

Department of Economics / Department of Economics /						
Course Code	Course Name	Teoretical	Practice	Laboratory	Credits	ECTS
İKT105	MATHEMATICS FOR ECONOMISTS I	3.00	0.00	0.00	3.00	4.00
Course Detail						
Course Language	: Turkish					
Qualification Degree	: Bachelor					
Course Type	: Compulsory					
Preconditions	: Not					
Objectives of the Course	: The course is designed to provide a mathematical foundation. In this course, some basic mathematical concepts and theoretical background will be introduced so that the students will be ready to tackle some problems they encounter in later courses of their field.					
Course Contents	: Basic concepts of, exponents and the radicals are reviewed. Notions of equation and the inequality are presented, the solution of equations and the inequalities are discussed and a number of relevant examples solved. Theoretical basics of derivative and the limit are discussed and the derivative of linear, exponential and logarithmic functions is presented and some related problem sets solved. Limit and continuity, critical points and graphing one variable functions are lectured. Some business and the field applications are discussed and related problems solved.					
Recommended or Required Reading	: 1. Emine Kılavız (2018). Mathematics for Economists, 3. Seçkin Press ; 2. Enis Sıiksaran, Aylin Aktükün, Alpaslan Akay(2022)., Mathematics for Economists ,4. Türkmen Press.					
Planned Learning Activities and Teaching Methods	: This course will cover equations and inequalities, relations and functions, linear, exponential, and logarithmic functions, limits and continuity, the concept of derivatives, rules for differentiation, determining critical points of functions, optimization, marginal functions, applications of the first and second derivatives, and graphing using derivatives. Application examples related to business and economics will also be included.					
Recommended Optional Programme Components	: The questions will be covered under the headings of application and solved problems, along with their solutions, and there will be numerous exercises at the end of each chapter.					
Course Instructors	: Dr. Öğr. Üyesi Selin Zengin Taşdemir					
Instructor's Assistants	: Assistant Professor Selin Zengin Taşdemir					
Presentation Of Course	: Face to face					
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Dosya İndirilme Tarihi	: 9/26/2025					

Course Outcomes

Upon the completion of this course a student :

- 1 Can explain basic mathematical concepts and principles
- 2 Can create the mathematical infrastructure that will form the basis for numerical courses.
- 3 It can improve analytical thinking skills.
- 4 It can improve the ability to solve economic problems.

Preconditions

Course Code	Course Name	Teoretical	Practice	Laboratory	Credits	ECTS
		Teoretical	Practice	Laboratory	Course Learning Outcomes	
		Teoretical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Concept of Set and Numbers				*1.book page 17-20	*Narration method Problem solving method
						Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4 Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4 Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4
2.Week	*Linear and Quadratic Equations				*1.book page 20-22	*Narration method Problem solving method
						Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4 Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4 Ö.C.1 Ö.C.2 Ö.C.3 Ö.C.4

	Teoretical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
3. Week	*Linear and Quadratic Inequalities			*1.book page 22-25	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
4. Week	*Functions			*1.book 20-22	*Explanation method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
5. Week	*Graphing Functions			*1.book 30-39	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
6. Week	*Exponential and Logarithmic Functions			*1.book 30-39	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
7. Week	*Limit and Continuity			*1.book 30-39	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
8. Week	*Mid-term					Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4

	Teoretical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
9. Week	*Derivative (Definition of Derivative) *Limit and Continuity			*1. Book 43-78 *1.book 30-39	*Narration method Problem solving method *Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
10. Week	*Derivative (Rules for Derivatives)			*1.book 120-132	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
11. Week	*Derivative (Higher Order Derivatives)			*1.book 162-167	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
12. Week	*Derivative Applications (First Derivative Applications)			*1.book 202 *1. book 162-167	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
13. Week	*Derivative Applications (Second Derivative Applications)			*1.book 202-211	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4

	Teoretical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
14. Week	*Derivative Applications (Graph Drawing)			*1. book 202-211	*Narration method Problem solving method	Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4 Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4
15. Week	*Final Exam					Ö.Ç.1 Ö.Ç.2 Ö.Ç.3 Ö.Ç.4

Assesment Methods %	
1 Ara Sınav : 40.00	
3 Final : 60.00	

ECTS Workload			
Activities	Count	Time(Hour)	Sum of Workload
Teorik Ders Anlatım	14	3.00	42.00
Ders Öncesi Bireysel Çalışma	14	2.00	28.00
Ara Sınav Hazırlık	7	2.00	14.00
Vize	1	1.00	1.00
Final Sınavı Hazırlık	7	3.00	21.00
Final	1	1.00	1.00
Total : 107.00			
Sum of Workload / 30 (Hour) : 4			
ECTS : 4.00			

Program And Outcome Relation																								
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O.
L.O. 1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 3	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	0	0	0	0.25	1.00	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0

BEWARE OF PLAGIARISM Please pay attention to proper academic citation rules and avoid plagiarism, an unethical and academically fraudulent behavior, when completing reports, assignments, or other academic works, and it is treated with the same disciplinary action as cheating in a classroom setting. It is imperative to refrain from presenting another person's ideas, language, expressions, or any other form of intellectual property as your own. Regardless of quality, your assignments/projects/research should reflect your original work. Perfection is not a requirement, and in case of any uncertainties regarding academic writing guidelines, you may seek clarification from your course instructor.

Engel Durumu/Uyarılama Talebi : Engel durumuna ilişkin herhangi bir uyarılama talebinde bulunmak isteyen öğrenciler, dersin öğretim elemanı ya da Nevşehir Engelli Öğrenci Birimi ile en kısa sürede iletişime geçmelidir.