DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES
UNIVERSITY OF TORONTO MISSISSAUGA

MAT102H5F LEC0101
Introduction to Mathematical Proofs
Course Outline - Fall 2016

Class Location & Time	Tue, 10:00 AM - 11:00 AM DV 2080
	Thu, 11:00 AM - 12:00 PM DV 2080
	Fri, 10:00 AM - 11:00 AM DV 2080
Instructor	Marina Tvalavadze
Office Location	DH 3046
Office Hours	Tue, 1:00 PM - 3:00 PM; Th, 12:00 PM-1:00 PM
E-mail Address	marina.tvalavadze@utoronto.ca
Course Web Site	On BlackBoard
Co-Instructor	Tyler Holden
Office Location	DH-3023
Office Hours	Fr, 11:00 AM -1:00 PM
E-mail Address	tholden@math.toronto.edu
Co-Instructor	Ali Mousavidehshikh
Office Location	DH-3098
Office Hours	Mon, 3:00 PM-5:00 PM; Wed, 4:00 PM-5:00 PM
E-mail Address	ali.mousavidehshikh@mail.utoronto.ca
Teaching Assistant	James Belanger
Office Hours	TBA
E-mail Address	james.belanger@mail.utoronto.ca
Teaching Assistant	Candy Chou
Office Hours	TBA
E-mail Address	candy.chou@mail.utoronto.ca
Teaching Assistant	Arash Gholami
Office Hours	TBA
E-mail Address	arash.gholami@mail.utotonto.ca
Teaching Assistant	Thaddeus Janisse
Office Hours	TBA
E-mail Address	thad.janisse@mail.utoronto.ca
Teaching Assistant	Kaiwen Jiang
Office Hours	TBA
E-mail Address	kaiwen.jiang@mail.utoronto.ca
Teaching Assistant	Huu Uyen Phuong Le
Office Hours	TBA
E-mail Address	phuong.le@mail.utoronto.ca
Teaching Assistant	Reien Meissner
Office Hours	TBA
E-mail Address	reien.meissner@mail.utoronto.ca
Teaching Assistant	Andrew Ross
Office Hours	TBA
E-mail Address	a.ross@mail.utoronto.ca

Course Description

Understanding, using and developing precise expressions of mathematical ideas, including definitions and theorems. Set theory, logical statements and proofs, induction, topics chosen from combinatorics, elementary number theory, Euclidean geometry. [36L, 12T]

Prerequisite: Minimum 70% in Grade 12 Advanced Functions (MHF4U)
Exclusion: MAT138H1,246H1,CSC165H1
Recommended: Minimum 70% in Grade 12 Calculus and Vectors (MCV4U) (SCI)
Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless received explicit waiver from department.

Textbooks and Other Materials

Regarding the textbook you have the following two options available:

Option 1: If you are planning on taking both MAT 102 and MAT 202, then you need to buy the full text:

Mathematical Thinking: Problem-Solving and Proofs, 2nd Edition by D'Angelo and West

Option 2: If you are NOT planning to take MAT202, then buy the *custom edition* of the above mentioned textbook. It is available in soft cover at the UTM bookstore. The custom edition will contain only chapters covered in MAT102 course.

NOTE: Calculators are **not** needed for this course, and will **not** be allowed during quizzes, tests and exams.

Assessment and Deadlines

Type	Description	Due Date	Weight
Assignment	Best 4 (out of 5) hand-in assignments.	On-going	10%
Quiz	Best 3 (out of 4) in-class quizzes.	On-going	30%
Term Test		2016-10-20	20%
Final Exam		TBA	40%
		Total	100%

More Details for Assessment and Deadlines

Problem Sets
Problem sets will be posted on the course website every week, and will cover the recent material discussed in lectures. You are expected to work on the questions assigned, and if you cannot solve a problem, you should ask your TA and/or the instructor for help. You will submit **Problem Sets B,D,F,G and I** to your TA for grading. The other problem sets will NOT be submitted for grading, but you will be tested on the material they cover on a quiz, test or exam (see the course schedule below).
You are encouraged to work with your fellow students while working on questions from the problem sets. **However, the writing of your assignment must be done without any assistance whatsoever.**
Your problem set mark will be determined by taking the average of the best **four** problem sets.
Note: If a problem set is to be submitted for grading, submit one copy of your work to your TA **at the beginning of the tutorial** on the week it is due, and **in the tutorial you are registered in**.

Quizzes and Term Test
There will be **four quizzes** and **one term test**. See the course schedule below for dates, times, location and material for each quiz/term test. More details about the term test and the quizzes will be given later. You **must** bring your student card to **the term test** and to **each quiz**.
Your quizzes mark will be determined by taking the average of the best **three** quizzes.
Note: **There are no makeup quizzes!** If you miss one quiz due to illness, you do not need to submit a medical note, since only the best three quizzes will count. If you miss more than one quiz, you will have to provide proper documentation to the course coordinator (Marina Tvalavadze) and your marking scheme will be adjusted.

Penalties for Lateness

Missing a Problem Set
Late Problem Sets will not be accepted for marking.

Procedures and Rules

Missed Term Work

Missing a Quiz
There are no makeup quizzes! If you miss one quiz due to illness, you **do not** need to submit a medical note, since only the best three quizzes will count.
If you miss more than one quiz, you will have to provide proper documentation to the course coordinator (Marina Tvalavadze) and your marking scheme will be adjusted.

Missing the Term Test
If you cannot show up for the test because of illness or any other special reason, you should declare your absence on ROSI and submit your documentation to the course coordinator (Marina Tvalavadze) no later than **one week** after the day of the test (for medical notes, you must use the **Official Verification of Student Illness or Injury form**, which can be downloaded from the course website).
There will be no make-up tests. The course coordinator will adjust the marking scheme properly for students who have missed the test because of illness or any other (approved) legitimate reason.

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an online petition **within 72 hours of the missed examination**. Original supporting documentation must also be submitted to the Office of the Registrar **within 72 hours of the missed exam**. Late petitions will **NOT** be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. 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

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration: 2 hours
Aids Permitted: None

Additional Information

Tutorials
There are several tutorial groups in the course. Each student must be registered in one of the tutorials (on ROSI), and attend it regularly every week. Details regarding the day, time and location of your tutorial are available online, at https://registrar.utm.utoronto.ca/student/timetable/. In tutorials, you will have the opportunity to work on problems and get help and guidance from your TA. Occasionally, the TA will review some of the material discussed in the lectures, and will present solutions to homework problems. Tutorials will begin on the week of **January 12** (second week of classes).
Note: Students can register to any of the tutorials, regardless of the lecture section in which they are registered.

E-mail Policy

E-mails must originate from a utoronto.ca address and contain the course code MAT102 in the subject line. You **must include** your **full name** and **student number** in your e-mail.

Course Content (Tentative)

1. Weeks 1-3: Chapter 1 - Numbers, Sets, and Functions.
2. Weeks 4-5: Chapter 2 - Language and Proofs.
3. Weeks 6-7: Chapter 3 - Mathematical Induction.
4. Weeks 8-9: Chapter 4 - Bijections and Cardinality.
5. Weeks 10-11: Parts of Chapter 6 - Divisibility.
6. Weeks 11-12: Parts of Chapter 7 - Modular Arithmetic.

Course Schedule

Week of		
1	September 6	Classes begin. No tutorial this week.
2	September 13	Tutorials begin this week; **September 15 - QUIZ 1 on Problem Set A**
3	September 20	**Problem Set B** is due this week in tutorials.
4	September 27	**September 29 - QUIZ 2 on Problem Set C**
5	October 4	**Problem Set D** is due this week in tutorial.
	October 11	**FALL READING WEEK- NO LECTURES/TUTORIALS**
6	October 18	**October 20- TERM TEST covering Problem Sets A, B, C, D, E**
7	October 25	**Problem Set F** is due this week in tutorials
8	November 1	**Problem Set G** is due this week in tutorials.
9	November 8	**November 10 - QUIZ 3 on Problem Set H**
10	November 15	**Problem Set I** is due this week in tutorials.
11	November 22	**November 24 - QUIZ 4 on Problem Set J**
12	November 29	**Problem Set K** will be discussed in tutorials this week (not to be submitted)

Last Date to drop course from Academic Record and GPA is November 9, 2016.