MA 572 Spring 2019

Introduction in Algebraic Topology

Syllabus

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Homepage for the course: https://www.math.purdue.edu/~rkaufman/MA572sp19/572.html

Office hours: TBA.

If you have a conflict with these times, we can arrange for another time to meet.
Textbook: Elements of Algebraic Topology by James R. Munkres
Westview Press; New Edition (December 1, 1993)
ISBN-10: 0201627280, ISBN-13: 978-0201627282

Course description

The course is an introduction to algebraic topology. The focus will be on homology and cohomology theory which are a basic tool in many subjects. It is fundamental for topology, but also important for many other fields, such as differential, symplectic and algebraic geometry, number theory, mathematical physics, data science etc.

We will treat the classical simplicial and singular homology and cohomology, but we also plan to cover CW complexes and differential forms and more advanced topics as time permits.

The basic text for the course will be Elements of Algebraic Topology by James R. Munkres with additions from other sources and the lecture to update the material to a more modern presentation. These will be made available.

Required Work

Besides the expected participation in class there will be homework assignments and a take home final or written/oral project at the end of the semester. The homework will be listed on the webpage.

Academic Dishonesty

Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet,

directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

Academic Adjustments for Students with Disabilities

In this mathematics course accommodations are managed between the instructor, student and DRC Testing Center.
Students should see the instructor outside class hours before or after class or during office hours to share your Accommodation Memorandum for the current semester and discuss your accommodations as soon as possible.