



SYLLABUS

Spring 2019

Department of Mathematical Sciences

Topology I (Math 631)

Instructor: Sean Lawton
Office: Exploratory Hall 4413
Office Hours: MW 2-3pm
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Lectures: 3pm - 4:15 pm MW, Exploratory Hall 4106

Recommended Texts: *Topology and Geometry*, Glen Bredon, Springer, GTM 139
Topology, 2nd Edition, James Munkres, Prentice Hall

Course Description:

Topological Spaces and Continuous functions: Topological spaces, open sets, closed sets, basis, sub-basis, subspaces, product topology, limit points, sequences, convergence, continuous functions, homeomorphisms, metric spaces.

Connectedness and Compactness: Definitions and properties of continuous images, subsets of vectors spaces with these properties, sequential and limit point compactness, equivalence of compactness notions for metric spaces, counterexamples in abstract spaces, local compactness, compactifications, Stone Cech compactification of a countable discrete space, compactness of arbitrary products of compact spaces.

Countability and separation axioms: First and second countability, Hausdorff spaces, regular spaces, completely regular spaces, normal spaces, Urysohn's Lemma, Tietze Extension Theorem.

Assessment: There will be regularly assigned HW (generally not collected) and weekly quizzes (based on HW). Your final grade will be determined by your scores on your assessments.

Disability statement: If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474, <http://ods.gmu.edu>. All academic accommodations must be arranged through that office.

University Honor Code: You are expected to follow the GMU Honor Code: <http://oai.gmu.edu/the-mason-honor-code/>

Diversity: You are expected to behave in accordance of the GMU Diversity Statement: <http://ctfe.gmu.edu/professional-development/mason-diversity-statement/>

Privacy: Students must use their MasonLive email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.