

Time: Mondays & Thursdays, 2:00–3:30 in HH-312
Instructor: Dr. Hans U. Boden, HH-313, Telephone 23417
Email: boden@mcmaster.ca
Office Hours: Tuesdays 9:30–10:20, Wednesdays 10:30–11:20 and by appointment

Calendar description:

Fundamental groups, covering spaces, homotopy theory and fibrations. Simplicial and CW complexes, homology groups

Course topics

Homotopy type and homotopy equivalence, cell complexes, fundamental group, Van Kampen theorem, covering spaces, simplicial homology, singular homology, excision, cellular homology, Mayer-Vietoris, universal coefficient theorem, cohomology groups. This primarily includes chapters 0, 1, and 2 from the textbook, along with some of the “Additional Topics” from chapters 1 and/or 2, as well as section 3.1 and 3.A.

Textbook

Allen Hatcher, [Algebraic Topology](#), Cambridge University Press, 2001

Supplementary textbooks

1. James R. Munkres, **Topology**, Second Edition, Pearson, 1999
2. W. S. Massey, **Algebraic Topology: An Introduction**, Springer GTM 56, 1990
3. James R. Munkres, **Elements of Algebraic Topology**, Westview, 1996
4. Joseph Rotman, **An Introduction to Algebraic Topology**, Springer GTM 119, 1998
5. Raoul Bott and Loring W Tu, **Differential Forms in Algebraic Topology**, Springer GTM 82, 1995
6. J. P. May, **A Concise Course in Algebraic Topology**, University of Chicago, 1999
7. Edwin H. Spanier, **Algebraic Topology**, Springer, 1966

Assignments

There will be 3-4 assignments that will be collected and marked throughout the term.

Attendance

All students are expected to attend class on a regular basis. An excessive number of unexcused absences will result in a loss in a substantial part of this component of your grade.

Evaluation

The final grade in the course will be based on the attendance worth 20%, assignments worth 40% (total), and the final exam worth 40%

Official notices

Academic integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at www.mcmaster.ca/academicintegrity.

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Academic accommodation of students with disabilities language for course outlines

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.

Important message

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.