Carleton University, School of Mathematics and Statistics
Math 1800A • Introduction to Mathematical Reasoning
Course Outline • Late Summer Term 2022

INSTRUCTOR: Brandon Fodden *brandon.fodden@carleton.ca*
Online office hour: by request

LECTURES: Tuesdays and Thusdays, 6:35 – 9:25 p.m. in Nicol 3020

TUTORIAL: Tuesdays and Thursdays, 5:35 – 6:25 p.m. in Mackenzie 3380

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
Book of Proof (third edition) by Hammack (free online)

GRADING SCHEME: Quizzes (5)   60%
Final exam   40%
(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:

- Assignments will be posted after every class, but they are not to be handed in. Solutions to the assignments will be posted at the same time as the assignments.
- During the tutorial sessions, your TA will be present to work out selected tutorial problems on the board. The first tutorial is on Thursday July 7.
- Quizzes will be written each Wednesday starting July 13 and will be on the material covered on the assignment posted the previous week. The quizzes will be written online. The exact process is currently being determined, but there will be a range of starting times available in order to accommodate your schedules. This will be discussed with the class. Each quiz will be open for 45 minutes. The quiz is designed to take about 30 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, such as illness, please contact me for accommodation.
- The final exam is a three hour closed book test to be scheduled by the University. The date, time, and location will be announced by the university at some point during the term.
- If it benefits your grade, your final exam mark will replace your quiz grade for up to two quizzes.
- 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 within five working days after the examination.
- No calculators are permitted (or needed) on the quizzes or exam.
- Plagiarism and cheating will not be tolerated and can lead to severe penalties – consult the undergraduate calendar.
- You are expected to attend all lectures (unless you are ill - see below). If you miss a lecture, it is your responsibility to understand all material from that lecture, and to get any information given. Remember that in the compressed summer term, one class is equal to one week of normal classes!
- Please do not attend class if you are sick, even if you are sure that it's "just a cold." If you miss a class due to illness, please contact me by email and I will supply you with the materials so that you can stay caught up on course material.
- Student or professor materials created for this course (including any posted notes, tutorials, assignments, quizzes, and tests) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

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)
- Your TA (email)
- 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 Brightspace. MS-LAP gives students tools to succeed while explaining step-by-step particular problem strategies and associated theory.)