

**COURSE RECORD**

Code	<b>MATH 111</b>
Name	Business Mathematics I
Hour per week	4 (4 + 0)
Credit	4
ECTS	6
Level/Year	Undergraduate/1
Semester	Fall
Type	Compulsory
Prerequisites	None
Description	This course is an introduction to single variable calculus for social science students. In this context, taking limits of functions, differentiating, optimizing and graphing functions are being taught. At the end of the semester, students will learn the applications of all mathematical concepts to business and economics and will be able to analyze problems in their academic fields from a mathematical perspective.
Objectives	The aim of this course is <ul style="list-style-type: none"> <li>To teach Mathematical issues required in business and economics</li> <li>To discuss how to use these mathematical topics in real-life business and economic problems</li> </ul>
Learning Outcomes	By the end of the semester the students will <ul style="list-style-type: none"> <li>LO1: recognize some mathematical concepts which they need in their academic life;</li> <li>LO2: identify the need for applications of mathematical methods to global challenges in business, economy and social sciences;</li> <li>LO3: apply numerical skill on these applications;</li> <li>LO4: learn how to apply the studied mathematical methods to real-life business and economic problems.</li> </ul>

**CONTRIBUTION TO PROGRAMME OUTCOMES\***

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
L01												
L02												
L03												
L04												

\* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

**COURSE CONTENT DETAILS**

W	Topic	Outcomes
1	First Meeting, Introduce the course 1.1 Functions 1.2 Elementary Functions: Graphs and Transformations 1.3 Linear and Quadratic Functions	L01, L02
2	1.4 Polynomial and Rational Functions 1.5 Exponential Functions 1.6 Logarithmic Functions	L01, L02
3	1.7 Right Triangle Trigonometry 1.8 Trigonometric Functions	L01, L02, L03
4	2.1 Introduction to Limits 2.2 Infinite Limit and Limits at Infinity	L01, L02
5	2.3 Continuity 2.4 The Derivative	L01, L02

6	2.5 Basic Differentiation Properties 2.6 Differentials	L01, L02, L03
7	2.7 Marginal Analysis in Business and Economics Summary and Review	L02, L03, L04
8	3.1 The Constant e and Continuous Compound Interest 3.2 Derivatives of Exponential and Logarithmic Functions	L02, L03
9	3.4 Derivatives of Products and Quotients 3.5 The Chain Rule	L01, L02
10	3.3 Derivatives of Trigonometric Functions 3.6 Implicit Differentiation	L01, L02
11	3.7 Related Rates 3.8 Elasticity and Demand	L02, L03, L04
12	4.1 First Derivative and Graph 4.2 Second Derivative and Graphs	L01, L02
13	4.3 L'Hopital's Rule 4.4 Curve-Sketching Techniques	L01, L02
14	4.5 Absolute Maxima and Minima 4.6 Optimization	L03, L04

#### DERS BİLGİLERİ

Kodu	<b>MATH 111</b>
İsmi	<b>İşletme Matematiği I</b>
Haftalık Saati	4 (4 + 0)
Kredi	4
AKTS	5 ?
Seviye/Yıl	Lisans/1
Dönem	Güz
Dersin Dili	İngilizce
Tip	Zorunlu
Ön Şart	Yok
İçerik	Bu ders, sosyal bilimler öğrencileri için tek değişkenli matematiğe bir giriş niteliğindedir. Bu bağlamda fonksiyonların limitlerini alma, türev alma, optimize etme ve grafik çizme öğretilmektedir. Dönem sonunda öğrenciler tüm matematiksel kavramların işletme ve ekonomiye uygulamalarını öğrenecek ve akademik alanlarındaki problemleri matematiksel bir bakış açısıyla analiz edebileceklerdir.