



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

1.	Course Title	General Topology 1
2.	Course Number	0301361
3.	Credit Hours (Theory, Practical)	3
	Contact Hours (Theory, Practical)	3
4.	Prerequisites/ Corequisites	0331212
5.	Program Title	B.Sc.
6.	Program Code	
7.	School/ Center	Science
8.	Department	Mathematics
9.	Course Level	Department requirements
10.	Year of Study and Semester (s)	All semesters
11.	Other Department(s) Involved in Teaching the Course	
12.	Main Learning Language	English
13.	Learning Types	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
14.	Online Platforms(s)	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams
15.	Issuing Date	22-10-2024
16.	Revision Date	

17. Course Coordinator:

Name: Ayat Ababneh	Contact hours: S/T/W 10:30-11:30
Office number: 228	Phone number: (N/A)
Email: a.ababneh@ju.edu.jo	



18. Other Instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

19. Course Description:

Topological spaces; open sets; boundary; interior; accumulation points; topologies induced by functions; subspace topology; bases and subbases; finite products; continuous functions; open and closed functions; homeomorphisms; separation axioms; countability axioms; metric spaces, connectedness, and compactness.

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. Define Topological spaces and the related concepts: open sets, closed sets Topologies induced by functions, the interior, Exterior and Boundary of a set, Cluster points.
2. Identify the Bases, Subbases and Products: Bases, Finite products of topological spaces, Subbases.
3. Define continuous functions and open functions and homeomorphisms and study equivalent forms, of continuous and functions and homeomorphisms.
4. Define compact spaces and to prove some results concerning these concepts.



5. Define T_i -spaces ($i = 0, 1, 2$) and the second axiom of countability and separable spaces and to prove some results concerning these concepts.

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	Preview	7	FF	Teams	S	Exam	Textbook
	1.2	Logic	7	FF	Teams	S	Exam	Textbook
	1.3	Foundations	7	FF	Teams	S	Exam	Textbook
2	2.1	Defining a Topology	7	FF	Teams	S	Exam	Textbook
	2.2	Defining a Topology	7	FF	Teams	S	Exam	Textbook
	2.3	Closed sets	7	FF	Teams	S	Exam	Textbook
3	3.1	Closed sets	7	FF	Teams	S	Exam	Textbook
	3.2	Closed sets	7	FF	Teams	S	Exam	Textboo
	3.3	A closer look at the standard topology on \mathbb{R}	7	FF	Teams	S	Exam	Textbook
4	4.1	Topologies induced by functions	7	FF	Teams	S	Exam	Textbook
	4.2	Topologies induced by functions	7	FF	Teams	S	Exam	Textbook
	4.3	The interior, Exterior and Boundary of a set	7	FF	Teams	S	Exam	Textbook
5	5.1	The interior, Exterior and Boundary of a set	7	FF	Teams	S	Exam	Textbook
	5.2	The interior, Exterior and Boundary of a set	7	FF	Teams	S	Exam	Textbook
	5.3	Cluster points	7	FF	Teams	S	Exam	Textbook
6	6.1	Cluster points	7	FF	Teams	S	Exam	Textbook
	6.2	Bases	7	FF	Teams	S	Exam	Textbook
	6.3	Bases	7	FF	Teams	S	Exam	Textbook
7	7.1	Finite products of topological spaces	7	FF	Teams	S	Exam	Textbook
	7.2	Finite products of topological spaces	7	FF	Teams	S	Exam	Textbook
	7.3	Finite products of topological spaces	7	FF	Teams	S	Exam	Textbook
8	8.1	Subbases	7	FF	Teams	S	Exam	Textbook
	8.2	Subbases	7	FF	Teams	S	Exam	Textbook



	8.3	Defining a Continuous Function	7	FF	Teams	S	Exam	Textbook
9	9.1	Defining a Continuous Function	7	FF	Teams	S	Exam	Textbook
	9.2	Open Functions and Homeomorphisms	7	FF	Teams	S	Exam	Textbook
	9.3	Open Functions and Homeomorphisms	7	FF	Teams	S	Exam	Textbook
10	10.1	Separation axioms	7	FF	Teams	S	Exam	Textbook
	10.2	Separation axioms	7	FF	Teams	S	Exam	Textbook
	10.3	Separation axioms	7	FF	Teams	S	Exam	Textbook
11	11.1	Hausdorff spaces	7	FF	Teams	S	Exam	Textbook
	11.2	Hausdorff spaces	7	FF	Teams	S	Exam	Textbook
	11.3	Hausdorff spaces	7	FF	Teams	S	Exam	Textbook
12	12.1	The second axiom of countability and separable spaces	7	FF	Teams	S	Exam	Textbook
	12.2	The second axiom of countability and separable spaces	7	FF	Teams	S	Exam	Textbook
	12.3	The second axiom of countability and separable spaces	7	FF	Teams	S	Exam	Textbook
13	13.1	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
	13.2	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
	13.3	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
14	14.1	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
	14.2	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
	14.3	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
15	15.1	Compact Spaces and their properties	7	FF	Teams	S	Exam	Textbook
	15.2	Defining a metric	7	FF	Teams	S	Exam	Textbook
	15.3	Defining a metric	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
Homework 1	5	Chapter 1	7	Week 4	On Teams
Exam	10	Ch. 1+ Ch 2	7	Week 6	On campus
Midterm	30	Ch.3+Ch.4	7	Week 11	On campus
Homework 2	5	Ch. 5	7	Week 13	On Teams
Final	50	All chapters	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:**

Long, P. E. (1971). An introduction to general topology. Columbus, Ohio: Merrill.

B- Recommended books, materials, and media:

- 1- Munkres, J. R. (2018). Topology (Second edition, reissue ed.). New York, NY: Pearson.
- 2- Willard, S. (1970). General topology. Addison-Wesley.

28. Additional information:

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