

Tennessee Technological University

Mathematics Department

MATH 6210-6220: Topology I-II

- I. **COURSE DESCRIPTION FROM CATALOG:** Topics in point-set topology, homotopy theory, triangulated spaces, homology theory, other topics in topology. Lec. 3-3. Cr. 3-3.
- II. **PREREQUISITE(S):** MATH 6210: C or better in MATH 4320 or MATH 5320 or consent of instructor. MATH 6220: C or better in MATH 6210.
- III. **COURSE OBJECTIVES:** Students will understand the advanced concepts of Topology.
- IV. **STUDENT LEARNING OUTCOMES:** Upon successful completion of the course students will understand some advanced concepts of topology and their interplay with other areas of mathematics. They will gain proficiency in developing proofs for theorems involving advanced concepts. Students will learn to use algebraic methods such as homology and cohomology to investigate problems in both topology and related areas of mathematics.
- V. **TOPICS TO BE COVERED:** Exact content is to be determined by the instructor. The following is a list of suggested topics from which the instructor might choose one or more items to cover.
 - Piecewise Linear Topology
 - Dimension Theory
 - Introduction to Homology and Cohomology
 - Knot Theory
 - Continuum Theory
 - Geometric Topology in Low Dimensions
 - Infinite-dimensional Topology
 - Higher Homotopy Groups
- VI. **ADDITIONAL INFORMATION:**
- VII. **POSSIBLE TEXTS AND REFERENCES:**
 - Topology and Geometry*, 1st ed. by Bredon.
 - Topology First Course*, by Munkres.
- VIII. **ANY TECHNOLOGY THAT MAY BE USED:**
- IX. **STUDENT ACADEMIC MISCONDUCT POLICY:** Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies

and procedures for addressing Academic Misconduct at Tennessee Tech. For details, view the Tennessee Tech's Policy 217 – Student Academic Misconduct at [Policy Central](#) .

- X. DISABILITY ACCOMMODATION:** Students with a disability requiring accommodations should contact the Accessible Education Center (AEC). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, Room 112; phone 931-372-6119. For details, view the Tennessee Tech's Policy 340 – Services for Students with Disabilities at [Policy Central](#).