Faculty: Science	
Department: Mathematics	**Program:** Master
Academic year: 2024/2025	**Semester: First**

Course Plan

First: Course Information

Course No. 0301754	*Course Title:* General Topology 1	*Credit Hours:* 3
Prerequisite: ---	*Section No.*: 1	*Lecture Time: Monday 04:30 – 07:30*
Level in JNQF	8	
Type Of Course:	☐ *Obligatory Faculty Requirement* ☐ *Elective University Requirement* ☐ *Obligatory University Requirement* ☐ *Faculty Requirement* ☐ *Course Elective Specialty Requirement* ■ *Obligatory Specialization requirement*	
Type of Learning:	☐ *Face-to-Face Learning* ■ *Blended Learning (1 Face-to-Face + 1 Asynchronous)* ☐ *Online Learning (2 Synchronous+1 Asynchronous)*	

Second: Instructor's Information

Name: Radwan Abu-Gdairi	*Academic Rank: Associate Professor*				
Office Number: 330 D	*Phone Number:* 1539			*Email:* rgdairi@zu.edu.jo	
Office Hours:	*Sunday*	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
	10 – 11	11-12:30	10 – 11	11-12:30	10 – 11

Third: Course Description

Topological spaces, open and closed sets, boundary, interior and accumulation points, subspace topology, basis and sub-basis, finite product of topological spaces, continuous functions, open and closed functions, homeomorphisms, Separation and countability axioms, compact spaces, metric spaces.

Fourth: Course Objectives

General Topology is one of the major branches of modern mathematics; this one-semester three-credit course will have three general interconnected objectives.

1. Will provide a firm foundation in topology to enable the student to continue more advanced study in this area.
2. This course will present and emphasize many topics in mathematics, in particular Real analysis, in order to aid the student in his future mathematical studies.
3. This course hopes to expose the students to both mathematical rigor and abstraction, giving there an opportunity further to develop his mathematical maturity.

Fifth: Learning Source

Main Reference:	General Topology		
Author: STEPHEN WILLARD		***Issue No.:*** 5th Edition	***Publication Year: 2012***
Additional Sources and Websites:	An introduction to general Topology by: Paul Long		
Teaching Type:	■ *Classroom* □ *Laboratory* □ *Workshop* □ *MS Teams* ■ *Moodle*		

Sixth: Learning Outcomes

Level descriptor according to (JNQF)	CILOs Code	CILOs	Associated PILOs Code Choose one PILO for each CILO*	Assessment method** Choose at least two methods	Scores out of 100 State the total score identified for each CILO
Knowledge	K1	Define and illustrate the concept of topological spaces and continuous functions.	PK2	Mid-term exam Assignment Final exam	10
	K2	Define and illustrate the concept of product topology and quotient topology.	PK2	Mid-term exam Assignment Final exam	10
	K3	Define and illustrate the concepts of the separation axioms.	PK3	Mid-term exam Assignment Final exam	8
	K4	Define connectedness and compactness.	PK3	Mid-term exam Assignment Final exam	8
Skills	S1	Describe different examples about topological spaces.	PS2	Mid-term exam Assignment Final exam	12
	S2	Illustrate the applications of learned theories.	PS1	Mid-term exam Assignment Final exam	10
	S3	Explaining the theories.	PS2	Mid-term exam Assignment Final exam	10

	S4	Apply the theories in solving problems.	PS3	Mid-term exam Assignment Final exam	8
	S5	Classify topological spaces and its properties using separation axioms and connectedness.	PS2	Mid-term exam Assignment Final exam	8
Competencies	C1	Working in a team to handle some advanced topics in number theory	PC3	Assignment	4
	C2	Develop the personal skills and capacity to carry responsibility	PC1	Assignment	12

***Refer to document ( ) and page 2 in document ( )**
**** Refer to document ( )**
****80% of the students must achieve the minimum acceptable percentage or higher for each CILO**

Seventh: Course Structure

Lecture Date	Intended Teaching Outcomes (ILOs)	Topics	Teaching Procedures*	Teaching Methods***	References***
14/10/2024	K1, K2, S1, S2	Review of Topology Concepts.	Face to face	Lectures, cooperative learning and discussion	Mean Reference
21/10/2024	K1, K2, S1, S2	Bases, Finite Product of Topological Spaces.	Asynchronous	Self-reading, Videos and Assignment	Moodle
28/10/2024	K1, K2, S1, S2, C1	Continuous functions and Homeomorphisms.	Face to face	Lectures, cooperative learning and discussion	Mean Reference
4/11/2024	K1, K2, S1, S2, C1	The identification Topology, Quotient spaces.	Asynchronous	Self-reading, Videos and Assignment	Moodle
11/11/2024	K1, K2, S1, S2, C1, C2	The Separation of Axioms.	Face to face	Lectures, cooperative learning and discussion	Mean Reference
18/11/2024	K1, K2, K3, S1, S2, C1, C2	Hausdorff Spaces,	Asynchronous	Self-reading, Videos and Assignment	Moodle
25/11/2024	K1, K2, K4, S1, S2, C1, C2	Regular and Normal Spaces	Face to face	Lectures, cooperative learning and discussion	Mean Reference
2/12/2024	K1, K2, K4, S1, S2, C1, C2	The Axioms of Countability	Asynchronous	Self-reading, Videos and Assignment	Moodle
9/12/2024	K1, K2, K3, S1, S2, S3, C1	Connected Spaces.	Face to face	Lectures, cooperative learning and discussion	Mean Reference
16/12/2024	K1, K2, K5, S1, S2, S4, C1, C2	More Properties of Connected Spaces.	Asynchronous	Self-reading, Videos and Assignment	Moodle
23/12/2024	Mid Exam				
30/12/2024	K1, K2, K3, S1, S2, S3, C1, C2	Compact Spaces, Paracompact Spaces.	Asynchronous	Self-reading, Videos and Assignment	Moodle
6/1/2025	K1, K2, K3, S1, S2, S3, C1, C2	More Properties of Compact Spaces.	Face to face	Lectures, cooperative learning and discussion	Mean Reference
13/1/2025	K1, K2, K3, S1, S2, S3, C1, C2	Lindelof Spaces.	Asynchronous	Self-reading, Videos and Assignment	Moodle
(19-30) /1/2025	Final Exam				

* Learning procedures: (Face-to-Face, synchronous, and asynchronous). * * Teaching methods: (Lecture, video…..). **
* Reference: (Pages of the book, recorded lecture, video….).

Eighth: Assessment methods

Methods	Direct Teaching	Specific Course Output to be measured *State the score identified for each CILO for each method of assessment out of 100 **If any CILO will not be assessed in the course, mark NA.										
		K1	K2	K3	K4	S1	S2	S3	S4	S5	C1	C2
Mid-term Exam	30	10		5		4	8	3				
Final Exam	40		10	3	8	6		5	6			2
Assignment	20									6	4	10
Quizzes	10					2	2	2	2	2		
Total out of 100	100	10	10	8	8	12	10	10	8	8	4	12

Ninth: Course Policies

- All course policies are applied on all teaching patterns (online, blended, and face-to-face Learning) as follows:
  a. Punctuality.
  b. Participation and interaction.
  c. Attendance and exams.
- Academic integrity: (cheating and plagiarism are prohibited).

Approved by:	Name	Date	Signature
Head of Department	Dr. Mohammad Al-Amleh	10.10.2024	
Faculty Dean	Dr. Aliaa Burqan	10.10.2024	