

Course Description Form

1. Course Name:	
Topology2	
2. Course Code:	
ScMath 3405	
3. Semester / Year:	
2 nd Semester / 2024-2025	
4. Description Preparation Date:	
2024/10/10	
5. Available Attendance Forms:	
Official working hours/lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
16+45 Hours / 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Alla Mohmod Farhan Email: eps.alaamahmood.farhan@uoanbar.edu.iq	
8. Course Objectives	
Course Objecti	<ul style="list-style-type: none"> - Identify the topological space and its theories and how to form a topology. - Study the topological concepts related to the study of continuous, open and closed sets and functions. <p>The student should know that the topological properties are the constant properties under the influence of homogeneous functions.</p> <p>The student should know that the genetic properties are the constant properties under the influence of subspaces.</p> <p>The student should know that the development of topology as an extension of set theory</p>
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> - Managing the lecture in a practical manner related to the reality of daily life to attract the student to the subject of the lesson without straying from the core of the subject so that the material is flexible and capable of being understood and analyzed. - Assigning the student some group activities and assignments.

- Allocating a percentage of the grade for daily assignments and choice
 Managing the lecture in a way that makes him feel the importance of time

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1.	3	Compact space	Definitions and examples for compact and not compact space, topological property	Lecture in classroom	Questions discussion
2.	3	Compact subspace and hereditary property.	Definition of compact subspace, some examples and theorems, also hereditary property.	Lecture in classroom	Questions, discussion & Quiz
3.	3	Lindelof space	Definition of Lindelof space and Lindelof subspace, relation between Lindelof and compact space, topological and hereditary property	Lecture in classroom	Questions discussion
4.	3	-----	Quiz	Lecture in classroom	Quiz
5.	3	Separation axioms, T_0 -space, T_1 -space,	Definitions, examples, some theorems and relationships between two spaces	Lecture in classroom	Questions discussion
6.	3	T_2 -space, sequence in topological space and convergent sequences.	Definitions, examples and some theorems, relation with T_0 -space and T_1 -space, hereditary and topological property.	Lecture in classroom	Questions discussion
7.	3	Regular space and T_3 -space	Some properties, definitions and examples relation with T_0 -space, T_1 -space and T_2 -space, hereditary and topological property.	Lecture in classroom	Questions discussion
8.	3	Normal space and T_4 -space	Definitions and examples relation with T_0 -space, T_1 -space, T_2 -space and T_3 -space, hereditary and topological property. with some properties and theorems	Lecture in classroom	Questions & discussion Monthly exam
9.	3	-----	Quiz	Lecture in classroom	Questions & discussion Quiz
10.	3	Connected spaces	Definition of Connected spaces and disconnected spaces, some examples and theorems.	Lecture in classroom	Questions & discussion Quiz

11.	3	Basic theorems of connected and disconnected spaces	Some properties, examples and theorems such as hereditary and topological property	Lecture in classroom	Questions discussion
12.	3	Component of a point	Definition, examples, remarks and some theorems.	Lecture in classroom	Questions & discussion Quiz
13.	3	Locally connected space	Definition of Locally connected space , examples and some theorems , relation with connected space	Lecture in classroom	Questions discussion
14.	3	Comb space	Definition of Comb space , product space, , some examples and theorems and study relations between connected and locally connected space	Lecture in classroom	Questions & discussion
15.		Review exam			Monthly exam

11. Course Evaluation

Quiz & Daily oral 10%
 Monthly exam 40%
 Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

- 1- J.N . Sharma, Topology, Krishna Prakashan Media, 2003.
- 2- N. Bourbaki, General topology, part1, Addison Wesley, Reading, Mass, 1996.
- 3- R. Engelking, Outline of general topology, Amsterdam, 1989.
- 4- C. Kuratowski, Topologies, Warsaw, 1952.
- 5- S. Willard, General topology, Addison Wesley Publishing Company, Inc, USA, 1970.
- 6- S. Michael, Elementary topology Second edition, Gemidnami, 1972.
- 7- وليم بيرفن، ترجمة عطا الله ثامر العاني، التوبولوجيا العامة، جامعة بغداد- أساسيات . العراق، ١٩٨٦.
- عبد ربه محمد اسليم، فقه التوبولوجيا، فلسطين 1999

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	