Carleton University, School of Mathematics and Statistics
Math 1800B • Introduction to Mathematical Reasoning
Course Outline • Winter Term 2022

INSTRUCTOR:	Brandon Fodden *brandon.fodden@carleton.ca* Online office hour: Tuesday 1:30 - 2:30 p.m. (if no one is there, I will leave after 2:00 p.m.)
LECTURES:	Online and asynchronous, posted Wednesdays
TUTORIAL:	Online, Mondays at 1:35 – 2:25 p.m.
PREREQUISITES:	Ontario Grade 12 Mathematics: Advanced Functions, or MATH 0005, or equivalent.
OPTIONAL TEXTS:	*Mathematical Proofs: A Transition to Advanced Mathematics (third or fourth edition)* by Chartrand, Polimeni & Zhang *Introduction to Mathematical Thinking* by Gilbert & Vanstone *Book of Proof (third edition)* by Hammack (free online)
GRADING SCHEME:	Quizzes (best 8 out of 11) 72% Final exam 28% (see notes below for more details)

Topics: Sets; logic; methods of mathematical proof including direct, contraposition, contradiction, and induction; equivalence relations; functions; finite and infinite cardinality.

Pregnancy or religious obligation: Write me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the Student Guide.

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC every term to have a Letter of Accommodation sent to the Instructor by their Coordinator. In addition, students are expected to confirm their need for accommodation with the Instructor no later than two weeks before the first assignment is due or the first in-class test/midterm. If you require accommodations only for formally scheduled exam(s) in this course, you must request accommodations by the official accommodation deadline published on the PMC website.

COMMENTS:

- All times given in this document refer to the EST/EDT (eastern standard/daylight time) timezone, in which Ottawa is located. All course material is posted on Brightspace. Be sure to check your Carleton email address throughout the term, as this is how I will communicate any course updates and information. This course is blended, which means that there are both asynchronous and synchronous components.
- Assignments based on the material for each lecture will be posted every Wednesday along with the lecture, but the assignments are not to be handed in. Full solutions to the assignments will be posted soon after the assignments are posted.
- A live online tutorial runs every Monday, starting January 24. The tutorial runs on Mondays from 1:35 to 2:25 p.m. A set of tutorial problems will be posted at the same time as the assignment, covering the same material. During the tutorial session, a TA will work out selected tutorial problems and answer your questions. The tutorials are recorded and viewable afterwards.
- Quizzes will take place on Wednesdays, and will be on the material covered on the assignment posted the previous week. **The quiz questions will be posted on Wednesdays at 4:10 p.m., and the quiz is due by 4:45 p.m.** The quiz is designed to take about 20 minutes to write, the remaining time provided for scanning and uploading your work. You may access the course material that has been posted to Brightspace during the quiz, as well as your notes and textbooks, but must not communicate with others about the quiz while the quiz is open.
- Quizzes must be submitted as a single PDF file. There are numerous free scanning apps for phones that will allow you to do this. Quizzes must be legible in order to be graded. No provision is made for make-up quizzes. If you must miss a quiz for a valid reason, please contact me. If you live in a time zone in which the quiz occurs at an unreasonable time, please contact me.
- Your lowest three quiz marks are dropped. Each of the remaining eight quizzes are worth 9% of your final grade.
- The final exam is to be scheduled by the University. The date and time will be announced by the university at some point during the term (the exam will be held some time between April 14 and 28). The exam will be posted and submitted online.
- Students who miss the final exam may be eligible for a deferred exam. Application for a deferral must be made, with appropriate documentation, to the Registrar's Office.
- Plagiarism and cheating will not be tolerated and can lead to severe penalties. Your quizzes and exam must be your own work, and you must not communicate with others about the quizes and exam while they are open. This includes the use of "homework help" websites, whether the questions are posted by you or another student.
- In an asynchronous class, it can be too easy to put off watching the lectures. Take care to not fall behind.
- Student or professor materials created for this course (including any posted notes, video lectures, tutorials, assignments, quizzes, and tests) remain the intellectual property of the author. They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author.

EXTRA HELP:

There is help available for this course. It is up to you to seek any help you may need. Please do not hesitate to take advantage of the help being offered – that's why it's there! Here is a summary of the help available:

- Class tutorial (see first page)
- My office hours, or email

- MS-LAP (The Math & Stats Learning Assistance Program is a free of charge program that provides learning support and solutions to homework questions through assistance videos. These services are available on cuLearn. MS-LAP gives students tools to succeed while explaining step-by-step particular problem strategies and associated theory.)

SCHEDULE:

Week 1	Wednesday January 12	Lecture and assignment 1 posted
Week 2	Wednesday January 19	Quiz 1 online at 4:10 p.m. Lecture and assignment 2 posted
Week 3	Monday January 24 Wednesday January 26	Tutorial 2 online at 1:35 p.m. Quiz 2 online at 4:10 p.m. Lecture and assignment 3 posted
Week 4	Monday January 31 Wednesday February 2	Tutorial 3 online at 1:35 p.m. Quiz 3 online at 4:10 p.m. Lecture and assignment 4 posted
Week 5	Monday February 7 Wednesday February 9	Tutorial 4 online at 1:35 p.m. Quiz 4 online at 4:10 p.m. Lecture and assignment 5 posted
Week 6	Monday February 14 Wednesday February 16	Tutorial 5 online at 1:35 p.m. Quiz 5 online at 4:10 p.m. Lecture and assignment 6 posted
Week 7	Monday February 28 Wednesday March 2	Tutorial 6 online at 1:35 p.m. Quiz 6 online at 4:10 p.m. Lecture and assignment 7 posted
Week 8	Monday March 7 Wednesday March 9	Tutorial 7 online at 1:35 p.m. Quiz 7 online at 4:10 p.m. Lecture and assignment 8 posted
Week 9	Monday March 14 Wednesday March 16	Tutorial 8 online at 1:35 p.m. Quiz 8 online at 4:10 p.m. Lecture and assignment 9 posted
Week 10	Monday March 21 Wednesday March 23	Tutorial 9 online at 1:35 p.m. Quiz 9 online at 4:10 p.m. Lecture and assignment 10 posted
Week 11	Monday March 28 Wednesday March 30	Tutorial 10 online at 1:35 p.m. Quiz 10 online at 4:10 p.m. Lecture and assignment 11 posted
Weeks 12 & 13	Monday April 4 Wednesday April 6 Monday April 11	Tutorial 11 online at 1:35 p.m. Quiz 11 online at 4:10 p.m. Lecture and assignment 12 posted Tutorial 12 online at 1:35 p.m.