Instructor: Asst. Prof. Kostya Medynets  
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Textbook: Introduction to Topology and Modern Analysis, George F. Simmons.

This course is about fundamentals of General/Point-set Topology. Point-set topology deals with differing notions of continuity and compares them, as well as dealing with their properties. General Topology is the foundation of modern analysis. By the end of this course, you should be able to rigorously tell apart circles from lines, lines from planes, etc. You will see how a single result from topology can be used to establish that a differential equation has a solution and a positive matrix has a unique positive eigenvector. The latter result is called the Perron-Frobenius Theorem. This is what the Google PageRank algorithm is based on.

This course will revolve around metric spaces, topological spaces, the notion of compactness, connectedness, some elements of homotopy theory.

**CLASSROOM POLICY**

1. The use of laptops/cellphones is not allowed in class unless otherwise directed.  
2. Don’t sleep in class. You may stand to stay alert.  
3. Tardiness/Absence is reported in MIDS.  
4. NO food in class. Drinks are allowed only in closed containers.  
5. Maintain military standards of behavior.  
6. Bathroom breaks are allowed, if absolutely necessary. Ask for permission.
GRADES POLICY

Homework and Exam scores will be posted on Blackboard https://www.usna.edu/Blackboard/

Course Grades

1. Homework (worth 40% of your grade). Homework (mainly proofs) will be assigned and graded regularly. It is crucial that you make a serious attempt at a problem before seeking help. Help means talking to me or your classmates about ideas and strategies, not copying solutions. No late homework will be accepted.

2. Midterms (35% of the grade): There will be three midterm exams in the course.

3. Final Exam (25% of your grade).

Course Grades. A > 90%. B > 80%. C > 70%. D>60%.

EXTRA INSTRUCTION

1. Walk-ins. I will hold office hours on Mondays, 12:30-13:20, and Wednesdays, 12:30-13:20. If you need to make an appointment, just send me an email.

2. Exam Reviews. I will also hold evening review sessions before major exams.