

UNIVALENT FUNCTIONS I

1	Course Title:	UNIVALENT FUNCTIONS I	
2	Course Code:	MAT6105	
3	Type of Course:	Optional	
4	Level of Course:	Third 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. SİBEL YALÇIN TOKGÖZ	
15	Course Lecturers:	Doç. Dr. Elif Yaşar	
16	Contact information of the Course Coordinator:	syalcin@uludag.edu.tr, 0(224)2941758, B.U.Ü. Fen Edebiyat Fakültesi Matematik Bölümü, 16059 BURSA	
17	Website:		
18	Objective of the Course:	To teach the basic subjects of the Geometric Functions Theory	
19	Contribution of the Course to Professional Development:	Knows the basic properties of analytic univalent functions.	
20	Learning Outcomes:		
		1	He/she learns the basic properties of the univalent functions
		2	He/she uses the area theorem in the solution of the coefficient problem
		3	He/she relates between the univalent functions having a pole and the analytic univalent functions
		4	He/she solves the extremal problems for the subclasses of the analytic univalent functions.
		5	He/she solves the radius problems
		6	He/she gets the integral represents of the functions with positive real part.
		7	He/she the relation between convex and starlike functions.
		8	He/she knows the relation between typically real functions and the functions with positive real part.
		9	He/she gets the inequalities of coefficient of the typically real functions
		10	He/she defines the new classes of the univalent functions.
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	The basic properties of the univalent functions		
2	Some Area Theorems		
3	The bounded univalent functions		

4	The univalent functions having a pole	
5	Transformation of the range from the unit disk to right half plane problems	
6	The distortion Theorems, Robertson Conjecture	
7	The functions with positive real part	
8	The convex and starlike functions and their properties.	
9	The extremal problems and radius problems	
10	Alpha convex and alpha starlike functions	
11	Alpha spiral functions and their properties	
12	The typically real functions and some of their properties	
13	The definiton studies of the sbclasses of the univalent functions.	
14	The provision studies the properties of the new classes defined.	

22	Textbooks, References and/or Other Materials:	1-) Peter Duren ; Univalent Functions, Springer-Verlag 2-) A.W.Goodman ; Univalent Functions I-II 3-) G.Schober ; Univalent Functions and selected topics, Springer-Verlag 4-) C. Pommerenke ; Univalent Functions , Vandenhoeck & Ruprecht in Göttingen
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Activites		Number	Duration (hour)	Total Work Load (hour)
Midterm Exam	0	0.00		
Theoretical Quiz	0	0.00	3.00	42.00
Practicals/Labs	0	0.00	0.00	0.00
Home work project	0	0.00		
Self study and preperation	14	14.00	6.00	84.00
Final Exam	1	1.00		
Homeworks	0	0.00	0.00	0.00
Total Projects	1	1.00	0.00	0.00
Contribution of Term (Year) Learning Activities to		0.00		
Field Studies	0	0.00	0.00	0.00
Midterm exams	0	0.00	0.00	0.00
Contribution of Final Exam to Success Grade	1	1.00		
Others	0	0.00	0.00	0.00
Total Final Exams	1	1.00	54.00	54.00
Total Work Load				180.00
Total work load/ 30 hr				6.00
24 ECTS / WORK LOAD TABLE				
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	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK2	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK3	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK4	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0

ÖK5	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK6	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK7	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK8	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK9	5	5	5	1	5	4	5	4	5	5	0	0	0	0	0	0
ÖK10	5	5	5	1	5	4	5	4	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			