

MATH1052A — Calculus and Introductory Analysis I

Fall 2020, Carleton University

Professor: Charles Starling
Office: 4215 Herzberg Laboratories
Email: cstar@math.carleton.ca
Office Hours: To be determined.

This course is **blended**, which means there are some synchronous components and some asynchronous components.

I will be posting everything on CULearn. In this course, you are expected to check it and your Carleton email address regularly.

Prerequisite: Grade 12 Mathematics: Advanced Functions, and Grade 12 Mathematics: Calculus and Vectors, with grades of at least 75% in each; or MATH 0005 and MATH 0006 with grades of at least B in each; or equivalents; and ii) MATH 1800 (may be taken concurrently); or permission of the School of Mathematics and Statistics.

Lectures: Lectures will be prerecorded and available on CULearn. The number of videos each week may vary.

Office Hours: Office hours are online, and will be conducted on Big Blue Button through CULearn. I will post office hours shortly after the semester begins. Since lectures are recorded videos, Office Hours are your main opportunity to talk to me, and I heavily encourage you to come to them.

Tutorial: Tuesdays 4:05 pm–5:25 pm. TAs will present worked out solutions to problems relating to the lectures and assignments. The tutorials will take place over Big Blue Button.

Assignments: You will have an assignment due every second Wednesday, on the dates listed below. Assignments are to be submitted in pdf format on CULearn. There will be information on CULearn on how to scan your written assignments from your smartphone.

Quizzes: You will have a quiz every other Wednesday, on the dates listed below. **Once you start a quiz you have only 40 minutes to complete it.** Quizzes will be available for a 24 hour period. These quizzes are also to be written and submitted in pdf format.

Evaluation:

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| Assignments (best 5) | 30% | Sep 23, Oct 7, Oct 21, Nov 4, Nov 18, Dec 2 |
| Quizzes | 45% | Sep 30, Oct 14, Nov 11, Nov 25 |
| Final Exam | 25% | December exam period |

Text: *Elementary Analysis* (second edition) by Kenneth A. Ross. This textbook appears to be available to download through the Carleton library. Navigate to <https://catalogue.library.carleton.ca/record=b3457476> and click SpringerLink.

Course content: Properties of the real numbers. Limits. Sequences and series. Elementary functions. Continuity. Derivatives. Extreme values. Mean Value Theorem. L'Hospital's rules. Antiderivatives. An emphasis is placed on proofs and theory.

We will be covering sections 3–5, 7–11, 14, 17–20, 28–30 from the textbook.

Help: This is Honours Calculus, and is a challenging course. The following resources are available to you for extra help.

- **Mathematics and Statistics Learning Assistance Program (MS-LAP):** MS-LAP supports first year mathematics and statistics courses. This free of charge program helps students in achieving their goals. It provides learning support and solutions to homework questions through assistance videos. These services are available on CULearn.

MS-LAP gives students tools to succeed while explaining step-by-step particular problem strategies and associated theory. The program is for anyone who wants to deepen their understanding at their own pace.

- **Problem solving sessions:** In addition to your usual tutorials, there are extra problem solving sessions offered for the Honours courses 1052/1152. The dates and times of these are to be announced.

For more information about any of the above, contact Kyle Harvey kyle.harvey@carleton.ca

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 no later than one week before the first quiz. 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.

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 details, see the Student Guide.

Notes:

- You are expected to attend all tutorials, but your attendance is not recorded.
- 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.
- For all your graded work, I reserve the right to request a meeting with you over Zoom or Big Blue Button to discuss your solutions. Refusing such a meeting will result in a grade of 0 for that item.