

# MATH 1004 E Fall 2021

## Calculus for Engineering or Physics

**Instructor:** Dr. Mohammad-Reza Sadeghi

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**Prerequisite:** Ontario Grade 12 Mathematics: Advanced Functions and Introductory Calculus; or an OAC in Calculus, or MATH 0007, or equivalent.

**Textbook:** The ABC's of Calculus, Volume 1, by Angelo Mingarelli, Nolan Company, July 2019 edition.

- For the **Digital edition** of The ABC's of Calculus, go to [mingarelli.com](http://mingarelli.com) and order it for the term, i.e., 120 days, for \$50. VISA and Cryptocurrency supported.
- It is also available in the Carleton University Bookstore at [www.carleton.ca/bookstore](http://www.carleton.ca/bookstore) 613-520-3832 [thebookstore@carleton.ca](mailto:thebookstore@carleton.ca)

**Solution manual** For the ABC text book:

<https://people.math.carleton.ca/~angelo/calculus/ABC1-Solutions-sep20-2019.pdf#ABC1-Solutions-sep20-2019.pdf>

### Additional References:

The Tutorial Compendium for First Year Calculus, 2nd Edition by Mark Blenkinsop, Prometheus Press, available through Haven Books.

Any standard Calculus hardcover textbook authored by one of Stewart, Briggs, Thomas, Larson, etc. will be a valuable addition to your learning.

**Lectures:** There are **no scheduled lectures**. Instead, every week 2 **Prerecorded** podcasts will be posted on **Brightspace** before Mon and Wed at about 1:05 pm. There will be **live session** every week on Tue 10:30 am to review the key points of topics and answer your questions. Attending to this session is **NOT** mandatory.

**Podcasts start on Wed. Sep 8, and classes end at Wed. Dec 8.**

**Office Hours:** There will be no formal office hours, so email is best.

- Any questions regarding tutorial or homework should be emailed to your TA.
- Any questions related to course operation should be emailed to the Professor.
- The email subject **MUST** begin with MATH1004E in order it arrive to the correct mailbox.
- TA email addresses will be posted on [Brightspace](#).

**Copyright:** All course related materials (including slides, lecture notes, lecture videos, assignments, solutions, and tests) are intended for personal use only and **MAY NOT** be reproduced or redistributed without prior written consent of the author(s).

**Private Tutor:** [tutorMath1004@gmail.com](mailto:tutorMath1004@gmail.com) (contact directly)

**Tutorials:** **Wed. 19:35-20:25 starting TBA**, via BigBlueButton/Zoom.

There will be 1 hour tutorial each week. Tutorials will be devoted to problem solving.

**Tutorial groups: Will be announced on Brightspace**

	<b>Student's Last name</b>	<b>TA</b>	<b>TA's email</b>	<b>Time</b>
E1	<b>A. – Do.</b>	Hisham Ramadan	hishamramadan@cmail.carleton.ca	Wed 19:35 - 20:25
E2	<b>Du. – Ja.</b>	Ranad Osman	ranadosman@cmail.carleton.ca	Wed 19:35 - 20:25
E3	<b>Je. – Mo.</b>	Nihal Yurdakul	NIHALYURDAKUL@cmail.carleton.ca	Wed 19:35 - 20:25
E4	<b>Mr. – Sc.</b>	Subhendu Paul	subhendupaul@cmail.carleton.ca	Wed 19:35 - 20:25
E5	<b>Sh. – Z.</b>	Suman Thapa	SumanThapa@cmail.carleton.ca	Wed 19:35 - 20:25

**Evaluation:**

**Tutorial attendance:** expected but not graded  
**30%** **2 tests: 15%+15%**  
**45%** **3 assignments 3 x 15 = 45%**  
**25%** **Final exam,**

**Term Tests:**

- **There will be two 120 Minute online tests on:  
Oct 13, Nov 17**
- **Tests will be open for 24 hours beginning at 8 AM. You may choose the 2-hour period within this time frame for when you write them.**
- **The material covered on each test will be announced one week before the test.**

**There will be NO make-up tests.**

**Assignments due dates:**

**Sep 29, Nov 3, Dec 1**

Late submissions may be subject to penalty, at the discretion of the instructor. While unforeseen circumstances may arise, once solutions to the assignment are posted, no further amendments will be considered. Assignments will be posted a week before their deadlines and you will be notified by email.

**Assignments** must be submitted electronically in pdf format (please familiarize yourself with scanning apps, such as CamScanner). Late submissions may be subject to penalty, at the discretion of the Professor. While unforeseen circumstances may arise, once solutions to the assignment are posted, no further amendments will be considered. Please note all submission details as they are announced.

**Any concern about Assignment's grading as well as midterm tests should brought to TAs first.**

**Final Examination:**

There will be a 3-hour online exam scheduled during the Final Exam period. It is the responsibility of each student to be available at the time of the final examination. **The Examination office is in charge of**

**scheduling the dates and exams.** You should also check your email from your course instructor about instruction of the final exam.

**E-mail:** According to Carleton University policy under the Freedom of Information of Privacy Act (FIPPA), Please use your Carleton account ONLY for all course related email, and write your course code MATH1004E on the subject line.

**Announcements:**

You are responsible for keeping up with information announced or sent to your connect email account.

**Calculators:** Only non-programmable calculators are allowed for tests and for the final exam.

The following **course schedule** is approximate, and may change subject to the progress of the class. The material covered on each test will be announced in class one week before the test.

**Tentative Course Schedule**

		Topics
1	Chapter 1, Appendices A, B, C, D	Functions, Review of Chapter 1, Trigonometry
2	2.1-2.6	Limits and Continuity, Evaluating Limits at Infinity,
3	3.1-3.2, 3.3, 3.4,	Derivatives, The Chain Rule , Higher order, Implicit differentiation,
4	3.5, 3.7, 3.8, 3.9	Derivatives of Trig. functions, Inverse functions, Inverse Trig. functions and their derivatives,
5	3.10, 3.12, 4.1	L'Hospital's Rule, Exponentials and Logarithms
6	4.2 -4.6	Exponentials and Logarithms and their derivatives,
7	6.1, 6.2, 6.3	Anti-derivatives, the indefinite integral, Definite integral (Riemann integral)
8	<b>Oct 25 – Oct 29</b>	<b>FALL BREAK</b>
9	6.3, 6.4, 7.1, 7.2	Fundamental Theorems of Calculus, Integration by substitution (change of variable)
10	7.3	Integration by Parts
11	7.4, 7.5.1, 7.6	Partial Fractions, Powers of Sines and Cosines, Trigonometric substitutions
12	7.7, 8.2	Improper Integrals, Area between Two Curves
13	8.3	Volumes of Solids of Revolution

**MS-LAP:**

Math & Stats Learning Assistance Program (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 Brightspace.**

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, and in the comfort and privacy of their home

## Plagiarism

The University Academic Integrity Policy defines plagiarism as "*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one's own.*" This includes reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, art works, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own; and
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course or even suspension or expulsion from the University.

**Students with disabilities:** Students with disabilities requiring academic accommodations in this course are encouraged to contact the Paul Menton Center for Students with Disabilities (500 University Center) to complete the necessary forms. After registering with the Center, make an appointment to meet with me in order to discuss your needs at least two weeks before the first in-class test or CUTV midterm exam. This will allow for sufficient time to process your request. Please note the following deadlines for submitting completed forms to the PMC for formally scheduled exam accommodations: TBA for fall and fall/winter term courses, and TBA for winter term courses."

