COURSE DETAIL

TOPOLOGY 2

Country
Korea, South

Host Institution
Yonsei University

Program(s)
Yonsei University

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
103

UCEAP Course Suffix
B

UCEAP Official Title
TOPOLOGY 2

UCEAP Transcript Title
TOPOLOGY 2

UCEAP Quarter Units
4.50

UCEAP Semester Units

3.00

Course Description

Algebraic topology is concerned with the construction of algebraic invariants associated to topological spaces which serve to distinguish between them. This course focuses on the concept of the fundamental group of a topological space, and discusses its relation to other important notions in topology such as homotopy, covering space, etc.

Topics include homotopy of paths, covering spaces, the fundamental group of the circle, retractions and fixed points, the Borsuk-Ulam theorem, deformation retracts and homotopy type, the Jordan curve theorem, imbedding graphs in the plane, the winding number of a simple closed curve, the Cauchy integral formula, the Seifert-van Kampen theorem, the fundamental group of a wedge of circles, adjoining a two-cell, the fundamental group of the torus and the dunce cap, the classification theorem, equivalence of covering spaces, and existence of covering spaces.

Prerequisite: Topology 1

Language(s) of Instruction
English

Host Institution Course Number
MAT3101

Host Institution Course Title
TOPOLOGY (2)

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2024-2025

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