

# *Concepts in Abstract Mathematics*

WELCOME TO MAT246!



UNIVERSITY OF  
TORONTO

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Please start the subject with “MAT246:”

Lectures schedule:



- Tuesday, 1pm to 2pm



- Thursday, 12pm to 2pm

Office hours:



- Tuesday, 2pm to 3pm



- Thursday, 2pm to 3pm

Website:



`http://uoft.me/MAT246JB`

## Teaching assistants

Matthew Sunohara

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Tianyu Zhou

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## Tutorials

Make sure that you are enrolled in one of the following tutorial sections.

- TUT0201/9201: Monday, 4pm to 5pm (Matthew)
- TUT0302/9302: Tuesday, 3pm to 4pm (Matthew)
- TUT0402/9402: Wednesday, 1pm to 2pm (Tianyu)
- TUT5102/6102: Monday, 5pm to 6pm (Tianyu)

*Tutorials will start the week of January 18.*

Remember that *practice makes perfect*.

You should work on the weekly question sheets to improve yourself.

Refrain from reading the solutions. It is totally normal to need several attempts (even days) before having a correct idea. It will become easier with time.

# Marking scheme

There will be:

- 5 problem sets (late submissions will not be accepted)
- a 24h take-home final exam

Your final grade will be the largest of the following two marking schemes:

- $PS1(15\%) + PS2(15\%) + PS3(15\%) + PS4(15\%) + PS5(15\%) + Final(25\%)$ .
- $PS1(15\%) + PS2(15\%) + PS3(15\%) + PS4(15\%) + Final(40\%)$  where the lowest PS is dropped.

# Last comments before starting

My main goal is to help you improving your proof writing skills (and also to make you enjoy mathematics).

Some lectures (especially the first ones) might seem abstract/formal, but no worries:

- I think that's important for you to see formal constructions at this point of your studies.
- The goal of the lectures is to develop tools that you could use later in your own proofs.

There is no universal way to write a proof (two mathematicians may have different opinions).

Nonetheless, here are a few suggestions:

- Explain clearly what you are proving (the reader shouldn't have to guess).
- State the results you use (i.e. give the assumptions and the conclusion, give the name of the theorem you use if any). Don't forget to explain why the assumptions are satisfied.
- Show the logic of your proof: how do you pass from one step to the next one?
- Don't leave gaps (I am the one supposed to give you exercises to solve, not the opposite).

The aim of a proof is to convince the reader that a statement is true. So if the reader is not convinced, you didn't reach this goal. As students, you must also convince the reader that you understand what you wrote.

The most difficult thing consists in finding a good balance about how much details you should give.