



<b>Form: Course Syllabus</b>	<b>Form Number</b>	EXC-01-02-02A
	<b>Issue Number and Date</b>	2/3/24/2022/2963 05/12/2022
	<b>Number and Date of Revision or Modification</b>	
	<b>Deans Council Approval Decision Number</b>	2/3/24/2023
	<b>The Date of the Deans Council Approval Decision</b>	23/01/2023
	<b>Number of Pages</b>	07

1.	<b>Course Title</b>	<b>General Topology 2</b>
2.	<b>Course Number</b>	0331462
3.	<b>Credit Hours (Theory, Practical)</b>	3
	<b>Contact Hours (Theory, Practical)</b>	3
4.	<b>Prerequisites/ Corequisites</b>	0301361
5.	<b>Program Title</b>	B.Sc.
6.	<b>Program Code</b>	
7.	<b>School/ Center</b>	Science
8.	<b>Department</b>	Mathematics
9.	<b>Course Level</b>	Elective Specialization requirement
10.	<b>Year of Study and Semester (s)</b>	3 <sup>rd</sup> or 4 <sup>th</sup> year, 1 <sup>st</sup> and 2 <sup>nd</sup> or summer semester
11.	<b>Other Department(s) Involved in Teaching the Course</b>	None
12.	<b>Main Learning Language</b>	English
13.	<b>Learning Types</b>	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
14.	<b>Online Platforms(s)</b>	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams
15.	<b>Issuing Date</b>	22-10-2024
16.	<b>Revision Date</b>	

**17. Course Coordinator:**

Name: Ayat Ababneh	Contact hours: S/T/W 10:30-11:30
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**18. Other Instructors:**

Name:
Office number:
Phone number:
Email:
Contact hours:
Name:
Office number:
Phone number:
Email:
Contact hours:

**19. Course Description:**

Separation axioms  $T_2, T_3, T_4$  and some examples and theorems related to them. Compact spaces and some related theorems. Connected spaces and some related theorems. Metric spaces and some related examples and theorems. Sequences and their convergence in topological spaces.

**20. Program Student Outcomes (SO's):**

(To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

- 7. Utilize research methods, critical and creative thinking skills to assess and analyze information) to solve problems properly, then draw valid reasoning and logical conclusions leading to true consequences.

**21. Course Intended Learning Outcomes (CLO's):**

(Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. Identify  $T_i$  ( $i=2,3,4$ ) spaces and prove some result and properties of such spaces.
2. Define the countability axioms and prove some results related to them.
3. Define compact and connected spaces and prove some results concerning these concepts.
4. Define metric spaces and prove some of their properties.
5. Define sequences in general topological spaces and study their behavior.



Course CLOs	The learning levels to be achieved					
	Remembering	Understanding	Applying	Analysing	evaluating	Creating
1		■				
2			■			
3				■		
4	■	■	■			
5		■		■		

22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

Course CLO's	Program SO's							
	SO (1)	SO (2)	SO (3)	SO (4)	SO (5)	SO (6)	SO (7)	SO (8)
CLO (1)							■	
CLO (2)							■	
CLO (3)							■	
CLO (4)							■	
CLO (5)							■	



## 23. Topic Outline and Schedule:

Week	Lecture	Topic	CLO/s Linked to the Topic	Learning Types Face to Face (FF) Blended (BL) Fully Online (FO)	Platform Used	Synchronous (S) Asynchronous (A)	Evaluation Methods	Larning Resources
1	1.1	First countable spaces	7	FF	Teams	S	Exam	Textbook
	1.2	First countable spaces	7	FF	Teams	S	Exam	Textbook
	1.3	First countable spaces	7	FF	Teams	S	Exam	Textbook
2	2.1	Second countable spaces	7	FF	Teams	S	Exam	Textbook
	2.2	Second countable spaces	7	FF	Teams	S	Exam	Textbook
	2.3	Second countable spaces	7	FF	Teams	S	Exam	Textbook
3	3.1	Regular spaces and T3 – spaces	7	FF	Teams	S	Exam	Textbook
	3.2	Regular spaces and T3 – spaces	7	FF	Teams	S	Exam	Textboo
	3.3	Regular spaces and T3 – spaces	7	FF	Teams	S	Exam	Textbook
4	4.1	Normal spaces and T4	7	FF	Teams	S	Exam	Textbook
	4.2	Normal spaces and T4	7	FF	Teams	S	Exam	Textbook
	4.3	Normal spaces and T4	7	FF	Teams	S	Exam	Textbook
5	5.1	Compact spaces and some related theorems	7	FF	Teams	S	Exam	Textbook
	5.2	Compact spaces and some related theorems	7	FF	Teams	S	Exam	Textbook
	5.3	Compact spaces and some related theorems	7	FF	Teams	S	Exam	Textbook
6	6.1	More properties of compact spaces	7	FF	Teams	S	Exam	Textbook
	6.2	More properties of compact spaces	7	FF	Teams	S	Exam	Textbook
	6.3	More properties of compact spaces	7	FF	Teams	S	Exam	Textbook
7	7.1	Locally compact spaces	7	FF	Teams	S	Exam	Textbook
	7.2	Locally compact spaces	7	FF	Teams	S	Exam	Textbook
	7.3	Locally compact spaces	7	FF	Teams	S	Exam	Textbook
8	8.1	Connected spaces	7	FF	Teams	S	Exam	Textbook
	8.2	Connected spaces	7	FF	Teams	S	Exam	Textbook
	8.3	Connected spaces	7	FF	Teams	S	Exam	Textbook



9	9.1	More properties of connected spaces	7	FF	Teams	S	Exam	Textbook
	9.2	More properties of connected spaces	7	FF	Teams	S	Exam	Textbook
	9.3	More properties of connected spaces	7	FF	Teams	S	Exam	Textbook
10	10.1	Components and locally connected spaces	7	FF	Teams	S	Exam	Textbook
	10.2	Components and locally connected spaces	7	FF	Teams	S	Exam	Textbook
	10.3	Components and locally connected spaces	7	FF	Teams	S	Exam	Textbook
11	11.1	The real line R	7	FF	Teams	S	Exam	Textbook
	11.2	Definition and examples of metric spaces	7	FF	Teams	S	Exam	Textbook
	11.3	Definition and examples of metric spaces	7	FF	Teams	S	Exam	Textbook
12	12.1	Open and closed spheres(or balls)	7	FF	Teams	S	Exam	Textbook
	12.2	Open and closed spheres(or balls)	7	FF	Teams	S	Exam	Textbook
	12.3	Equivalent metric topologies	7	FF	Teams	S	Exam	Textbook
13	13.1	Equivalent metric topologies	7	FF	Teams	S	Exam	Textbook
	13.2	Equivalent metric topologies	7	FF	Teams	S	Exam	Textbook
	13.3	Continuity of functions between metric spaces	7	FF	Teams	S	Exam	Textbook
14	14.1	Sequences	7	FF	Teams	S	Exam	Textbook
	14.2	Convergence in topological spaces	7	FF	Teams	S	Exam	Textbook
	14.3	Convergence in topological spaces	7	FF	Teams	S	Exam	Textbook
15	15.1	Convergence in topological spaces	7	FF	Teams	S	Exam	Textbook
	15.2	Subsequences	7	FF	Teams	S	Exam	Textbook
	15.3	Subsequences	7	FF	Teams	S	Exam	Textbook
16			7				Final Exam	

**24. Evaluation Methods:**

Opportunities to demonstrate achievement of the CLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	CLO/s Linked to the Evaluation activity	Period (Week)	Platform
Exam	20		7	Week 6	On campus
Midterm	30		7	Week 11	On campus
Final	50		7	Week 16	On campus

**25. Course Requirements:**

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform...etc.):

**26. Course Policies:**

- A.** Attendance policies: Attendance is essential to succeed in this course. You are expected to attend every class; please notify your instructor if you know you are going to be absent. If a student is absent for more than 15% of lectures without an excuse of sickness or due to other insurmountable difficulty, then he/she shall be barred from the final examination also he/she will get a failing grade in this course. Medical certificates should be given to the University Physician to be authorized by him. They should be presented to the Dean of the Faculty within two weeks of the student's ceasing to attend classes.
- B.** Absences from exams and submitting assignments on time: All exams must be taken at the scheduled time. Exceptions will be made only in extreme circumstances, by prior arrangement with the instructor.
- C.** Health and safety procedures:
- D.** Honesty policy regarding cheating, plagiarism, misbehavior: Cheating is prohibited. The University of Jordan regulations on cheating will be applied to any student who cheats in exams or on homework
- E.** Grading policy: Exam papers shall be returned to students after correction. His/her mark is considered final after a lapse of one week following their return.
- F.** Available university services that support achievement in the course

**27. References:**

**A-** Required book(s), assigned reading and audio-visuals:

Willard, S. (1970). General topology. Addison-Wesley.

**B-** Recommended books, materials, and media:

1- Munkres, J. R. (2018). Topology (Second edition, reissue ed.). New York, NY: Pearson.

**28. Additional information:**

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Name of the Instructor or the Course Coordinator: <b>Dr. Ayat Ababneh</b>	Signature: .....	Date: 23-10-2024
Name of the Head of Quality Assurance Committee/ Department <b>Prof. Manal Ghanem</b>	Signature: .....	Date: .....
Name of the Head of Department <b>Prof. Baha Alzalg.</b>	Signature: .....	Date: .....
Name of the Head of Quality Assurance Committee/ School of Science <b>Prof. Emad A. Abuosba</b>	Signature: .....	Date: .....
Name of the Dean or the Director <b>Prof. Mahmoud I. Jaghoub</b>	Signature: .....	Date: .....