

**OSTİM TECHNICAL UNIVERSITY
FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES
DEPARTMENT OF MARKETING
COURSE SYLLABUS FORM**

BUS 103 Business Mathematics I							
Course Name	Course Code	Period	Hours	Application	Laboratory	Credit	ECTS
Business Mathematics I	BUS 103	1	3	0	0	3	5

Language of Instruction	English
Course Status	Compulsory
Course Level	Bachelor
Learning and Teaching Techniques of the Course	Lecture, Discussion, Question Answer, Problem Solving

Course Objective
This course introduces students to the mathematical concepts and applications necessary for successful business careers. The contents of the course include language of algebra, fundamentals of calculus, basic mathematical operations, solving equations, functions, simple and compound interests.

Learning Outcomes
The students who succeeded in this course will be able to; <ol style="list-style-type: none"> 1. recognize the numbers, arithmetic operations 2. recognize the elementary algebra 3. do basic financial calculations 4. solve the equations

Course Outline
Numbers and arithmetic operations, elementary algebra, applications in business, fundamentals of calculus I: differential calculus

Weekly Topics and Related Preparation Studies		
Weeks	Topics	Preparation Studies
1	Review of Introductory Mathematics	Terminology: Basic mathematical symbols and definitions. Four Basic Arithmetic Operations Basic mathematical operations of addition, Subtraction, multiplication, and division of whole numbers.
2	Fractions and Decimals	Basic operations of addition, subtraction, multiplication, and division using fractions and in decimal form
3	Exponents and Radicals	Addition, subtraction, multiplication, and division of numbers with exponents and radicals, basic rules of exponents, simplifying radicals, converting radicals into exponential form
4	Operations with Algebraic Expressions	Addition, subtraction, removing grouping, multiplication, factoring
5	Percentages	Conversion between percent, decimals, and fractions.
6	Algebra: Linear and Quadratic Equations	Solving linear equations, ratio and proportion, solving quadratic equations, applications of equations
7	Algebra: Simultaneous Equations	Solving for two and three unknowns using simultaneous equations
8	Mid-term Exam	
9	Functions and Lines	Solving functions, inverse functions, case-define functions, factorials, symmetry, slope of a line, demand and supply functions, elasticities
10	Logarithms	Natural and common logarithm, basic rules of logarithm
11	Matrix Algebra	Matrices, equality of matrices, transpose of a matrix, special matrices, scalar multiplication, subtraction of matrices, matrix multiplication
12	Matrix Algebra	Identity matrix, solving systems by reducing matrices, matrix equations, inverse of a matrix, Leontief matrix
13	Business Applications	the percentage ratio of profit / loss and cost, time of the value (simple and compound interest, etc.)
14	Business Applications	discounted present value, net present value
15	Business Applications	return, expected value, bond pricing
16	Final Exam	

Textbook(s)/References/Materials:

Main Text Book:

Haeussler, E.F., Paul, R., Wood, R. Introductory Mathematical Analysis. Pearson, 2022.

Supplemantry Documents:

1. Calaway S., Hoffman D., Lippman D. Business Calculus. Opentextbookstore.com, 2013.
2. J.Oliver. Business Math: A-Step-by-Step Handbook. Lyryx Version 2021-B, 2021.
3. Marecek L., Intermediate Algebra, OpenStax, 2017.

Assessment

Studies	Number	Contribution margin (%)
Attendance	14	%0
Lab	0	%0
Classroom application and performance	0	%0
Field Study	0	%0
Course-Specific Internship (if any)	0	%0
Quizzes / Studio / Critical	0	%0
Homework	0	%0
Presentation	0	%0
Projects	0	%0
Report		%0
Seminar		%0
Midterm Exam / Midterm Jury	1	%40
General Exam / Final Jury	1	%60
	Total	%100
Success Grade Contribution of Semester Studies		%40
Success Grade Contribution of End of Term		%60
	Total	%100

ECTS / Workload Table			
Activities	Number	Duration (Hours)	Total Workload
Course hours (Including the exam week: 16 x total course hours)	16	3	48
Laboratory			
Application			
Course-Specific Internship			
Field Study			
Study Time Out of Class	16	4	64
Presentation / Seminar Preparation			
Projects			
Reports			
Homework			
Quizzes / Studio Review			
Preparation Time for Midterm Exam / Midterm Jury	1	4	4
Preparation Period for the Final Exam / General Jury	1	4	4
Total Workload/25 hours	(120/25 = 4.8)		
ECTS	5		

Relationship Between Course Learning Outcomes and Program Competencies						
No	Learning Outcomes	Contribution Level				
		1	2	3	4	5
LO1	To recognize the numbers, arithmetic operation					X
LO2	To recognize the elementary algebra					X
LO3	To do basic financial calculations					X
LO4	To solve the equations					X
LO5	To combine maths and different business applications					X

Relationship Between Course Learning Outcomes and Program Competencies							
No	Program Competencies	Learning Outcomes					Total Effect (1-5)
		L01	L02	L03	L04	L05	
1	Understanding the formal and informal processes associated with a business structure.						
2	Evaluate a business on the basis of all functional units.						
3	To use analytical thinking effectively in the decisions taken for the problem solving process.				X		4
4	Having a vision of self-improvement and learning.			X			3
5	To carry out all activities within this framework, equipped with ethics.						
6	To analyze the cases encountered by doing research and studies individually and as a team within the organization.				X		4
7	To convey his thoughts and suggestions at the level of knowledge and skills he has acquired in the field of marketing to the relevant people in writing and orally.						
8	Developing effective and creative marketing mix strategies that will adapt to different market conditions and buyer types in national and international dimensions.						
9	To have the ability to interpret and analyze data, to identify problems and to suggest solutions by using the knowledge acquired in the field of marketing.					X	5

10	To have sufficient awareness of the universality of social rights, social justice, quality and cultural values, environmental protection, occupational health and safety.						
11	Evaluate the knowledge and skills gained by the marketing education with a critical perspective within the framework of the practices in business life.						
12	To follow and correctly interpret the current trends developing within the framework of marketing.						
	TOTAL EFFECT						22

Policies and Procedures

Web page: <https://www.ostimteknik.edu.tr/marketing-1242>

Exams: The exams aim at assessing various dimensions of learning: knowledge of concepts and theories and the ability to apply this knowledge to real-world phenomena, through analyzing the situation, distinguishing problems, and suggesting solutions. The written exams can be of two types, i.e. open-ended questions, which can also be in the form of problems or multiple-choice questions. Examinations are individual and must be completed without any outside assistance. Students who attempt to cheat during exams will receive a failing grade from that exam. The case could also be carried to the Dean's Office for additional disciplinary action.

Assignments: Not applicable.

Missed exams: Any student missing an exam needs to bring an official medical report to be able to take a make-up exam. The medical report must be from a state hospital.

Projects: Not applicable.

Attendance: Attendance requirements are announced at the beginning of the term. Students are usually expected to attend at least 70% of the classes during each term.

Objections: If the student observes a material error in his/her grade, he/she has the right to place an objection to the Faculty or the Department. The claim is examined and the student is notified about its outcome.

