Department of Mathematics & Statistics
Concordia University

<div style="border:1px solid #000">

MAST 232
Mathematics with Computer Algebra
Winter 2020

</div>

Instructor: Dr. I. Pelczer, Office: LB 915-1 (SGW), Phone: 514- 848-2424, Ext. 3323
Email: ildiko.pelczer@concordia.ca

Class Schedule: Lec. B: Fridays, 16:00-18:15, Room LB 915-4.
Lec. AA: Tuesdays, 18:00-20:15, Room LB 915-4.

Office Hours: TBA

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

Exclusions: This course is an introduction to computer algebra using *Mathematica*. It may not be taken for credit simultaneously with, or after having completed, a course of a similar nature.

Class Structure: The class takes place in a computer lab and consists of a lecture portion and an instructor-supervised problem-solving session.

Class work: To receive credit for the problem-solving session, you must show your work to the instructor before leaving class. There is no option to submit this work later.

Assignments: There will be 5 assignments during the semester. These are to be submitted via Moodle by the date and time indicated. Solutions will be posted on Moodle. You may discuss the 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 (aside from the `Student discussion forum' on Moodle), though you are permitted to search the internet for help.

Midterm test: There will be one midterm test, given in the lab using *Mathematica*. There is no option for a `make-up' test. Exams must be taken on the lab computers.

Evaluation: You will be evaluated according to the following scheme. There is no `100% final' option in this course and no supplemental examination. In the evaluation of any submitted work, we will consider the measure in which the proposed solution takes advantage of the affordances of *Mathematica*.

> Class work 5%
> Assignments 20%
> Midterm test 25%
> Final exam 50%

All assignments are mandatory. Late assignments are not accepted.

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.

Mathematica: All course work will be carried out using the computer algebra system *Mathematica*. This software is installed in the computer lab. Concordia University also has a site license for *Mathematica*, which allows you to **download the software and use it on your own computer.** Instructions for doing so are given in MyConcordia under `Software and Applications > Mathematica'. You may also work in the Math department undergraduate lab and may borrow a laptop from the library (*Mathematica* will be installed).

Moodle: All course materials will be posted to the course Moodle website. 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.

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: concordia.ca/students/academic-integrity." *[Undergraduate Calendar, Sec 17.10.2]*