Kırıkkale University

GRADUATE SCHOOL OF NATURAL APPLIED SCIENCES
Mathematics (Master) (With Thesis)

MAT8042	Linear Positive Operators Sequences-2				
Semester	**Course Unit Code**	**Course Unit Title**	**L+P**	**Credit**	**Number of ECTS Credits**
2	MAT8042	Linear Positive Operators Sequences-2	3	3	7

Mode of Delivery:
Face to Face
Language of Instruction:
Türkish
Level of Course Unit:
Master's Degree
Work Placement(s):
No
Department / Program:
Mathematics (Master) (With Thesis)
Type of Course Unit:
Elective
Objectives of the Course:
To teach the approximation by the sequence of linear positive operators
Teaching Methods and Techniques:
Korovkin type theorems for continuous and integrable functions on unbounded sets, Weighted space and conditions of convergence in weighted space, q-numbers and essential definitions and concepts in q-analysis.
Prerequisites and co-requisities:

Course Coordinator:

Name of Lecturers:
Prof.Dr. Ali Aral
Assistants:

Recommended or Required Reading

Resources G. A. Anastassiou, S. Gal, Moduli of Continuity and global smoothness preservation, Bikhauser, 2000., F. Altomare, M. Campiti, Korovkin type Approximation Theorey, V

Lecture, Drill and Practise, Problem Solving

Course Category

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

Weekly Detailed Course Contents

Week	Topics	Study Materials	Materials
1	Korovkin type theorems for continuous and integrable functions on unbounded sets,		
2	Szasz and Baskakov operators and its approximation properties,		
3	Weighted space and conditions of convergence in weighted space,		
4	Weighted space and conditions of convergence in weighted space		
5	Approximation by linear positive type operators act on analytic functions space		
6	Approximation by linear positive type operators act on analytic functions space		
7	q-numbers and essential definitions and concepts in q-analysis,		
8	Midterm Exam		
9	q-derivative and its applications, q-integral and its applications		
10	q-Bernstein operators and its approximation properties,		
11	q-Szasz and q-Baskakov operators and its approximation properties,		
12	Generalized Bernstein operators and its approximation,		
13	Simultaneous approximation,		
14	Statically approximation properties of linear positive operators.		
15	Approach properties of linear operators in Lp spaces		

Course Learning Outcomes

No	Learning Outcomes
C01	1-Students learn Korovkin type theorems for continuous and integrable functions on unbounded sets
C02	2- Students learn weighted space and conditions of convergence in weighted space
C03	3-Students learn approximation by linear positive type operators act on analytic functions space
C04	4- Students learn q-numbers and essential definitions and concepts in q-analysis,
C05	5- Students learn q-analogue of positive linear operators and its approximation properties

Program Learning Outcomes

No	Learning Outcome
P03	Define a problem and propose a solution for it, and to solve the problem, evaluate the results and apply them if it is necessary in his/her areas of expertise.
P08	Produce solution and to take responsibility and to develop new strategic approaches in situations which are not predicted in his/her areas of expertise.
P04	Transfer systematically the current developments, his/her studies to other people as verbal or written form confidently.
P09	Follow scientific, social, and ethical values and to teach and to control them in the step of data collection, evaluation and announcement of them.
P05	Develop new strategic approach and produce solutions by taking responsibility in unexpected and complicated situations in his/her area of practice.
P01	Evaluate the fundamental notions, theories and data with academic methods. Determining and analyzing the encountered problems and subjects, exchanging of ideas, improving suggestions propp
P10	Apply the digested knowledge and problem solving ability in the collaborations between different groups.
P02	Expand knowledge by scientific methods and use them with scientific, social and ethical responsibility.
P07	Have oral or written communication ability in one of the common foreign languages ("European Language Portfolio Global Scale", Level B2).
P06	Develop strategic, political and practice plans and evaluate the results by considering the quality process in his/her area of expertise.

Assessment Methods and Criteria

In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**%100**

ECTS Allocated Based on Student Workload

Activities	Quantity	Duration	Total Work Load
Course Duration	16	3	48
Hours for off-the-c.r.stud	16	3	48
Assignments	3	15	45
Presentation	1	20	20
Mid-terms	1	20	20
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	30	30
Total Work Load			**211**
ECTS Credit of the Course			**7**

Contribution of Learning Outcomes to Programme Outcomes

bbb

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10
All	4	4	5	5	3	3	5	3	3	4
C01	4	4	5	5	3	3	5	3	3	4
C02	4	4	5	5	3	3	5	3	3	4
C03	4	4	5	5	3	3	5	3	3	4
C04	4	4	5	5	3	3	5	3	3	4
C05	4	4	5	5	3	3	5	3	3	4