

MAT1320 A

Calculus I

Professor: Abdulrahman Karouma

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Lectures Monday 10:00 - 11:30 and Wednesday 8:30 - 10:00 in room MNT 202.

DGDs You should have registered for one of the [sections of DGD](#). All sections will cover the same material. Classes and DGDs are both mandatory parts of the course.

Office Hours: After class or Monday 11:30 - 1:00 in room KED B07-B (by appointment).

Course Content: 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.

Textbook: *Calculus: Early Transcendentals* by James Stewart, 8th Edition. The 7th Edition is perfectly acceptable as well if you have it.

Assessment:

- Assignments (10%) (see below)
- Midterm 1 (20%) (October 11)
- Midterm 2 (20%) (November 20)
- Final Exam (50%)

Late assignments will not be accepted. There will be no makeup tests. Any student who scores less than 40% on the final exam will receive an automatic F, regardless of their marks in assignments or midterms. Any student who scores less than 49% on the final exam cannot receive a higher grade than an E.

Assignments: Assignments will be completed online using MapleTA. Students are required to purchase a license for MapleTA, which you can do [here](#). When you purchase the license you will get a username and password. You will need to enter your student number and name on your profile: this is how your grades get correctly credited. In order to complete assignments you need to log on to the MapleTA website at this [link](#). Note that searching the web for MapleTA can and will lead you to login sites for other universities, which won't work. The servers might be slow during peak times, such as a few hours before the deadline: you should not count on doing assignments at the last minute.

The first assignment is "How does MapleTA work?". Please log in and complete this assignment in order to familiarize yourself with the system (and won't count).

Tests: The midterms are on October 11 and November 20 in class. There will be no make-up tests. If you miss the test and you bring a doctor's note, the weight of the test will be carried to the final exam. The Final Exam will be scheduled by the faculty during the normal examination period, in accordance with Faculty of Science regulations.

Calculators: No calculators will be allowed on quizzes, midterms or the final exam.

Help Centre in Mathematics and Statistics: The math help center is located in Tabaret Hall, room C-115. You are encouraged to visit there for help on any problems you may have. Please see the departmental website ([here](#)) for more information on this service and its hours.

Class Etiquette and Respect: In a large class, we all depend on a climate of mutual respect and engagement to make this a productive and exciting intellectual environment. Please respect these basic guidelines.

Grade changes: If you feel there is a problem with your grade on an assignment or midterm, you must write one paragraph explaining each error within two weeks. Then, please hand in your paragraph of explanation in addition to the original assignment or midterm for grade reconsideration. Please allow at least one week for grade reconsideration. Please do not approach the TAs to discuss grade changes. Grade changes cannot be discussed over email.

Plagiarism: Please note that the University of Ottawa has a very strict policy on plagiarism and academic fraud. If you are found guilty of either, the University can give you an F for the course, assign additional credit hours on top of your degree requirements, and/or expel you from the University and note the reason on your transcript. Please read the University policy on academic fraud included with the course material and ask me if there is anything you do not understand or consult <http://www.uottawa.ca/plagiarism.pdf>. Any students caught cheating will be asked to leave and will have their cases referred to the Faculty.

Electronic devices: Students are required to turn off all electronic devices such as cell phones, ipods, and blackberrys. If you need your cell phone for emergency contact (children, medical emergency) please inform the professor at the beginning of the class and use vibration mode.

General comments

1. If you have suggestions for me to improve my teaching, please tell me right away. Do not wait until the course evaluation at the end of the term, because then only the students after you will benefit from your suggestion.
2. I am available during office hours (see above) as well as just before and right after class. Please make use of that, come talk to me about the material, about any questions related to this course. Please do not expect me to answer emails or phone calls on a weekend.
3. It is a sign of strength (not weakness) to ask for help if you need it: Identify your difficulty, identify who can help you, go and ask for help.
4. Start working on the material right away. Check your understanding after every class. It will pay off later.
5. Success in this calculus course stems from practice. Start early and keep working at it, and you have a very high chance to succeed. Do 5 practice problems a day.
6. Please check the course website frequently as it will be updated regularly.
7. There are many worked examples in this and other textbook, we will use different ones in class. Please take advantage of this wide variety of exercises.
8. Learning mathematics requires solitary work and group efforts. Think about each problem alone first. Then get together in small groups to discuss the material. Finally, write your assignments on your own! This will pay off in the end.
9. Copying or allowing to copy homework is plagiarism. Neither of the two pay off.

Hard work pays off. Good luck!