



Kırıkkale University

FACULTY OF ARTS AND SCIENCES
MATHEMATICS

MAT2001 Analysis 3					
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
3	MAT2001	Analysis 3	4	4	7

Mode of Delivery:

Face to Face

Language of Instruction:

Türkisch

Level of Course Unit:

Bachelor's Degree

Work Placement(s):

No

Department / Program:

MATHEMATICS

Type of Course Unit:

Required

Objectives of the Course:

To analyze pointwise and uniform convergence, to examine convergence of power series, improper integrals and to learn functions of vector valued.

Teaching Methods and Techniques:

Series, function series, power series, uniformly convergence, Gamma and Beta functions, vector valued functions.

Prerequisites and co-requisites:**Course Coordinator:****Name of Lecturers:**

Prof. Dr. İshak ALTUN

Assistants:**Recommended or Required Reading****Resources**

Mustafa BALCI, Matematik Analiz, Cilt II, Ertem Matbaası, Ankara, 2000.
 Berki YURTSEVER, Matematik Analiz Dersleri, Cilt I (ikinci kısım), Ekonomist Yayınevi , Ankara, 1981
 J. A. FRIDY, Introductory Analysis, The Theory of Calculus, Harcourt Brace Jov. Inc., 1987.
 K. A. ROSS, Elementary Analysis, The Theory of Calculus, Springer Verlag, NewYork, 1980.

Course Category

Mathematics and Basic Sciences	: 100	Education	:
Engineering	:	Science	:
Engineering Design	:	Health	:
Social Sciences	:	Field	:

Weekly Detailed Course Contents

Week	Topics	Study Materials	Materials
1	Series, positive term series		
2	Test for convergence of positive term series		
3	Alternating series		
4	Pointwise and uniform convergence of function sequences		
5	Sequences of integrable functions and differentiable functions		
6	Uniformly convergence of function series		
7	Series of integrable functions and differentiable functions		
8	Midterm Exam		
9	Integration and differentiation of power series		
10	Taylor series		
11	Taylor series of some elementary functions		
12	Improper integrals, type of improper integrals		
13	Convergence tests for improper integrals		
14	Gamma and Beta functions		
15	Limit, continuity, derivatives and integrals of vector valued functions		

Course Learning Outcomes

No	Learning Outcomes
C01

Program Learning Outcomes

No	Learning Outcome
P09	Independently carries out research in the field of Mathematical Sciences.
P08	Uses the ability of abstract thinking.
P07	Solves numerical, algebraic, geometric and spatial expressions, equations, functions and problems.
P12	Develops new ideas in the field of Mathematical Sciences.
P11	Updates their current knowledge in the field of Mathematical Sciences.
P10	Critically evaluates the knowledge and skills acquired in the field.
P03	Advanced undergraduate subjects will have the qualifications to carry out the work independently in partnership.
P02	The fundamental notions, theories and data, evaluating scientific methods, identify and analyze problems and issues encountered in discussions, makes recommendations based on research evidence.
P01	Based on efficiencies gained by using materials related to mathematics in secondary education, is equipped with advanced knowledge.
P06	Interprets abstract mathematical concepts, including rings and abstract algebra, and critical reasoning.
P05	Interprets mathematical and statistical models such as formulas, functions, graphs, tables, and schematics.
P04	Can express mathematical information numerically, symbolically, graphically, verbally, and visually.

