Department of Mathematics & Statistics
Concordia University

MAST 232
Mathematics with Computer Algebra
Fall 2025

Instructor: Dr. Nadia Lafrenière
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Class Schedule: Fridays, 14:45–17:30.
Reading week: no classes, nor office hours from October 11 to 17.

Office Hours: Will be announced on Moodle.

Prerequisite: CEGEP Mathematics 105 or 201-NYC, 203 or 201-NYB or equivalent.

Class Structure: The class consists of a lecture portion and an instructor-supervised problem-solving session. Lecture notes will be posted at the beginning of each week; while the classwork will be made available during class time.

Classwork: To receive credit for the problem-solving session, you must submit your work via Moodle, before the end of the class.

Assignments: There will be regular assignments during the semester (approximately 7 in total). These are to be submitted via Moodle by the date and time indicated. Late assignments are not accepted. You are encouraged to discuss problems with your classmates and ask the instructor for help. However, you must write your solutions independently (without someone else's work in front of you). You may not actively solicit help on internet forums, though you are permitted to search the internet for help on the topic.

Midterm Test: There will be one midterm test. There is no option for a `make-up' test. The midterm will be administered on **Friday, October 10**, during the lecture. If you cannot write the midterm test, for a valid reason, then the weight of the midterm will be moved to the final exam.

Final Exam: It will be scheduled by the Exams Office.

PLEASE NOTE: Students are responsible for finding out the date and time of the final exam once the schedule is posted by the Examination Office. Any conflicts or problems with the scheduling of the final exam must be reported directly to the Examination Office, **not** to your instructor. It is the Department's policy and the Examination Office's policy **that students are to be available until the end of the final exam period. Conflicts due to travel plans will not be accommodated.**

Evaluation: You will be evaluated according to the following scheme:

Class work 10 %
Assignments 20%
Midterm test 30%
Final exam 40%

Note that there is no `100% final' option in this course and no supplemental examination.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

SageMath: All coursework will be carried out using *SageMath*, using *JupyterLab* as an IDE. Both *SageMath* and *JupyterLab* are free, open source, software systems. If you would like to install these programs on your personal computer, you can visit https://www.sagemath.org/ and https://jupyter.org/, or ask your instructor for help.

Moodle: All course materials will be posted to the course Moodle page. Students are expected to check this website on a regular basis.

Topics: Graphing in two and three dimensions, lists, functions, number systems, algebraic and transcendental equations, differentiation and applications, integration and applications, programming, probability and statistics, linear algebra and applications. Additional topics may be included as time permits.

Student Services
You may wish to access the many services available to you as a Concordia student. An overview of these resources can be found here: https://www.concordia.ca/students/services.html

Academic Integrity and the Academic Code of Conduct
This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: https://www.concordia.ca/conduct/academic-integrity.html *[Undergraduate Calendar, Sec 17.10.2]*

Behaviour
All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the Code of Rights and Responsibilities which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Intellectual Property
Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Extraordinary circumstances
In the event of extraordinary circumstances and pursuant to the Academic Regulations the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.