

Math9152B Course Outline

1. Course Information

Course Information

Course name: Algebraic Topology II
Course code: Mathematics 9152B
Academic term: Winter 2026
Class time: Tuesdays 12:30-2:30 and Thursdays 1:30-2:30
Class location: Middlesex College 107

List of Prerequisites

Algebraic Topology I

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Chris Kapulkin	kkapulki@uwo.ca			by appointment

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

3. Course Syllabus, Schedule, Delivery Mode

Continuation of Mathematics 9052: Algebraic Topology. Topics covered include cohomology and homotopy theory.

Course learning outcomes:

- Students will be able to compute cohomology and homotopy groups of commonly encountered CW-complexes.
- Students will be able to identify correct tools to distinguish two spaces up to homotopy equivalence, using (co)homology or homotopy groups, or prove that they are homotopy equivalent, using Whitehead's theorem.
- Students will be able to state and apply foundational theorems of stable homotopy theory, including the Freudenthal suspension theorem and the Blakers-Massey theorem.

Sessional Dates:

Classes begin: January 5, 2026

“Spring” Reading Week: February 14 – 22, 2026

Last day of class and final exam: April 9, 2026

4. Course Materials

Textbook and Other Learning Materials

- **Required textbook:** Allen Hatcher, Algebraic Topology, First Edition, Cambridge University Press, 2009. The textbook costs \$0. The textbook can be downloaded in pdf format from the author's website: <https://pi.math.cornell.edu/~hatcher/AT/AT.pdf>.

No course material will be posted to OWL: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Tutorial participation	25%
Midterm Tests (2)	50% (each test worth 25%)
Final Exam	25%

The non-cumulative 50-minute midterm tests and the final exam will take place in class on February 5, March 12, and April 9, respectively.

On Thursdays, we will have tutorials instead of regular lectures. During the tutorial, students will be working on problems and presenting their solutions. Every student will have to present solutions on a regular basis to receive full credit for participation in the tutorial. The list of problems will be longer than what can be solved during the 50-minute class time. The remaining problems will form a pool from which questions for the midterm tests and final exams are selected.

Use of Generative AI Tools

The use of Generative AI Tools for any of the assessments is not permitted.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday or observance conflicts with an examination, test, or other scheduled academic obligation, students must request accommodation via the University's Student Absence Portal (SAP). This request should identify the conflict and specify which course component(s) (e.g. test, midterm, exam) are affected.

Students are encouraged to submit the SAP request as early as possible, but no later than two weeks before any examination, or one week before any mid-term test or quiz, to allow sufficient time for adjustment.

The SAP request serves as official notification to both the course instructor and the Academic Advising Office, in accordance with University policy:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The Faculty of Science considers religious accommodations as scheduling conflicts. Instructors should provide either a make-up exam or an earlier sitting of the same exam to accommodate the student.

For more information on recognized religious holidays, please visit the Diversity Calendar posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca>

6.2 Academic Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf

6.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf, the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as "appeals")

Procedures on Request for Relief from Academic Decision (Graduate):

https://uwo.ca/univsec//pdf/academic_policies/appeals/graduate_requests_for_relief_procedure.pdf

6.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec//pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Graduate):

https://uwo.ca/univsec//pdf/academic_policies/appeals/graduate_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

6.5 Support Services

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts, at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.