OTOMORF FUNCTIONS I

1	Course Title:	OTOMORF FUNCTIONS I
2	Course Code:	MAT5209
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	none
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. OSMAN BİZİM
15	Course Lecturers:	Prof. Dr. Osman Bizim
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi, Fen-Edebiyat Fakültesi Matematik Bölümü, Görükle Bursa-TÜRKİYE 0 224 294 17 57 / obizim@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of the course is to introduce automorphic functions by using the student's undergraduate background on the theory of complex analysis. The basic concepts of the theory of automorphic functions will be given.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Learns the linear transformations and their basic properties.
	2	Learns the fixed points of the transformations and geometric classification of transformations.
	3	Learns groups of linear transformations and their basic properties.
	4	Learns discontinuous groups and their fundamental regions.
	5	Learns finite groups and their generating transformations.
	6	Learns ordinary and parabolic cycles, and function groups.
	7	Learns automorphic functions and their basic properties.
	8	
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	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	The linear transformations and their basic properties	

2	The fixed points of the transformations and basic properties	
3	The linear transformations and the circles	
4	Inversion in a circle and properties	
5	Geometric classification of linear transformations	
6	Isometry circles and properties	
7	groups of linear transformations and their basic properties	
8	Discontinuous groups and their properties	
9	Fundamental regions of discontinuous groups and their properties	
10	Isometry circles of discontinuous groups and their properties	
11	Finite groups and their properties and generating transformations	
12	Cyclic transformation groups and their basic properties,	
13	Ordinary and parabolic cycles and their properties,	
14	Automorphic functions and their properties	

22	Textbooks, References and/or Other Materials:	[1] Automorphic Functions, L. Ford, [2] Complex Analysis, L. Ahlfors, [3] Complex Functions, G. A. Jones, D. Singerman

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	R	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	5.00	70.00
Homeworks		0	0.00	0.00
Final Exam	1	1	0.00	0.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		0	0.00	0.00
Others		14	5.00	70.00
Final Exams		1	43.00	43.00
Total Work Load				225.00
Total work load/ 30 hr				7.50
ECTS Credit of the Course				6.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
ÖK2	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
ÖK3	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
ÖK4	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0

ÖK5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
ÖK6	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0
ÖK7	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**