MATH 240 – Discrete Structures
Fall 2019, McGill University

Instructors.

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Please remember to mention that you are in MATH 240 in your emails.

Course topics. Introduction to discrete mathematics and applications. Logical reasoning and methods of proof. Elementary number theory and cryptography: prime numbers, modular equations, RSA encryption. Combinatorics: basic enumeration, combinatorial methods, recurrence equations. Graph theory: trees, cycles, planar graphs.

Lectures. The course lectures constitute the primary source of course material.

Textbook. *Discrete mathematics and its applications* by Kenneth H. Rosen. 8$^{\text{th}}$ edition.

Tutorial. There is one tutorial each week, taught by a teaching assistant. The purpose of the tutorial is to see more examples, at a slower pace than during the lecture. You are strongly encouraged to ask questions during the tutorial. There are two scheduled times, you may attend either of them. Registration is not required. The material covered at each time will be similar.

Evaluation. Your final grade will be calculated as shown below.

Written assignments	10%
WeBWorK assignments	5%
Midterm exam	20%
Final exam	65%

Written assignments. There will be 4 written assignments, which will focus on learning to write proofs. Your proofs must be written *clearly* and *concisely* using *precise mathematical language*. A portion of the marks on each assignment will be allocated to the quality of your expression. You are encouraged to use the LaTeX typesetting system to prepare your assignments. Information about using LaTeX is available on the course website. Most mathematical texts[1] are now written using this system, so it is a valuable skill to learn.

WeBWorK assignments. There will be several assignments given via the online system WeBWorK. These assignments will focus on computational problems. You can access WeBWorK for this course using the URL below.

`https://webwork.math.mcgill.ca/webwork2/MATH240_FALL2019/`

Your username and password are both set to your McGill student ID by default. Please change your password after logging in the first time. For any login problems, please email `<it.mathstat@mcgill.ca>`.

Assignment submission. WeBWorK assignments are distributed and submitted via WeBWorK, and written assignments are distributed and submitted via myCourses. Submissions by email or on paper will not be accepted. Handwritten assignments are acceptable; please ensure that you write neatly and produce a clear scan of your assignment. Photocopy machines on campus can be used for scanning. Students are responsible for being aware of the due date for all assignments. Late assignments are not accepted. Requests for brief extensions will be considered on an individual basis, provided the request is made a reasonable time *before* the due date.

[1] It's not just for mathematical texts. This document was produced using LaTeX.

Homework policy. You are allowed (in fact encouraged) to discuss the homework with other students, and you may consult books, websites, etc. you wish. However, you must *write up your own solution*, as you will be assesed on the quality of your mathematical writing as well as the logical correctness of your proofs. Direct copying from any sources is not permitted. If you ask for help on internet forums, you are expected to state that your question relates to an assigned homework problem.

Midterm exam. There will be one midterm exam. It is scheduled for October 15.

Final exam. There will be a final exam, scheduled during the final exam period. The final exam will cover material from the entire course.

Academic Integrity. McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information).

Language. In accord with McGill University's Charter of Students Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Disclaimer. In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.