MATH2007B
Elementary Calculus 2   Summer (July-August) 2020

Instructor: Mathieu Lemire
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Lectures: This is an online course. The lectures will be in the form of videos posted on cuLearn.
Videos will be posted twice a week on Mondays and Wednesdays by 10:00 am at the latest.
The first virtual class should appear on cuLearn by July 2nd.

Tutorials: Tutorials are scheduled to be on Mondays from 17:35 to 18:25. The first tutorial is on July 6th.
The following table give more details:

Section	Room	TA's name	TA's connect email
B1	-	Noah Rubin	NoahRubin@cmail.carleton.ca

More details to follow soon.

Office hours: By appointment on Zoom or FaceTime or you can also write to me an email. Please write to me at mathieul@math.carleton.ca

Textbook: The official textbook of the course is: Single Variable Calculus: Early Transcendentals, 8th edition, by James Stewart, Brooks/Cole. You can use the book University Calculus by Hass-Weir-Thomas if you already have it. Practice problems will be assigned for both textbooks.

Prerequisites: MATH1004 or a grade of C- or higher in MATH1007; or permission of the school.

Evaluation: Your final grade will be calculated as:

Quizzes 20 % + Term Mark 40 % + Final Examination 40%

The above scheme only applies if you have a term mark of 30/60. A term grade of less than 30/60 will automatically result in a final grade of F in the course.

Term Mark: There will be four tests administered online around the time of tutorials on **July 13th**, **July 22nd**, **August 3rd** and **August 10th** . **No make up, early or delayed tests will be given.**

Final exam: The final exam is a cumulative three hours closed book exam scheduled by the university. The exam period runs from August 17th to August 23rd (including Saturdays). It is student's responsibility to be available at the time of the examination. In particular, no travel plans should be made until the examination schedule is published. It is the students responsibility to find out the correct date and time of the exam and the room where it takes place. Students who missed the final examination may be eligible for a deferred exam provided that they present a doctor note or another supporting document to the Registrars Office. It is the Registrars Office and not the instructor which take decision of granting a deferred examination. After the exam is written, students may see their final examination papers. This examination review is for educational purpose only and NOT for negotiation of the grade.

Calculators: Only non-programmable and non-graphical calculators are allowed for tests and the final exam. I reserve the right to confiscate any calculator during a test or a final exam.

Practice problems lists Practice problems lists will regularly be posted on cuLearn. These problems are not to be handed in and will not be graded. However, in order to succeed in the course, it is absolutely essential to practice on a regular basis.

Withdrawal: The last day for academic withdrawal is **August 14th**.

Students with Disabilities: Students with disabilities who require academic accommodations in this course are encouraged to contact the Paul Menton Centre for Students with Disabilities to complete the necessary Letters of Accommodation. After registering with the PMC, make an appointment to meet with me and discuss your needs in order to make the necessary arrangements as early in the term as possible. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Notes:

1. Four tests will be used to determine the test component of your final mark. Only a medical note or exteme misfortune will be accepted to justify the absence on a test.

2. Problem lists, comments, solutions and other informations will regularly be posted on cuLearn. It is your responsibility to look on cuLearn to obtain these informations.

3. **I will not necessary follow the same order of topics as in the textbook. The best way to know where exactly we are in class is to come to class or to follow the order of topics found in the practice problems lists.**

4. Following the online virtual classes is very important and I strongly encourage you to do so.

5. **Pregnancy accommodation:** 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 visit the Equity Services webpage.

6. **Religious obligation:** 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 visit the Equity Services webpage.

Tentative Class schedule:

IMPORTANT: This schedule is just to give you an overview. Because of several factors, it is quite possible that the timing of topics will be changing as we go further into the course. Some topics may possibly be added and some may be removed. The practice problems lists that will be available on cuLearn will give you the exact topics covered on each week.

July 2nd: Antiderivative, definition of indefinite integral, Basic rules of integration. Definite integral.

July 6th: Fundamental Theorem of Calculus, Substitution method

July 8th: Integration by partial fractions, Tabular Method, Integration of trigonometric functions Part 1

July 13th: Integration of trigonometric functions Part 2, Integration by trigonometric substitution

July 15th: Improper Integrals, Sequences

July 20th: Sequences, Series, Convergent or Divergent Series, Telescoping series.

July 22nd: Geometric series, Integral Test, Comparison Test, Limit Comparison Test

July 27th: Absolutely Convergent Series, Ratio Test, Root Test

July 29th: Alternating Series Test, Conditionally Convergent Series, Power Series

August 3rd: Radius of Convergence of a Power Series, Interval of convergence, Representation of a function, Differentiation and Integration of a series.

August 5th: Taylor and MacLaurin Series, Binomial Series, Parametric equations of a curve, Tangent line of a parametric curve

August 10th: Horizontal and vertical Tangent line, arc length of a curve, polar coordinations, polar curves

August 12th: Slope of tangent line of a polar curve, Areas of polar curves, Lengths of polar curves