Course Syllabus

Code - Course Title	**MAT110U - Mathematics II**
Course Type	II. SEMESTER
Laboratory + Practice	0+0
ECTS	**5.0**
Language of Instruction	İngilizce
Course Type	Elective Courses
Course Instructor(s)	Prof.Dr.Tangül Kabael

Mode of Delivery	Distance learning
Prerequisites	Mathematics I
Recommended Resources	Anadolu Ünv. Distance Education, Mathematics II, e-kampus course materials

Course Syllabus

Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		Indefinite integral, techniques of integration	
Week - 2		Area problem, definite integral	
Week - 3		Fundamental Theorem of Calculus, area bounded by two curves, average value of a function	
Week - 4		Derivation of Total Function from marginal Function, Consumer and producer surplus	
Week - 5		Lorenz Curve and Gini Index, Present and Future Value of Income	
Week - 6		Ordinary Differential Equations (Odes) of The First Order, Applications of The First-Order ODes, Homogeneous ODes of The Second Order	
Week - 7		Midterm	
Week - 8		Matrices, Systems of Linear Equations	
Week - 9		Definition of a graph, Konigsberg Bridge Problem, Planar Graphs, Colouring Vertices, Trees	
Week - 10		Structure of a Linear Programming, System of Linear Inequalities, Constraint Set, Goal Function, General Linear Programming Problem	
Week - 11		Graphical method of solution of Linear Programming Problem.	
Week - 12		Introduction to game theory	
Week - 13		Maximin - Minimax Strategies, lower and upper values of a game.	
Week - 14		Final exam	

Learning Outcomes

#	Learning Outcome
1	Students can find antiderivatives of some basic functions.
2	Students can apply techniques of integration.
3	Students can calculate definite integral.
4	Students can apply integral some economics context.
5	Students can find Lorenz Curve and Gini Index.
6	Students can solve Differential Equations.
7	Students can make manipulations of matrices.
8	Students can solve Systems of Linear Equations.
9	Students can define a graph.
10	Students can apply Konigsberg Bridge Problem.
11	Students can define Planar Graphs.
12	Students can define tree.
13	Students can solve problems of Linear Programming.
14	Students can solve game theory problems.

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.

Assessment Method and Passing Requirements	Quamtity	Percentage (%)
1.Midterm Exam	1	30
Final Exam	1	70
	Sum (%)	**100**