AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Algebraic Curves						
Course Code		MTK620		Couse Level		Third Cycle (Doctorate Degree)		
ECTS Credit	7.5	Workload	189 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The purpose of this course is to present the students with the subjects in the course content at the graduate level.						
Course Content		Real algebraic curves, elliptic curves, complex projective spaces, affine curves, projective curves, Bézout's theorem, degree-genus formula, Weierstrass P-function, Riemann surfaces, Abel's theorem, Riemann-Roch theorem.						
Work Placement		N/A						
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study, Problem Solving				
Name of Lecturer(s)								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Quiz	2	10
Assignment	1	10

Recommended or Required Reading

1	Complex Algebraic Curve, Kirwan F. s, Cambridge University Press,1992
2	Algebraic curves and Riemann surfaces, Miranda R., American Mathematical Society,1995

Week	Weekly Detailed Course Contents	
1	Theoretical	Real algebraic curves
2	Theoretical	Elliptic curves
3	Theoretical	Complex projective spaces
4	Theoretical	Affine curves
5	Theoretical	Projective curves
6	Theoretical	Bézout's theorem
7	Theoretical	Degree-genus formula
8	Intermediate Exam	MIDTERM EXAM
9	Theoretical	Weierstrass P-function
10	Theoretical	Riemann surfaces
11	Theoretical	Riemann surfaces
12	Theoretical	Abel's theorem
13	Theoretical	Riemann-Roch theorem
14	Theoretical	Riemann-Roch theorem
15	Final Exam	FINAL EXAM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	1	0	17	17
Quiz	2	16	1	34
Midterm Examination	1	20	2	22

Final Examination	1	30	2	32
		Total Workload (Hours)		189
		[Total Workload (Hours) / 25*] = **ECTS**		7.5
25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Expressing the concepts of real and complex algebraic curves
2	Expressing the concept of an elliptic curve
3	Expressing the concepts of affine and projective curves
4	Expressing Bézout's theorem and its applications
5	Expressing the relationships between Riemann surfaces and algebraic curves
6	Expressing Abel's theorem and its applications
7	Expressing Riemann-Roch theorem and its applications

Programme Outcomes *(Mathematics Doctorate)*

1	To be able to develop the current and advanced knowledge of mathematics domain to expertise level by an original idea or research, based on the level of its knowledge at the graduate level, and to be able to reach original definitions that will bring innovation to Mathematics.
2	To be able to comprehend the interdisciplinary interaction associated with Mathematics.
3	To be able to use and evaluate the new knowledge in the field of Mathematics with a systematic approach.
4	To be able to develop an idea, a method, a design or an application that will bring innovation to Mathematics, to use well known ideas, methods, designs or applications on a different research area, or to search, comprehend, design, adapt and apply an original subject matter.
5	To be able to criticize, analyze, synthesize and evaluate new and complex ideas.
6	To be able have high-level skills in research methods related to studies on Mathematics.
7	To be able to expand the frontiers knowledge in the field of Mathematics via generating or interpreting an original study, or publishing at least a scientific paper in national/international refereed journals.
8	To be capable of leadership in the positions that require the analyses of problems related to the field of Mathematics.
9	To be able to defend his/her original ideas among the experts in the discussion of math related issues, and to be able to communicate effectively to show his/her competence in the field of Mathematics.
10	To be able to contribute to the solution of the social, scientific, cultural and ethical problems related to the Mathematics, and to be able to support the development of social, scientific, cultural and ethical values.
11	To be able to have both oral and written communication using a foreign language.

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

	L1	L2	L3	L4	L5	L6	L7
P1	1	1	1	1	1	1	1
P3	3	3	3	3	3	3	3
P6	2	2	2	2	2	2	2
P7	1	1	1	1	1	1	1