

MATH 1007 A - Elementary Calculus I – Fall 2021

Basic Information

<u>Course Instructor:</u>	R.J. Cova Cova.
<u>Email:</u>	rcova@math.carleton.ca
<u>Course Webpage:</u>	Brightspace (<i>Bsp</i>).
<u>Class Schedule:</u>	Asynchronous Lectures in Bsp on Tues & Thurs, 14:35 – 15:55h.
<u>Office Hours:</u>	By appointment – kindly email us to arrange at your convenience.
<u>Tutorials (from Sept 21):</u>	Tues 14:35 – 15:55 & Thursdays 16:35 – 17:25

Course Information

Prerequisites: Ontario Grade 12 Mathematics: Advanced Functions (or equivalent), or MATH 0005 & MATH 0006.
If you do not have the prerequisite, you will likely have a very difficult time in this course. It is suggested to drop the course and take MATH 0005 + MATH 0006 before taking this course if you did not do Grade 12 Advanced Functions (or equivalent).

Textbook: Hass, Weir, Thomas; *Single Variable University Calculus, Early Transcendentals*, 4th edition.

Required Resources: This course will be using Pearson's MyLabMath (*ML*) for weekly homework assignments, quizzes and practice. You need to purchase ML in one of three options outlined below:

- ML Access Only Via (Less Expensive) – Use Link Provided:

<https://pearsonhighered.onthefhub.com/WebStore/OfferingDetails.aspx?o=623f781a-6a91-ea11-812b-000d3af41938>

- ML Access and eText Access (More Expensive) – Use Link Provided:

<https://pearsonhighered.onthefhub.com/WebStore/OfferingDetails.aspx?o=58872712-6aee-ea11-812e-000d3af41938>

Note: For the above links, you will need to create a separate account using your email account to access these prices.

- Same as above but from the Carleton Bookstore (the prices may be different).

Are you repeating the course?

If you already had access to ML from the last time you took the course, you may be eligible for free access to allow you to repeat the course. Please contact Jeremy.Guimond@pearsoned.com. He will need your Pearson account email/username, the section of your current course and the email of your instructor.

Classes Lecture videos in Bsp. It is recommended to keep up with the lessons in preparation for the assignment of each week and for the quiz of the following weeks quiz. Bsp will outline the relevant lessons for each assignment/quiz.

Assessments

Online Assignments (20 %): There will be weekly online assignments, each due by **Friday at 23:59 h. There are no extensions in the online assignments** so ensure to manage your time wisely. All assignments are posted in advance in ML so that you can get a head start and go as far as you like right from the beginning of the class. **The best 10 out of 11 assignments will be counted towards your final grade.**

<u>Assignment</u>	<u>Due Date</u>
1	Sep 24
2	Oct 1
3	Oct 8
4	Oct 15
5	Oct 22
6	Nov 5 (due after Fall Break)
7	Nov 12
8	Nov 19
9	Nov 26
10	Dec 3
11	Dec 10

Online Quizzes (40 %): During the lecture timeslot on **Thursdays 14:35 – 15:05 h** there will be a weekly quiz of 30 mins duration through MyLabMath (ML). Several quiz questions will be taken from the “Additional Practice” material found in ML. **The best 8 out of 10 quizzes will count for the final grade.**

<u>Quiz #</u>	<u>Quiz Date</u>
1	30 Sep
2	07 Oct
3	14 Oct
4	21 Oct
5	04 Nov
6	11 Nov
7	18 Nov
8	25 Nov
9	02 Dec
10	09 Dec

The quizzes are open-book evaluations and calculators are permitted. But during the quizzes you cannot discuss them with anyone in any manner whatsoever.

Final Exam (40 %): The final exam will be a three-hour online exam to be held during the exam period set by Carleton University. The questions will be similar to those seen in the assignments, quizzes and the additional practice material.

The final exam is open-book evaluation and calculators are permitted. But during the exam you cannot discuss it with anyone in any manner whatsoever.

Academic Integrity All tests, assignments, quizzes and exams are to be done independently. Any instance of suspected cheating or plagiarism will not be tolerated. Suspected cheating will be reported to the Dean according to the policies stated in General Regulations. For more information, please consult:

<https://carleton.ca/registrar/academic-integrity/>

Deferrals, Petitions and Appeals Students are expected to be available for the duration of a course including the examination period. Dates and deadlines will be published in the Carleton University Undergraduate Calendar well in advance of registration. For more information please consult:

<https://carleton.ca/registrar/special-requests/deferral/>

Pregnancy or Religious Obligation Contact the instructor with any requests for academic accommodation within the first fortnight of class, or as soon as possible after the need for accommodation is known to exist. For more details kindly see

<https://carleton.ca/edc/teachingresources/administrative-pedagogy/academic-accommodations/>

Academic Accommodations for Students with Disabilities:

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC

at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable).

After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally scheduled exam. For more information, see: <https://carleton.ca/pmc/>

Extra Help Options:

Tutorial Centre: The tutorial centre is a drop in centre where you can work with a TA to answer your questions. This term the Tutorial Centre will be online; please visit

<http://www5.carleton.ca/math/math-tutorial-centre/>

MS-LAP: Online support is available through MS-LAP. You should automatically be registered in MS-LAP via Bsp. You have access to online tutorial videos free of charge. For more information please visit <https://carleton.ca/math/math-learning-assistance-program/>

Course Contents – List of Topics:

Review of Basic Concepts

Function Notation

Parent Functions and Transformations

Domain and Range

Trigonometry

Inverse Trigonometric Functions

Log Laws

Piecewise Functions

Odd and Even Functions

Limit Notation & Graphical Representations

Evaluating Limit Expressions Using Limit Laws

Continuity and Intermediate Value Theorem

Limits Involving Squeeze Theorem

Limits Involving Infinity

Instantaneous Rates of Change & Average Rate of Change

Derivative Definition

Derivatives Rules using Constant Rule, Power Rule, and Sum Rule

Derivatives Rules using Product Rule, Quotient Rule, and Chain Rule

Derivatives of Trigonometric Functions, Exponential Functions, and Inverse Functions

Implicit Differentiation

Logarithmic Differentiation

Linearization

Critical Points

Absolute and Local Extrema

First Derivative Test

Concavity & Inflection Points

Second Derivative Test

Curve Sketching

L'Hopitals Rule ($\frac{0}{0}$ and $\frac{\infty}{\infty}$)

L'Hopitals Rule (1^∞ and $(\infty)^0$ and 0^0)

Antiderivatives

Definite and Indefinite Integrals

Fundamental Theorem of Calculus

Area Under Curves & Area Contained Between Curves