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 combinatorical 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
		7	
		8	
		9	
		10	
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 3) Finite geometry and combinatorics, Edited by F.De Clerck et al., Cambridge Univ. Press,1993.

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preparation	14	9.00	126.00
Homeworks	0	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	0	0.00	0.00
Final Exams	1	12.00	12.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
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**