

MATH 1004 A Fall 2021

Calculus for Engineering or Physics

Instructor:

Dr. Odae Al Aboud

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Textbook:

- The ABC's of Calculus, Volume 1, by Angelo Mingarelli, Nolan Company, 2019 Edition, online version of the book for \$50 is available at mingarelli.com.
- **Solution manual** for the ABC textbook [Click here](#).

Additional References:

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

Prerequisite:

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

Lectures:

Classes will be **synchronous** on **Thursdays** (live) and **asynchronous** on **Tuesdays** (recorded, so don't show up!). The ZOOM link for classes will be on [Brightspace](#).

Office Hours:

- Mondays, 10 a.m. to 11 a.m. same zoom link as class.
- Mondays, 7 a.m. to 9 a.m. Only by appointment (Please contact me by email).
- Any questions related to course operation should be emailed to the Professor. Any questions regarding tutorial or homework should be emailed to your TA.
- TA email addresses will be posted on [Brightspace](#).

Tutorial:

- Tutorials are scheduled for Tuesdays 19:35 - 20:25, Starting Sept 21.
- Tutorial sessions will be live via Zoom or in-person (Tutorial groups TBA on [Brightspace](#)).
- Tutorials will be devoted to problem solving.

EVALUATION:

- **Tutorial attendance: expected but not graded.**
- **30% 2 online tests of 120 minutes: 15%+15%**
- **45% 3 assignments 3 x 15 = 45%**
- **25% Final.**

Deferrals:

- Missed tests and assignments will be dealt with at a unique predetermined time before the end of term in accordance with University Policy. Ask your instructor for more details.

Term Tests:

- There will be two 120 Minute online tests on:
Oct 12, Nov 9
- Tests will be open for 24 hours (Beginning after the tutorial at 9 PM (ET)) and you'll 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.

Assignments:

- There will be three assignments:
Sep 24 due to Oct 1
Oct 15 due to Oct 22
Nov 13 due to Nov20
- 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.

Final Examination:

There will be a 4-hour exam scheduled during the usual exam period. It will be open for 24 hours and you'll choose the 4-hour period within this time frame for when you write them.

Calculators:

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

Brightspace:

Announcements, notes, videos, and instructions related to the course will be posted on [Brightspace](#). It is the student's responsibility to remain up to date with the content posted on [Brightspace](#).

The Academic Integrity:

Be sure that you know the academic integrity standards at Carleton which can be found [here](#). Incidents of cheating will be dealt with in a formal fashion. All suspected incidents and supporting documentation will be forwarded to The Office of The Dean of Science.

Communications via email:

For questions, requests, enquiries, etc. please use your Carleton email address and add "MATH1004 A" to the subject line when contacting me by email.

Detailed Class Outline:

In the following table 1 week represents 2 lectures, and NOT a full week as usual.

Week	Sections	Topics
1	Chapter 1, Appendices A, B, C, D	Functions, Review of Chapter 1, Trigonometry
2	2.1-2, 2.3-6, 3.1-3	Limits and continuity, Evaluating limits at infinity, derivatives and the Chain rule.
3	3.4-5, 3.7-3.8	Implicit differentiation, Derivatives of trigonometric functions, Inverse functions.
4	3.9-10, 3.12	Inverse trigonometric functions and their derivatives, L'Hospital's Rule
5	4.1-4, 4.5-6	Exponentials, logarithms, and their derivatives
6	6.1-2-3-4	Exponentials and Logarithms and their derivatives.
7	7.1, 7.2	Area, Integration by substitution (change of variable)
8	Oct 25 – Oct 29	FALL BREAK
9	7.3	Integration by parts
10	7.4, 7.5.1	Partial fractions, Powers of sines and cosines.
11	7.6, 7.7	Trigonometric substitutions, Improper integrals.
12	8.2	Improper Integrals, Area between Two Curves
13	8.3	Volumes of Solids of Revolution, Review
14		Review

Important Dates:

- 8 Sept: First day of all classes
- 8 Oct: December examination schedule
- 11 Oct: Statutory holiday
- 25 - 29 Oct: Fall break, no classes.
- 10 Dec: Last day of all classes.
- 11 - 23 Dec: Exam period
- For more details, check The Calendar Year, 2021 - 2022: [here](#)

Copyright and Recording Policy:

- All course materials, including notes, outlines, recordings, and other materials, are copyright protected and remain the intellectual property of their respective author(s). Students registered in the course may take notes and make copies of course materials for their own educational use only. Students are not permitted to reproduce or distribute lecture notes and course materials publicly for commercial or non-commercial purposes without express written consent from the copyright holder(s).
- Web conferencing tutorial sessions and office in this course may be recorded and made available only to those within the class. Sessions may be recorded to enable access to students with internet connectivity problems, who are based in different time zones, and/or who have conflicting commitments. If you wish not to be recorded, you need to leave your camera and microphone turned off. You will be notified at the start of the session if it is being recorded.

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.

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 <https://carleton.ca/pmc/> 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 scheduled test** requiring accommodation. After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. For the deadline to request accommodations for the formally scheduled exams, visit the PMC website <https://carleton.ca/pmc/>

Religious obligations and/or accommodation for pregnancy:

write to 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 see the student guide at <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

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: <https://carleton.ca/sexual-violence-support/>