
Syllabus: MAT1320A Calculus I (Fall 2024)

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***please write “**mat1320A**” in subject line of **all** emails to me!

DESCRIPTION OF THE COURSE Intuitive definition of limits; continuity, statement of intermediate value theorem. Quick review of basic derivative formulas: products, chain rule, exponentials, and trigonometric functions. Derivatives of quotients, logarithms, inverse trigonometric functions. Finite difference approximations of derivatives. Analysis of functions via the first and the second derivatives; statements of extreme and mean value theorems. L'Hospital's rule. Implicit differentiation, related rates, optimization, linear approximation, Newton's method. The definite integral and the fundamental theorem of calculus. Antiderivatives of elementary functions, techniques of integration (integration by parts, substitutions, partial fractions). Numerical integration: mid-point, trapezoidal rule and Simpson's rule; error analysis.

Prerequisite: One of MAT1339, Ontario 4U Calculus and Vectors (MCV4U) or an equivalent. The courses MAT1330, MAT1300, MAT1308, MAT1320 cannot be combined for credits.

HOW TO SUCCEED IN MAT1320

KEEP UP WITH THE LECTURES! Attend the lectures and take good notes.

LEC	Monday	8:30 AM – 9:50 AM	CRX C140
LEC	Thursday	10:00 AM – 11:20 AM	UCU AUD

ATTEND THE DGDs! This is your Discussion Group, led by a graduate student TA. Prepare by doing the posted exercises, and use your time well by asking questions! You are registered to **one** of the following DGD sections:

DGD A01	Monday	5:30 PM – 6:50 PM	VNR 3075
DGD A02	Friday	5:30 PM – 6:50 PM	SMD 425
DGD A03	Wednesday	5:30 PM – 6:50 PM	VNR 3075
DGD A04	Wednesday	5:30 PM – 6:50 PM	VNR 2075
DGD A05	Friday	8:30 AM – 9:50 AM	MRT 221

STAY UP-TO-DATE WITH BRIGHTSPACE! The course webpage is on **Brightspace (Virtual Campus)** of the University of Ottawa. Announcements, lecture notes, Möbius assignment links, and more will be posted there. You will need to check Brightspace regularly.

STAY MATHEMATICALLY FIT! DO LOTS OF EXERCISES! Practice! Do suggested exercises! Work on examples from class to see if you understand how to solve them on your own. Mathematics is not a subject where last-minute memorization is enough to succeed. The more time you spend actually **doing math**, the stronger your results, understanding, and problem-solving skills will be.

USE THE TEXTBOOK! *Calculus: Early Transcendentals, 9th ed* by James Stewart, Daniel Clegg, and Saleem Watson. The 8th Edition is perfectly acceptable as well.

USE MÖBIUS ! Homework assignments are to be completed online using Möbius. You will need to purchase a license for Möbius in order to log in (~\$29); instructions will be posted on Brightspace.

ASK FOR HELP! Ask for help when you need it (before things become too overwhelming). Talk to your instructor and TA. We are here to help. Don't be afraid to ask questions during lectures and DGDs. Use the Math Help Centre and your professor's office hours.

VISIT YOUR PROFESSOR'S OFFICE HOURS! Whenever you need concepts clarified or would like to discuss the course, please drop in to my Office Hours (to be announced in Brightspace).

VISIT THE MATH HELP CENTRE! In addition to the DGDs, lectures, and professor's office hours, you can get help for MAT1320 via the Math Help Centre, located in STEM 207. For more details, see <https://www2.uottawa.ca/faculty-science/student-life-services/help-centres>

USE THE CALCULUS READINESS MODULE ! You are enrolled in a "Custom Course" in Brightspace called "Calculus Readiness Self-Study Module: get ready for 1st year!" This module includes an overall review of high school math topics, a Survival Guide for first-year math courses, and many (optional) quizzes you can take to do self-assessment, target your weaknesses, and guide you to some review exercises.

Important dates for MAT1320A

Thursday, September 4	first MAT1320 LEC
September 9–13	first DGDs
Sunday, September 15	Möbius Assignment 1 due
Sunday, September 22	Möbius Assignment 2 due
Sunday, September 29	Möbius Assignment 3 due
Monday, October 7	MIDTERM EXAM 1 (20%)
October 13–19	reading week break
Sunday, October 20	Möbius Assignment 4 due
Sunday, October 27	Möbius Assignment 5 due
Sunday, November 3	Möbius Assignment 6 due
Monday, November 11	MIDTERM EXAM 2 (20%)
Friday, November 15	last day to withdraw from a course
Sunday, November 17	Möbius Assignment 7 due
Sunday, November 24	Möbius Assignment 8 due
November 25–29	last DGDs
Sunday, December 1	Möbius Assignment 9 due
Monday, December 2	last MAT1320 LEC
Tuesday, December 3	last day of classes
December 5–18, 2024	FINAL EXAM PERIOD

How you will be evaluated

2 Midterms worth 40% : The midterm exams will be **closed-book exams**, written in class on the following two dates:

Midterm 1 worth 20%: Monday, October 7, 2024, from 8:30–9:50 AM

Midterm 2 worth 20%: Monday, November 11, 2022, from 8:30–9:50 AM

Final Exam worth 50%: There will be a **cumulative closed-book 3-hour Final Exam**, scheduled by the Faculty during the Exam Period (December 5–18, 2024). Regulations for final examinations at the University of Ottawa can be found [here](#).

Möbius homework worth 10%: There will be online assignments on Möbius, roughly one assignment each week, worth a total of 10% of your final grade. Their purpose is to help you learn the material and receive immediate feedback; they are a supplement to textbook exercises. Late assignments will not be accepted. Details on setting up your Möbius account will be provided on Brightspace.

Additional Course Evaluation Policies:

- ★ If your mark on the Final Exam is lower than 40%, then you will fail the course (F), regardless of your other marks.

- ★★ If your mark on the Final Exam is higher than your grade on one or both of the midterm exams, then the weight of each such midterm will be transferred to the weight of the final exam (whenever it is to your advantage).

Midterm and Final Exam Policies

Exam procedures:	You should bring your student card to exams. Students may not enter after or leave before 20 minutes have passed from the beginning of an exam.
Calculator policy:	NO CALCULATORS You may not use calculators during midterms or the exam. If you are caught with a calculator during a test or the exam, then academic fraud allegations may be filed which may result in you obtaining zero on the test/exam.
Policy for missing a test:	If you miss a midterm, or if you perform better on the final exam, then the weight of your missed midterm(s) will be transferred to the weight of the final exam. There are no make-up midterms.
Unauthorized items:	Cellular phones, electronic devices, calculators or course notes are not allowed during midterms and final exams. Phones and devices (including Smartwatches) must be turned off and put away in your bag. Do not keep them in your possession, such as in your pockets. If caught with such a device or document, academic fraud allegations may be filed which may result in you obtaining a 0 (zero) for the exam. Therefore, come to your exams with a plan of how to store your device away from your person.

ACCESSIBILITY The University of Ottawa is committed to ensure that persons with disabilities have equal access to its services and events. If you are in need of accommodation during this course due to a disability, please consult with Access Services as soon as possible: <http://sass.uottawa.ca/en/access>

EQUITY, DIVERSITY & INCLUSION You are welcome here! In this course, all students are welcome, including all races, colours, cultures, ethnicities, genders, sexualities. This course is a space for respect for each other, including students, teaching assistants, staff, and professors.

BILINGUALISM Except in programs and courses for which language is a requirement, all students have the right to produce their written work and to answer examination questions in the official language of their choice (English or French), regardless of the course's language of instruction.

ACADEMIC INTEGRITY Academic integrity means being responsible for the quality of your work, preparing it honestly, and respecting the intellectual community you are part of as a student. Every member of the University community has the moral obligation to learn and share knowledge with honesty and integrity. For more information, please see <https://www2.uottawa.ca/about-us/provost/academic-integrity>

ACADEMIC FRAUD Academic fraud refers to “an act by a student that may result in false academic evaluation of that student or another student”. Plagiarism and all forms of cheating are taken very seriously at the University of Ottawa. Please take the time to see <https://www2.uottawa.ca/about-us/policies-regulations/academic-regulation-i-14-academic-fraud>

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HEALTH AND WELLNESS Are you in need of health and wellness support? For more information on the services and resources available for students please visit <https://www.uottawa.ca/campus-life/health-wellness/getting-help-students>