TOPOLOGY

1	Course Title:	TOPOLOGY
2	Course Code:	MAT3018
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	6
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
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 50 / obizim@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of the course is to make the students gain the basic subjects of the topological spaces. The goals are to teach the topological spaces, examples of topological and the related notions and results so that the students can make their applications, and let them know about the historical background of the topics.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Learns topology and topological spaces.
	2	Learns the interior, the exterior, the boundary and the closure of a set in topological spaces.
	3	Learns continuity, open-closed function and homeomorphism in the topological spaces.
	4	Learns the product and the quotient spaces.
	5	Learns sequences and convergence of sequences, nets and filters in topological spaces.
	6	Learns separation axioms in topological spaces and compactness, connected.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Topology, topological space and subspace topology	Examples of the Topology, topological space, subspace topology

2	Topological concepts, interior and exterior points, boundary points, accumulation points and closure points in topological space.	Examples of the Topological concepts, interior and exterior points, boundary points, accumulation points and closure points in topological space.
3	Base, subbase and local base of the topology.	Examples of the Base, subbase and local base of the topology.
4	The countable space and the separable space	Examples of The countable space and the separable space.
5	The neighborhoods in the topological spaces and the system of the neighborhoods.	Examples of the neighborhoods in the topological spaces and the system of the neighborhoods.
6	Continuous functions on topological spaces.	Examples of the continuous functions on topological spaces and properties of continuous functions.
7	Open and closed functions, homeomorphisms on topological spaces.	Examples of the Open and closed functions, homeomorphisms on topological spaces.
8	Sequences in the topological spaces, convergent sequences, nets and filters.	Examples of the Sequences in the topological spaces, convergent sequences, nets and filters.
9	Product topology and the properties of the product spaces.	Examples of the product spaces.
10	Quotient topology and the properties of the quotient spaces.	Examples of the quotient spaces.
11	Compact topologic spaces and their properties, countable and sequential compact topologic spaces.	Examples of the compact topologic spaces.
12	Local compact spaces and one point compactification.	Examples of the local compact spaces and one point compactification.
13	Connected topologic spaces, path connected spaces, mean-value theorem and local connected spaces.	Examples of the connected topologic spaces, path connected spaces and local connected spaces.
14	The separation axioms in topological spaces and metrizable spaces	Properties of the separation axioms in topological spaces

22	Textbooks, References and/or Other Materials:	[1] Topoloji, O. Bizim [2] Topoloji, O. Mucuk [3] Genel topoloji, N. Yıldız [4] Topology, J. Munkers
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	4.00	56.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	15.00	15.00
Others	14	2.00	28.00
Final Exams	1	25.00	25.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
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
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**			**3 Medium**			**4 High**			**5 Very High**				