The University of Jordan

Accreditation & Quality Assurance Center

Course Syllabus

Course Name:
General Topology I

Course Syllabus

1	Course title	General Topology 1	
2	Course number	0301361	
3	Credit hours	3	
	Contact hours (theory, practical)	3	
4	Prerequisites/corequisites	0331212	
5	Program title	B.Sc.	
6	Program code		
7	Awarding institution	The university of Jordan	
8	School	Science	
9	Department	Mathematics	
10	Course level	Department Requirements	
11	Year of study and semester (s)	All semesters	
12	Other department (s) involved in teaching the course	None	
13	Main teaching language	English	
14	Delivery method	√Face to face learning ☐Blended ☐Fully online	
15	Online platforms(s)	☐Moodle √ Microsoft Teams ☐Skype ☐Zoom ☐Others…………	
16	Issuing/Revision Date	11/6/2022	

17 Course Coordinator:

Name: Dr.Ayat AbabnehContact hours:Sun, Tue, Thr 10:30 -11:30am

Office number:Math. Bldg. 228   Phone number: 962 6 5355000

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18 Other instructors:

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 Course aims and outcomes:

A- Aims:

1- Provide the students with the essential knowledge about basic facts and definitions of topological spaces with a great deal of emphasis on functions and product of topological spaces in the finite case.

2- Train the student to solve a lot of exercises on the subject ranging from simple to moderate in difficulty and increase students' participation by leaving the proof of some theorems as exercises.

3- Develop the student's ability to handle abstract ideas of Mathematics and Mathematical proofs.

4- Help the students learn how to write mathematical text according to the standards of the profession.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

SLOs / SLOs of the course	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO(7)	SLO (8)
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 homoeomorphisms and study equivalent forms, of continuous and functions and homeomerphisms.							●	
4- Define compact spaces and to prove some results concerning these concepts.							●	
5- Define Ti-spaces (i = 0, 1, 2) and the second axiom of countability and separable spaces and to prove some results concerning these concepts.							●	

21. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Preview	7	Face to Face	Teams		Homework	Textbook
	1.2	Logic	7	Face to Face	Teams		Homework	Textbook
	1.3	Foundations	7	Face to Face	Teams		Homework	Textbook
2	2.1	Defining a Topology	7	Face to Face	Teams		Exam	Textbook
	2.2	Defining a Topology	7	Face to Face	Teams		Exam	Textbook
	2.3	Closed sets	7	Face to Face	Teams		Exam	Textbook
3	3.1	Closed sets	7	Face to Face	Teams		Exam	Textbook
	3.2	Closed sets	7	Face to Face	Teams		Exam	Textbook
	3.3	A closer look at the standard topology on R.	7	Face to Face	Teams		Exam	Textbook
4	4.1	Topologies induced by functions.	7	Face to Face	Teams		Exam	Textbook
	4.2	Topologies induced by functions.	7	Face to Face	Teams		Exam	Textbook
	4.3	The interior, Exterior and Boundary of a set	7	Face to Face	Teams		Exam+ Homework	Textbook
5	5.1	The interior, Exterior and Boundary of a set	7	Face to Face	Teams		Exam+ Homework	Textbook
	5.2	The interior, Exterior and Boundary of a set	7	Face to Face	Teams		Exam+ Homework	Textbook
	5.3	Cluster points.	7	Face to Face	Teams		Exam+ Homework	Textbook
6	6.1	Cluster points.	7	Face to Face	Teams		Exam+ Homework	Textbook
	6.2	Bases.	7	Face to Face	Teams		Exam	Textbook

	6.3	Bases.	7	Face to Face	Teams		Exam	Textbook
7	7.1	Finite products of topological spaces.	7	Face to Face	Teams		Exam	Textbook
	7.2	Finite products of topological spaces.	7	Face to Face	Teams		Exam	Textbook
	7.3	Finite products of topological spaces.	7	Face to Face	Teams		Exam	Textbook
8	8.1	Subbases.	7	Face to Face	Teams		Exam	Textbook
	8.2	Subbases.	7	Face to Face	Teams		Exam	Textbook
	8.3	Defining a Continuous Function	7	Face to Face	Teams		Exam	Textbook
9	9.1	Defining a Continuous Function	7	Face to Face	Teams		Exam	Textbook
	9.2	Open Functions and Homeomorphisms.	7	Face to Face	Teams		Exam	Textbook
	9.3	Open Functions and Homeomorphisms.	7	Face to Face	Teams		Exam	Textbook
10	10.1	Separation axioms.	7	Face to Face	Teams		Exam+ Homework	Textbook
	10.2	Separation axioms.	7	Face to Face	Teams		Exam+ Homework	Textbook
	10.3	Separation axioms.	7	Face to Face	Teams		Exam+ Homework	Textbook
11	11.1	Hausdorff spaces.	7	Face to Face	Teams		Exam+ Homework	Textbook
	11.2	Hausdorff spaces.	**7**	Face to Face	Teams		Exam+ Homework	Textbook
	11.3	Hausdorff spaces.	7	Face to Face	Teams		Exam+ Homework	Textbook
12	12.1	The second axiom of countability and separable spaces	7	Face to Face	Teams		Exam+ Homework	Textbook
	12.2	The second axiom of countability and separable spaces	7	Face to Face	Teams		Exam+ Homework	Textbook
	12.3	The second axiom of countability and separable spaces	7	Face to Face	Teams		Exam+ Homework	Textbook
13	13.1	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook

	13.2	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
	13.3	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
14	14.1	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
	14.2	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
	14.3	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
15	15.1	Compact Spaces and their properties.	7	Face to Face	Teams		Exam	Textbook
	15.2	Defining a metric.	7	Face to Face	Teams		Exam	Textbook
	15.3	Defining a metric.	7	Face to Face	Teams		Exam	Textbook

22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Homework #1	5		7		On Campus
Homework #2	5		7		On Campus
Exam	10		7		On Campus
Midterm	30		7		On Campus
Final exam	50		7		On Campus

23 Course Requirements

Each student should have an account on Microsoft Teams.

24 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:

25 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.

26 Additional information:

Name of Course Coordinator: Dr. Ayat AbabnehSignature: ---------------------   Date: 6/11/2022
Head of Curriculum Committee/Department: Prof. Ahmad Al Zghoul-- Signature: ------------------------------------
Head of Department: -Prof. Manal Ghanem - Signature: -M. Ghanem
Head of Curriculum Committee/Faculty: -------------------------------------- Signature: ------------
Dean: Mahmoud Jaghoub Signature: --