AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Mathematical Economics								
Course Code	İKP632		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	5	Workload	125 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	A course on "Mathematical Economics" aims to give students necessary analytical tools and skills of Mathematics that help to understand and solve economic models like market model, national income model, etc.								
Course Content	Equilibrium analysis, linear models and matrix algebra, rules of differentiation and their use in comparative statics, optimization problems.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation)								
Name of Lecturer(s)	Lec. Yılmaz ERDEM								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Matematiksel İktisadın Temelleri, Gazi Kitabevi (1999), Chiang ,Alpha Mathematics for Economics, Michael Hoy et.al. Addison Wesley, Publishers (1996)

Week	Weekly Detailed Course Contents	
1	Theoretical	The Nature of Mathematical Economics & Economic Models
2	Theoretical	Equilibrium Analysis in Economics
3	Theoretical	Equilibrium Analysis in Economics
4	Theoretical	Linear Models and Matrix Algebra
5	Theoretical	Linear Models and Matrix Algebra
6	Theoretical	Linear Models and Matrix Algebra
7	Theoretical	Linear Models and Matrix Algebra
8	Intermediate Exam	Midterm Exam
9	Theoretical	Rules of Differentiation and Their Use in Comparative Statistics
10	Theoretical	Rules of Differentiation and Their Use in Comparative Statistics
11	Theoretical	Optimization: A Special Variety of Equilibrium Analysis
12	Theoretical	Optimization: A Special Variety of Equilibrium Analysis
13	Theoretical	Optimization: A Special Variety of Equilibrium Analysis
14	Theoretical	Optimization with Equality Constraints
15	Theoretical	Optimization with Equality Constraints
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Individual Work	7	2	2	28
Midterm Examination	1	10	1	11
Final Examination	1	15	1	16
			Total Workload (Hours)	125
			[Total Workload (Hours) / 25*] = **ECTS**	5
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To be able to determine the endogenous and exogenous variables of economic models.

2	To be able to solve the equation systems for the equilibrium analysis.
3	To be able to use matrix algebra in order to solve the linear equation systems.
4	Learn the use of differentiation techniques for the comparative static analysis.
5	To be able to determine the optimum values of an economic variable in non-constraint and constraint cases.

Programme Outcomes *(Economic Policy Doctorate)*	
1	To be able to understand and interpret basic economic concepts, theories and methods
2	To be able to apply mathematical, statistical and econometric analysis tools to economic problems
3	To be able to interpret the structure and characteristics of the markets in the economy by understanding current economic events.
4	To be able to describe the role of innovation, creativity and technology in the dynamic global economy.
5	Ability to prepare projects and acquire creativity skills
6	Ability to analyze macro and micro economic developments
7	Being able to adopt the philosophy of lifelong learning

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	4	5	3	4	4
P2	4	5	5	5	4
P3	4	5	3	5	4
P4	4	5	3	3	4
P5	4	5	3	3	4
P6	4	5	3	3	4
P7	4	5	3	3	4