

COMBINATORIAL GEOMETRY

1	Course Title:	COMBINATORIAL GEOMETRY
2	Course Code:	MAT6309
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. BASRİ ÇELİK
15	Course Lecturers:	Doç. Dr. Atilla AKPINAR Dr. Öğr. Üyesi Fatma ÖZEN ERDOĞAN
16	Contact information of the Course Coordinator:	Prof.Dr.Basri ÇELİK E-posta: basri@uludag.edu.tr Telefon: +90 224 2941762 Adres: Uludağ Üniversitesi Fen-Edebiyat Fakültesi Matematik Bölümü 16059 Görükle-Bursa-TÜRKİYE
17	Website:	
18	Objective of the Course:	The course which will be given foundations of the numerical calculations founded in an important part of last studies in geometry, will be benefit the students who will study on synthetic and projective geometry
19	Contribution of the Course to Professional Development:	Having the ability to investigate the combinatorial properties of finite geometric structures.
20	Learning Outcomes:	
	1	Can make basic applications of combinatorial calculations
	2	Can apply counting theory on problems
	3	Knows and applies the permutation concept on finite and infinite sets
	4	Knows the equivalents of the concepts of subset, power set and partition on finite and infinite sets
	5	Knows the Stainer triples and their special forms
	6	Knows the properties of Latin squares
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	What is combinatorics?	

2	Numbers and on numbering	
3	Subsets, partitions and permutations	
4	Reducing relations and generate functions	
5	Additional and subtraction functions	
6	Latin squares	
7	Set theory	
8	Steiner triple theory	
9	Finite geometry	
10	Theorem of Ramsey, graphs	
11	Graphs ve posets	
12	Lattices and matroids	
13	Advanced informations on partitions and permutations	
14	Automorphism groups and permutation groups	

22	Textbooks, References and/or Other Materials:	1) Combinatorics Topics Techniques, Algorithms, Peter J. Cameron, Cambridge University Pres, ISBN: 0521457610, 1998
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Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	3	12	3.00	42.00
Practicals/Labs		0	0.00	0.00
SELF-LEARNING ACTIVITIES	NUMBER	WEIGHT	9.00	126.00
Homeworks		0	0.00	0.00
Midterm Exam	0	0.00	0.00	0.00
Projects	0	0.00	0.00	0.00
Quiz	0	0.00	0.00	0.00
Field Studies		0	0.00	0.00
Home work project	0	0.00	0.00	0.00
Midterm exams		0	0.00	0.00
Final Exam	1	100.00		
Others		0	0.00	0.00
Total	1	100.00		
Final Exams		1	12.00	12.00
Contribution of Term (Year) Learning Activities to			0.00	
Total Work Load				180.00
Total work load/ 30 hr				6.00
Contribution of Final Exam to Success Grade		100.00		
ECTS Credit of the Course				6.00
Total		100.00		
Measurement and Evaluation Techniques Used in the Course	Homeworks and online exams			

24 ECTS / WORK LOAD TABLE

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	4	4	1	0	1	2	2	1	3	2	0	0	0	0	0	0
ÖK2	3	4	1	0	1	1	1	1	2	1	0	0	0	0	0	0

ÖK3	3	4	2	0	2	1	1	2	2	1	0	0	0	0	0	0
ÖK4	4	4	2	0	2	1	1	2	2	1	0	0	0	0	0	0
ÖK5	4	4	1	0	2	2	2	1	3	2	0	0	0	0	0	0
ÖK6	3	4	2	0	1	1	2	1	2	1	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			