DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES UNIVERSITY OF TORONTO MISSISSAUGA

MAT405H5S LEC0101 Introduction to Topology Course Outline - Winter 2022

Class Location & Time Mon, 11:00 AM - 01:00 PM MN 2262

Wed, 02:00 PM - 03:00 PM MN 2262

InstructorShay FuchsOffice LocationDH3046

Office Hours Thursday afternoon/evening (by appointment).

E-mail Address s.fuchs@utoronto.ca
Course Web Site https://q.utoronto.ca

Course Description

Sets and functions; Topology in R^n; Topological spaces; Open and closed sets; Closure and interior; Continuous functions; Quotient spaces; Connectedness and compactness; Separation axioms and related theorems.

Prerequisite: MAT257Y5 or [MAT102H5 and (MAT224H5 or MAT240H5) and (MAT232H5 or MAT233H5) and at least one

MAT half-course at the 300+ level with a mark of at least 65%]

Exclusion: MAT327H1 or MATC27H3

Recommended: MAT337H5 or MAT378H5 (SCI)

Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

None (instructor will provide notes).

Assessment and Deadlines

Type	Description	Due Date	Weight
Presentations	In-class presentations.	On-going	25%
Other	Attendance and Participation.	On-going	10%
Assignment	Bi-weekly written assignments (best 4 out of 5).	On-going	15%
Term Test		2022-03-02	20%
Final Exam		TBA	30%
		Total	100%

More Details for Assessment and Deadlines

Bi-Weekly Assignments

Bi-weekly problem sets (five in total) are to be submitted online, through Quercus, by midnight of the following Sundays:

Problem Set A - Due January 23. Problem Set D - Due March 20. Problem Set B - Due February 6. Problem Set E - Due April 3.

Problem Set C - Due February 20.

Each problem set will be posted on Quercus a week before it is due. Note: If you submit all the problem sets, only the best FOUR will count.

In-class Presentations

The class will be conducted online (on Zoom) for the first few weeks, and then possiblty transition to in-person. We will use an

inquiry-based learning approach. Most of the class time will be devoted to presentations and discussions. Students are expected to work regularly on the assigned exercises, and present their (complete or partial) solutions to the class. Every presentation will be followed by a discussion, and each student is expected to present at least once every 2-3 weeks.

While online, students are expected to send their work available for presentation through Quercus before each class. The deadline to submit your work for class is one hour before class starts (i.e., by 10am on Mondays and 1pm on Wednesdays).

Please note, that due to the interactive nature of sessions in this course, online classes will **NOT** be recorded.

Moreover, make sure you are logged into your **UofT Zoom account** in order to join the online class meetings (see https://utoronto.zoom.us/).

Penalties for Lateness

Late assignments will NOT be accepted.

Procedures and Rules

Missed Term Work

In order to receive special consideration, you must email the course coordinator and declare your absence on ACORN. For more information, visit the Office of the Registrar website (https://www.utm.utoronto.ca/registrar/utm-absence).

If you miss the term test, please declare your absence on ACORN and send the instructor an email with explanation no later than a week after the test date. There is no need to submit a medical note.

For any other requests for special consideration, please contact the instructor directly and bring any relevant documentaion.

Missed Final Exam

Students who cannot complete their final examination due to illness or other serious causes must file an <u>online petition</u> within 72 hours of the missed examination. Late petitions will NOT be considered. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of \$70 is required for each examination approved.

Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto Mississauga is a strong signal of each student's individual academic achievement. As a result, UTM treats cases of cheating and plagiarism very seriously. The University of Toronto's <u>Code of Behaviour on Academic Matters</u> outlines behaviours that constitute academic dishonesty and the process for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

- 1. Using someone else's ideas or words without appropriate acknowledgement.
- 2. Submitting your own work in more than one course, or more than once in the same course, without the permission of the instructor.
- 3. Making up sources or facts.
- 4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

- 1. Using or possessing unauthorized aids.
- 2. Looking at someone else's answers during an exam or test.
- 3. Misrepresenting your identity.

In academic work:

- 1. Falsifying institutional documents or grades.
- 2. Falsifying or altering any documentation required, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources.

Most of the theorems and problems you will be given for homework can be found in the mathematical literature. It is not the purpose of the homework to see if you can find a proof that someone else has written. Using the work of others and presenting it as your own constitutes plagiarism. This includes using books, research articles, or works that another student completed in an earlier

semester.

Plagiarism Detection

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq).

Students may wish to opt out of using the plagiarism detection tool. In order to opt out, contact your instructor by email no later than two (2) weeks after the start of classes. If you have opted out, then specific information on an alternative method to submit your assignment can be found below.

Final Exam Information

Duration: 2 hours Aids Permitted: None

Additional Information

Teaching Assistant

There will be NO TUTORIAL sessions in this course. The class will meet with the instructor twice a week, on Mondays (11am-1pm) and Wednesdays (2-4pm).

The TA will be available every week through weekly office hours, and will grade the written homework and the midterm.

Mode of Delivery

Lectures will be held online until at least January 30th. Recommended technology requirements for online learning can be found at https://www.viceprovoststudents.utoronto.ca/tech-requirements-online-learning/.

The UTM Library Learn Anywhere resource website contains more information, guidelines and support for the various online platforms used at UofT. It can be accesses at https://utm.library.utoronto.ca/students/quercus/learn-anywhere.

Last Date to drop course from Academic Record and GPA is March 13, 2022.