AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Mathematical Analysis II							
Course Code	MTK542		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	This course aims to acquaint students with the fundamental notions of Mathematical Analysis including sequences and series of functions, some special functions, functions of several variables, integration of differential forms, the Lebesque theory							
Course Content	Sequences and series of functions, some special functions, functions of several variables, integration of differential forms, the Lebesque theory							
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	Principles of Mathematical Analysis, W. Rudin
2	Introduction to the real analysis, Robert G. Bartle and Donald R. Sherbert

Week	Weekly Detailed Course Contents	
1	Theoretical	Sequences and series of functions
	Preparation Work	Relevant part of course book should be read
2	Theoretical	Sequences and series of functions
	Preparation Work	Relevant part of course book should be read
3	Theoretical	Sequences and series of functions
	Preparation Work	Relevant part of course book should be read
4	Theoretical	Some special functions
	Preparation Work	Relevant part of course book should be read
5	Theoretical	Some special functions
	Preparation Work	Relevant part of course book should be read
6	Theoretical	Functions of several variables
	Preparation Work	Relevant part of course book should be read
7	Theoretical	Functions of several variables
	Preparation Work	Relevant part of course book should be read
8	Theoretical	Functions of several variables
	Preparation Work	Relevant part of course book should be read
9	Intermediate Exam	Midterm Exam
10	Theoretical	Integration of differential forms
	Preparation Work	Relevant part of course book should be read
11	Theoretical	Integration of differential forms
	Preparation Work	Relevant part of course book should be read
12	Theoretical	Integration of differential forms
	Preparation Work	Relevant part of course book should be read
13	Theoretical	Lebesque theory
	Preparation Work	Relevant part of course book should be read
14	Theoretical	Lebesque theory
	Preparation Work	Relevant part of course book should be read

15	Theoretical	Lebesque theory
	Preparation Work	Relevant part of course book should be read
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	1	20	2	22
Midterm Examination	1	40	2	42
Final Examination	1	50	2	52
			Total Workload (Hours)	200
		[Total Workload (Hours) / 25*] = **ECTS**		8

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to comprehend the basic concept of mathematical analysis
2	To be able to develop mathematical sense
3	To be able to develop the capacity of posing and solving problems
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 Master)*

1	To be able to have an adequate theoretical and practical domain knowledge.
2	To be able to comprehend the interdisciplinary interaction associated with Mathematics.
3	To be able to use theoretical and practical domain knowledge gained in the field of Mathematics.
4	To be able to interpret knowledge from different disciplines integrating knowledge in the field of mathematics and produce new information.
5	To be able to define, analyse, model and to solve the problems by scientific methods in Mathematics.
6	To be able to conduct a math related specialistic study independently.
7	To be able to develop new strategic approaches to solve problems occurred in unforeseen and complex math-related applications by taking responsibility.
8	To be able to lead in situations that require solving problems related to the mathematics.
9	To be able to criticize his/her knowledge and skills acquired in the field mathematics.
10	To be able to transfer his/her ideas and suggestions for solutions to problems by supporting quantitative or qualitative data verbally and in writing.
11	To be able to communicate both orally and written in a foreign language.
12	To be able to use computer hardware and information technologies with software required by Mathematics.
13	To be able to contribute to the solution of the social, scientific, cultural and ethical problems related to the Mathematics, and being able to support the development of social, scientific, cultural and ethical values.
14	To be able to develop mathematics-related strategies, policies and operational plans, and to evaluate the results obtained within the framework of quality processes.
15	To be able to use his/her knowledge in the field of mathematics and practical problem-solving skills in interdisciplinary studies.

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	5	5		5	5
P3	4	4	4	4	4
P5			4		
P7	4	4		4	4
P13		2	2	3	3