Ministry of Higher Education and Scientific research Department of Mathematic

College of ... Education

University of Salahhadin

Subject: General topology

Lecturer's name Dr. Nehmat K. Ahmed

Academic Year: 2023/2024 Second Course



Course Book

1. Course	G. topology
name	
2. Lecturer	
in charge	
3.	Mathematic: Education
Departmen	
t/ College	
4. Contact	e-mail: nehmat.ahmed@us.edu.krd
	Tel: (optional)07504511977
5. Time (in	For example Theory: three Hours per a Week
hours) per	Practical:0
week	
6. Office	10-12 Mon. And 9-11 Win. In each week.
hours	
7. Course	
code	
8.	2009-2013 Ph.D. In Mathematics (by course and research):
Teacher's	Department of Mathematic
academic	College of Education
profile	University of Salahddin\Erbil \Iraq
	Thesis Title: "On some types of semi open sets in topological spaces"
	Supervisor: Prof. Dr. Alias B. Khalat
	1989 - 1990 M.Sc. In Mathematics (by course & research)
	Department of Mathematic
	College of Education
	University of Salanddin/Erbit \Iraq
	1081 1085 D So in Conorol Mothematica
	1981 - 1985 B.Sc. in General Mathematics
	University of Salanddin

College of Education Department of Mathematic Employment History 2003 - Assistant Prof. University of Salahaddin College of Education Department of Mathematic 1999 - 2003 Lecturer University of Salahaddin College of Education Department of Mathematic 1990 - 1999 Assistant lecture University of Salahaddin College of Education Department of Mathematic 1 taught the following subjects: General Topology; Fourth year Mathematics. General Topology; Mathematics: First year Mathematics. General Topology; Mathematics. General Topology of MSC. Mathematics. General Topology of MSC. Mathematics Research and publications I. On <i>a</i> -continuous and <i>a</i> -open function, Education college journal; On <i>b</i> [*] -compact space, Duhok university journal; Son <i>b</i> [*] -compact space, Duhok university journal; Som <i>b</i> [*] -compact space, Duhok university journal of dohuk University 2001 S. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi 0-closed and irresolute semi 0-closed graph; Duhok university journal; 2004 7. On pô-open set and pô-continuous function, Salahaddin university journal. 8- On p0 -open set and pô-continuous function, Salahaddin university journal. 8- On p0 -open set and pô-continuous function, Salahaddin university journal. 8- On p1 -open set and pô-continuous function, Salahaddin university journal. 8- On p1 -open set and pô-continuous function, Salahaddin university journal. 8- On p1 -open set and pô-continuous function, Salahaddin university journal. 8- On p1 -open set and pô-continuous function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. Sβ compact and Sβ closed spaces, International Journal of Sci	
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1999 - 2003 LecturerUniversity of SalahaddinCollege of EducationDepartment of Mathematic1990 - 1999 Assistant lectureUniversity of SalahaddinCollege of EducationDepartment of Mathematic I taught the following subjects: \Box General Topology; Fourth year Mathematics. \Box Foundation of Mathematics; First year Mathematics. \Box Induction of Mathematics; First year Mathematics. \Box Inferential and Integral Calculus; First year Mathematics. \Box Differential and Integral Calculus; First year Mathematics. \Box Differential and Integral Calculus; First year Mathematics \Box Differential and Integral Calculus; First year Mathematics. \Box Sected Topics in Topology μ . M.Sc. Mathematics. \Box On σ -continuous function, Education college journal;2. On σ -compact space, Duhok university journal;3. On δ^* -compact snd θ -continuou	Department of Mathematic
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1990 - 1999 Assistant lecture University of Salahaddin College of Education Department of Mathematic I taught the following subjects: 	Department of Mathematic
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College of Education Department of Mathematic I taught the following subjects: General Topology; Fourth year Mathematics. Gundation of Mathematics; First year Mathematics. Differential and Integral Calculus; First year Mathematics. Linear Algebra: Second year Mathematics. Selected Topics in Topology , M.Sc. Mathematics Research and publications 1. On α -continuous and α -open function, Education college journal; 2. On rs-continuous function and semi-T2 -space, Salahaddin university journal; 3. On δ^* -compact space, Duhok university journal; 4. Strongly Semi – Continuous function, Journal of dohuk University 2001 5. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi θ -closed and irresolute semi θ -closed graph; Duhok university journal; 2004 7. On p δ -open set and p δ -continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253f3abaafaf 9. S β -open sets and S β continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 10. weak separation axioms and function with S β closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. S β compact and S β closed spaces, International Journal Of Scientific and Engineering Research; 12. S β Para-compact spaces, Journal of Advanced Studies in Topology (Egypt);	University of Salahaddin
Department of Mathematic I taught the following subjects: General Topology; Fourth year Mathematics. Foundation of Mathematics; First year Mathematics. Mathematical Analysis; Third year Mathematics. Differential and Integral Calculus; First year Mathematics. Linear Algebra: Second year Mathematics. Selected Topics in Topology , M.Sc. Mathematics Research and publications 1. On α-continuous and α-open function, Education college journal; 2. On rs-continuous function and semi-T2 -space, Salahaddin university journal; 3. On δ*-compact space, Duhok university journal; 4. Strongly Semi – Continuous function, Journal of dohuk University 2001 5. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi θ-closed and irresolute semi θ-closed graph; Duhok university journal; 2004 7. On pδ-open set and pδ-continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253f3abaafaf 9. Sβ-open sets and Sβ continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 10. weak separation axioms and function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. Sβ compact and Sβ closed spaces, International Journal of Scientific and Engineering Research; 12. Sβ Para-compact spaces, Journal of Advanced Studies in Topology (Egypt);	College of Education
 General Topology; Fourth year Mathematics. Foundation of Mathematics; First year Mathematics. Mathematical Analysis; Third year Mathematics. Differential and Integral Calculus; First year Mathematics. Linear Algebra: Second year Mathematics. Selected Topics in Topology , M.Sc. Mathematics Research and publications On α-continuous and α-open function, Education college journal; On α-continuous function and semi-T2 -space, Salahaddin university journal; On rs-compact space, Duhok university journal; Strongly Semi – Continuous function, Journal of dohuk University 2001 Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 On function with semi θ-closed and irresolute semi θ-closed graph; Duhok university journal; 2004 On pô-open set and pô -continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253/abaafaf Sβ-open sets and Sβ continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 weak separation axioms and function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); Sβ -open at and Sβ closed spaces, International Journal of Scientific and Engineering Research; Sβ Para-compact spaces, Journal of Advanced Studies in Topology (Egypt); 	Department of Mathematic I taught the following subjects:
 Foundation of Mathematics; First year Mathematics. Mathematical Analysis; Third year Mathematics. Differential and Integral Calculus; First year Mathematics. Linear Algebra: Second year Mathematics. Selected Topics in Topology , M.Sc. Mathematics Research and publications 1. On α-continuous and α-open function, Education college journal; 2. On rs-continuous function and semi-T2 -space, Salahaddin university journal; 3. On δ*-compact space, Duhok university journal; 4. Strongly Semi – Continuous function, Journal of dohuk University 2001 5. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi θ-closed and irresolute semi θ-closed graph; Duhok university journal; 2004 7. On pδ-open set and pδ-continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253f3abaafaf 9. Sβ-open sets and Sβ continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 10. weak separation axioms and function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. Sβ compact and Sβ closed spaces, International Journal of Scientific and Engineering Research; 12. Sβ Para-compact spaces, Journal of Advanced Studies in Topology (Egypt); 	General Topology; Fourth year Mathematics.
 Mathematical Analysis; Third year Mathematics. Differential and Integral Calculus; First year Mathematics. Linear Algebra: Second year Mathematics. Selected Topics in Topology , M.Sc. Mathematics Research and publications 1. On α-continuous and α-open function, Education college journal; 2. On rs-continuous function and semi-T2 -space, Salahaddin university journal; 3. On δ*-compact space, Duhok university journal; 4. Strongly Semi – Continuous function, Journal of dohuk University 2001 5. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi θ-closed and irresolute semi θ-closed graph; Duhok university journal; 2004 7. On pδ-open set and p θ -continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253f3abaafaf 9. Sβ-open sets and Sβ continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 10. weak separation axioms and function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. Sβ compact spaces, Journal of Advanced Studies in Topology (Egypt); 	□ Foundation of Mathematics; First year Mathematics.
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 1. On d-continuous and d-open function, Education conege journal, 2. On rs-continuous function and semi-T2 -space, Salahaddin university journal; 3. On δ*-compact space, Duhok university journal; 4. Strongly Semi – Continuous function, Journal of dohuk University 2001 5. Same equivalents in a Topological Space, zanco journal of pure and applied sciences 2002 6. On function with semi θ-closed and irresolute semi θ-closed graph; Duhok university journal; 2004 7. On pδ-open set and pδ-continuous function, Salahaddin university journal. 8- On pθ -open set and pθ -continuous function, Journal of Kirkuk University, 2007, https://www.iasj.net/iasj/download/5993253f3abaafaf 9. Sβ-open sets and Sβ continuity, Thai Journal of Mathematics; 2012, http://thaijmath.in.cmu.ac.th/index.php/thaijmath/article/view/512 10. weak separation axioms and function with Sβ closed graphs, International Journal Of Mathematical Sciences and Engineering Applications (India); 11. Sβ compact and Sβ closed spaces, International Journal of Scientific and Engineering Research; 12. Sβ Para-compact spaces, Journal of Advanced Studies in Topology (Egypt); 	1 On a continuous and a open function. Education college journal:
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9.

Keywords

10. Course Programmer

Second corse

Week 1-3: Mappings in topological spaces: continuity, (open and closed)

mappings, homeomorphisms and topological property.

Week 4-6: Topological notions: separated sets, connectedness, compactness

Week 7: Separation axioms: T₀, T₁ and T₂-spaces.

Week 8-9: Sequences in topological spaces, denseness and separability.

Week 10-11: Regular and normal spaces, completely regular and completely normal spaces.

11. Course objective:

The course will cover:

- 1- The fundamentals of general topology in logical order processing from the most general case of a topological space.
- 2- The topological concepts like (interior, exterior, cluster, adherence and boundary) points in other spaces differ from spaces related with the set of real numbers.
- **3-** Types of mappings between topological spaces like continuity which takes an important area in mathematics.
- 4- Topological notions like compactness, connectedness and denseness are as basic to mathematicians of today as sets and functions.
- 5- Metric spaces as a topological space to study different concepts like metrizibility, isometry, diameter and distance between set to set and set to point.
- 6- The concept of productivity between topological spaces.