QF01/0408-4.0E	Course Plan for Bachelor program - Study Plan Development and Updating Procedures/ Mathematics Department

Study plan No.	**2021/2022**		**University Specialization**	**Master of Math.**	
Course No.	**0101731**		**Course name**	**Topology (1)**	
Credit Hours	**3**		**Prerequisite/ Co-requisite**		
Course type	☐ MANDATORY UNIVERSITY REQUIREMENT	☐ UNIVERSITY ELECTIVE REQUIREMENTS	☐ FACULTY MANDATORY REQUIREMENT	☐ Support course family requirements	✓ **Mandatory requirements**	☐ Elective requirements
Teaching style	☐ Full online learning		☐ Blended learning		✓ **Traditional learning**	
Teaching model	☐ 1 Synchronous: 1 asynchronous		☐ 1 face to face : 1 asynchronous		✓ **2 Traditional**	

Faculty member and study divisions' information (to be filled in each semester by the subject instructor)

Name	Academic rank	Office No.	Phone No.	E-mail	
Division number	**Time**	**Place**	**Number of students**	**Teaching style**	**Approved model**

Brief description

Topological spaces, neighborhoods, bases and subbases, continuous functions, product spaces, weak topologies, quotient spaces, filters, separation axioms, regular and completely regular spaces, normal and perfectly normal spaces, Lindelof, separable spaces and second countable spaces, compact spaces, locally compact spaces, sequentially and countably compact spaces, one point compactification, paracompact spaces, connected spaces.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc)	An introduction to General Topology. By: Paul E. Long			
Supportive learning resources (Books, databases, periodicals, software, applications, others)	• General topology, John L. Kelley, Springer-Verlag, 1975 • Schaum's Outline of General Topology, Seymour Lipschutz, McGraw-Hill, 1968 • General Topology: Chapters 1–4, Springer-Verlag Berlin Heidelberg Nicolas Bourbaki (auth.), 1995			
Supporting websites	• http://www.fsc.uaeu.ac.ae/math/topologyCenter.htm • http://ecaculus.org • http://library.atgti.az			
The physical environment for teaching	✓ Class room	☐ labs	☐ Virtual educational platform	☐ Others
Necessary equipment and				

software	
Supporting people with special needs	
For technical support	

Course learning outcomes (S= *Skills, C= Competences K= Knowledge,)*

No.	Course learning outcomes	The associated program learning output code
	Knowledge	
K1	Knows advanced concepts in topology.	**MK1**
K2	Knows how to read and write proofs in topology. +	**MK1**
K3	Knows a variety of examples and counterexamples in topology.	**MK1**
K4		
	Skills	
S1	Employing topology in solving scientific problems.	**MS1**
S2	The ability to research and write scientific reports.	**MS2**
S3	Consolidating the scientific methodology as a way of thinking and a tool in facing public problems.	**MS3**
	Competences	
C1	Possess logical thinking and scientific research methods.	**MC2**
C2		

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
First/Second exam	30%	30%	**40%**	30%
Participation / practical applications	0	0	**10%**	30%
Asynchronous interactive activities	30%	30%	**0**	0
Final exam	40%	40%	**50%**	40%

Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style*	Reference **
1	Topological spaces, neighborhoods, bases and subbases	Lecture	61 – 91
2	Continuous functions and homeomorphisms with the def. of a topological property.	Lecture	112-127
3	product spaces	Lecture	105-112
4	The subspace of a topology, the product topology and relative topological space.	Lecture	78 – 80 136 – 142
5	The definition of a filters and prove some important properties.	Lecture	182-186
6	The separation axioms and prove some important	Lecture	136-147

	properties.		
7	The definition of the regular and completely regular spaces and prove some important properties.	Lecture	92 – 96
8	The definition of the second countable spaces and prove some important properties.	Lecture	153-165
9	Mid exam		
10	Connected spaces .Connectedness is a topological property.	Lecture	191-204
11	Compact spaces and prove some important properties.	Lecture	210-215
12	Locally compact spaces and prove some important properties.	Lecture	215-220
13	Convergence of first countable space	Lecture	171-177
14	Other types of compactness	Lecture	224-229
15	Non continuous functions	Lecture	229-237
16	**Final Exam 50%**		