PMATH 367 Topology, Course Outline, Fall 2025

Lectures: Mon, Wed, Fri, 10:30-11:20 am in MC 2035.

Instructor: Stephen New, Email: snew@uwaterloo.ca

Office Hours: Mon, Wed, Fri, 11:30-12:20 and 2:30-3:20 in MC 5419.

Website: Course materials can be found at www.math.uwaterloo.ca/$\sim$snew

Text: Lecture notes will be provided. There is no required textbook but, for those who want a book, all of the course material is covered in Topology, by Munkres.

Course Outline: We will try to cover all of the material from the posted lecture notes:
Chapter 1. Topological Spaces and Continuous Maps
Chapter 2. Examples of Topological Spaces
Chapter 3. Connected, Path-Connected, and Compact Spaces
Chapter 4. Countability and Separation Axioms
Chapter 5. Topological Manifolds
Chapter 6. Paths, Homotopy, and the Fundamental Group
Chapter 7. Homotopy Invariance and Retracts
Chapter 8. Free Groups and Free Products of Groups
Chapter 9. The Seifert-Van Kampen Theorem
Chapter 10. Covering Spaces

Assignments: There will be about five assignments to be submitted using Crowdmark. Students may receive help from any source as long as the help is acknowledged. Your solutions must be written in your own words (not copied) and they must reflect your own understanding. Each student's lowest assignment mark will be dropped.

Tests: There will be a midterm test on Thurs Oct 23 from 5:30-7:20 pm in MC 4041, and there will be a 2.5-hour final exam to be scheduled later. The exam will cover all of the course material. Calculators will not be allowed on tests.

Course Mark: The final course grade G will be given by the maximum of the two marking schemes

$$G = 20\%A + 30\%T + 50\%E \qquad G = 10\%A + 15\%T + 75\%E$$

where A is the average of the assignment marks, T is the mark on the term test, and E is the mark on the final exam.

Persons with Disabilities: Access Ability Services located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the Access Ability Services at the beginning of each academic term.

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. (Check www.uwaterloo.ca/academicintegrity/ for more information.)

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4,
http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm.
When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and types of penalties, students should refer to Policy 71, Student Discipline,
http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm.
For typical penalties check Guidelines for the Assessment of Penalties,
http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.

Appeals: A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals, http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm.