Postgraduate Course Book

Department: Mathematics

College: Education College

University: Salahaddin University

Subject: Advance Topology

Course Book Level: PHD ; First semester

Lecturer's name: Dr. Nehmat K. Ahmed

Academic Year: 2023/2024

Course Book

1. Course name	Advance Topology
2. Lecturer in charge	Dr Nehmat K. Ahmed
3. Department/ College	Mathematics Department\ College of Education
4. Contact	e-mail: nehmat.ahmed@us.edu.krd Tel: (optional)07504511977
5. Time (in hours) per week	Theory: 3 hours Practical:
6. Office hours	2 hours
7. Course code	
8. Teacher's academic profile	2009-2013 Ph.D. In Mathematics (by course and research): Department of Mathematic

College of Education
University of Salahddin\Erbil \Iraq
Thesis Title: ”On some types of semi open sets in topological spaces"
Supervisor: Prof. Dr. Alias B. Khalaf
1989 - 1990 M.Sc. In Mathematics (by course& research) ‘
Department of Mathematic
College of Education
University of Salahddin\Erbil \Iraq
Thesis Title: ‘ On some types of separation axioms’
1981 -1985 B.Sc. in General Mathematics
University of Salahddin
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 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, Salahaddin university journal. 8- On pθ -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 and Sβ closed spaces, International Journal of Scientific and Engineering Research; 12. Sβ Para-compact spaces, Journal of Advanced Studies in Topology (Egypt); 2013, https://www.researchgate.net/profile/Nehmat-Kahmed/publication/340267141_document/links/5e810bf492851caef4ac9858/document.pdf 13. Sβ compact sets and Sβ locally compact spaces, Journal of Advanced Studies in Topology; 2013, https://www.academia.edu/download/84014350/531-Article_Text-4067-2-10-20180403.pdf 14-$\tilde{}$pc -OPEN SETS and$\tilde{}$pc -CONTINUITY in SOFT TOPLOGICAL SPACES, ZANCO Journal of Pure and Applied Sciences, 2018, https://zankojournal.su.edu.krd/index.php/JPAS/article/view/2342 15- Characterizations of$\tilde{}$pc -Open Sets and$\tilde{}$pc - almost Continuous Mapping in Soft Topological Spaces, Eurasian Journal of Science & Engineering ISSN 2414-5629 (Print), ISSN 2414-5602 (Online); 2018, https://scholar.google.com/scholar?cluster=9790584133587420078&hl=en&oi=scholarr 16-On Soft pc-Separation Axioms, Demonstr. Math.; 2020 , http://dx.doi.org/10.1515/dema-2020-0003 17-On Soft pc -Regular and Soft pc -Normal Spaces, Italian journal of pure and applied mathematics; *Italian Journal of Pure and Applied Mathematics, Accepted for publication* 18- On Soft pc-Connected Spaces, Iraqi Journal of Science;2020, http://dx.doi.org/10.24996/ijs.2020.61.11.28 19-On Soft Pc-Compact Spaces, New Mathematics and Natural Computation 2022,Vol. 16, No. 3; http://dx.doi.org/10.1142/s1793005720500283

	20- Soft Separation Axioms and Functions with Soft Closed Graphs, Proyecciones (Antofagasta)2022 Journal of Mathematics Vol. 41, No 1; http://dx.doi.org/10.22199/issn.0717-6279-4004 21-On nano $S\beta$ -open sets in nano topological spaces, General Letters in Mathematics; 2022, http://dx.doi.org/10.31559/glm2022.12.1.3 22- Soft pre Separation Axioms and Functions with Soft pre-Closed Graphs, General Letters in Mathematics; 2022, http://dx.doi.org/10.31559/glm2022.12.2.4 23- Nano SC-Open Sets in Nano Topological Spaces, Ibn AL-Haitham Journal For Pure and Applied Sciences 2023 https://jih.uobaghdad.edu.iq/index.php/j/article/view/2958. 24- Nano Sβ-Connectedness in Nano Topological Spaces, Al-Mustansiriyah Journal of Science 2023 https://doi.org/10.23851/mjs.v34i2.1245 25- On pre-topological BCK-algebras, Journal of Algebra and Related Topics 2023, https://jart.guilan.ac.ir/article_6796.html 26- Nano $S\beta$ -operators And Nano -continuity in Nano Topological Spaces, *The Journal of University of Duhok* **2023** , *http://dx.doi.org/10.26682/sjuod.2023.26.1.1* 27- Some Separation Axioms Via Nano Sβ-open sets in Nano Topological Spaces, *Italian Journal of Pure and Applied Mathematics, Accepted for publication*
9. Keywords	
10. Course overview:	
11. Course objective:	

12. Student's obligation

13. Forms of teaching

14. Assessment scheme

15. Student learning outcome:

16. Course Reading List and References:

Text Book: J.R. Munkres, Topology, Pearson Education, 2018.

Other Useful Link:

https://nptel.ac.in/courses/111/106/111106054/

(NPTEL Lectures on Topology chapterwise by Prof. P. Veeramani

References:

(1) Lecture Notes on Topology following J.R. Munkres text book by John Rognes.

(2) Topology by P. Veeramani (available on NPTEL webpage)

(3) General Topology Step by Step by A.S.Farrag and S.E.Abbas

(4) A General Topology Workbook Iain T. Adamson Department of Mathematics and Computer Science Dundee DOI 4HN Scotland

17. Topics Program	Lecture's Name
Week 1: An Inclusive Study on Fundamentals of Hyper soft Set	
Week 2: Hybrid set structures under uncertainly parameterized hyper soft sets: Theory and applications	

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Week 3: Fuzzy Hyper soft Sets and It's Application to Decision-Making	
Week 4: Matrix Theory for Intuitionistic Fuzzy Hyper soft Sets and its application in Multi-Attributive Decision-Making Problems…	
Week 5: A Development of Pythagorean fuzzy hyper soft set with basic operations and decision-making approach based on the correlation coefficient ,	
Week 6: Development of TOPSIS using Similarity Measures and Generalized weighted distances for Interval Valued Neutrosophic Hyper soft Matrices along with Application in MAGDM Problems…….……	
Week 7: The Application of the Score Function of Neutrosophic Hyper soft Set in the Selection of SiC as Gate Dielectric For MOSFET	
Week 8: Tangent, Cosine, and Ye Similarity Measures of m-Polar Neutrosophic Hyper soft Sets…	
Week 9: A Novel Approach to Mappings on Hyper soft Classes with Application	
Week 10: Tietze extension theorem, Urysohn metrization theorem	
Week 11: Development of Rough Hypersoft Set with Application in Decision Making for the Best Choice of Chemical Material…	
Week 12: On Neutrosophic Hyper soft Topological Spaces	
Week 13: one-point compactification, product of compact spaces, Tychonoff theorem	
Week 14: Baire Category Theorem , Urysohn Metrization Theorem	
18. Grading procedure	

19. Examinations:	
20. Extra notes:	
21. Peer review *	

* Must have permission of the Scientific and Higher Education Committee