AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Conformal Mapping						
Course Code	MTK621		Couse Level	Third Cycle (Doctorate Degree)			
ECTS Credit	7.5	Workload	188 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	This course aims to acquaint students with the fundamental notions of conformal mapping including harmonic funtions, analytic functions, the complex integral calculus, families of analytic functions, conformal mapping of simply-connected domains, mapping properties of special functions and conformal mapping of multiple-connected domains.						
Course Content	Harmonic funtions, analytic functions, the complex integral calculus, families of analytic functions, conformal mapping of simply-connected domains, mapping properties of special functions and conformal mapping of multiple-connected domains.						
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	30
Final Examination	1	50
Assignment	1	20

Recommended or Required Reading

1	Conformal Mapping, Zeev Nehari.

Week	Weekly Detailed Course Contents	
1	Theoretical	Harmonic Functions
	Preparation Work	Relevant part of course book should be read.
2	Theoretical	Harmonic Functions
	Preparation Work	Relevant part of course book should be read.
3	Theoretical	Analytic Functions
	Preparation Work	Relevant part of course book should be read.
4	Theoretical	Analytic Functions
	Preparation Work	Relevant part of course book should be read.
5	Theoretical	Analytic Functions
	Preparation Work	Relevant part of course book should be read.
6	Theoretical	Complex Integral Calculus
	Preparation Work	Relevant part of course book should be read.
7	Theoretical	Complex Integral Calculus
	Preparation Work	Relevant part of course book should be read.
8	Theoretical	Families of Analytic Functions
	Preparation Work	Relevant part of course book should be read.
9	Preparation Work	Relevant part of course book should be read.
10	Theoretical	Conformal Mapping of Simply-Connected Domains
	Preparation Work	Relevant part of course book should be read.
11	Theoretical	Conformal Mapping of Simply-Connected Domains
	Preparation Work	Relevant part of course book should be read.
12	Theoretical	Mapping Properties of Special Functions
	Preparation Work	Relevant part of course book should be read.
13	Theoretical	Conformal Mapping of Multiple-Connected Domains
	Preparation Work	Relevant part of course book should be read.
14	Theoretical	Conformal Mapping of Multiple-Connected Domains
	Preparation Work	Relevant part of course book should be read.

15	Final Exam	FINAL EXAM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	1	12	1	13
Reading	14	0	3	42
Midterm Examination	1	20	2	22
Final Examination	1	25	2	27
			Total Workload (Hours)	188
			[Total Workload (Hours) / 25*] = **ECTS**	7.5

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Ability to comprehend the harmonic funtions
2	Ability to comprehend the analytic functions
3	Ability to understand the conformal mappings
4	To be able to gain the skill of interpreting some interrelations among these concepts
5	To be able to use mathematical concepts in solving certain types of problems

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
P1	4	4	4	4	4
P2				4	4
P3	5	5	5	4	4
P4				4	4
P5	4	4	4	4	4
P6	3	3	3		