination equals the total weight of the two midterm and final exams. ✓ Students can check their first midterm exam papers till second midterm exam date, and second midterm exam papers till final exam date. ✓ Use of mobile phones in the class is prohibited.
<p>Academic Honesty:</p>	<p>Copying from others or providing answers or information (<i>written or oral</i>) to others is cheating. Copying from another student's paper or from another text without written acknowledgement is plagiarism. According to University's bylaws <i>cheating and plagiarism</i> are serious offences resulting in a failure from exam or project and disciplinary action (which includes an official warning and / or suspension from the university for up to one semester).</p>