

MATH 2000A — Multivariable Calculus and Fundamentals of Analysis

Fall 2022, Carleton University

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Office Hours: TBA

I want to take your schedule into account when setting office hours. Please email me your schedule by Sunday, September 11 if you would like me to consider your schedule when setting office hours.

I will be making all important course announcements on Brightspace. In this course, you are expected to check Brightspace and your Carleton email address regularly.

Prerequisite: i) MATH 2052 with a grade of C+ or higher, or (MATH 2007 or MATH 1005 with a grade of B+ or higher and permission of the School); and ii) MATH 2152 with a grade of C+ or higher, or MATH 1107 or MATH 1104 with a grade of B+ or higher; and iii) MATH 1800 with a grade of C+ or higher; or permission of the School.

Lectures: Tuesdays and Thursdays from 10:05 – 11:25 in **St. Patrick's Building, room 303**. Note that the room has changed from a previous version of the syllabus.

Tutorials: Thursdays 17:35 – 18:25. There are two tutorial sections. I will post the assigned tutorials on Brightspace when they become available. I expect the first tutorial will be on **September 22**.

Evaluation:

Assignments	30%	Sep 20, Oct 4, Nov 8, Nov 22, Dec 6. Winter TBA
Midterms	20%	Oct 18 (Fall), Feb 14 (Winter) In class
Midyear exam	20%	December exam period
Final exam	30%	April exam period

Text: *Advanced Calculus* by Gerald Folland. James Stewart's *Calculus* (or a book like it) would be an excellent supplementary reference (but not a required text).

Approximate course content: Euclidean space, higher dimensional calculus, chain rule, gradient, line and multiple integrals with applications. Use of implicit and inverse function theorems. Real number axioms, limits, continuous functions, differentiability, infinite series, uniform convergence, the Riemann integral. Green's theorem, Stokes' theorem, and the divergence theorem.

No calculators will be permitted (or needed) on any test.

Notes:

- You are expected to attend all classes and tutorials. I will be scanning the notes that I lecture from and I will be putting them on Brightspace. However, they are not a complete record of everything I say in class.
- Students who miss the final exam may be eligible for a deferral. Application for a deferral must be made, with appropriate documentation, to the Registrar's Office within five business days of the examination.

Academic Integrity: In this course, your work must be your own. Working with classmates on assignments is both allowed and encouraged, but you must write your own solutions (copying is not allowed). During the midterm you write by yourself with no electronic aids or outside notes, and you are prohibited from trying to view other students' answers. For more information, please see Carleton's Academic Integrity Policy.

Academic Accommodation: Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Students must confirm their need for accommodation with the Instructor as soon as is possible. If students require special arrangements to meet their academic obligations, please review the course outline and write me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Paul Menton Centre website.

Pregnancy or Religious Obligation: Please email me requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more information see the Student guide.

Survivors of Sexual Violence: As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit the Equity and Inclusive Communities website.

Accommodations for Student Activities: Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the Senate Policy on Accommodation for Student Activities.

For more information on accommodation, see Carleton's processes for academic accommodation requests.

COVID-19: It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are a number of actions you can take to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's symptom reporting protocols.

Masks: Carleton has paused the COVID-19 Mask Policy, but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

Vaccines: Further, while proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in cuScreen as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the University's COVID-19 website and review the Frequently Asked Questions (FAQs). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.