

MATH 1007G [0.5 Credit] Elementary Calculus I

Basic Information:

Class Schedule: Wednesdays and Fridays: 8:35 - 9:55 starting January 6, 2020
Tutorial Schedule: Fridays: 11:35-12:25 starting January 24th
Course Instructor: Masoud Nasari
Email: mmnasari@math.carleton.ca
Course Webpage: CuLearn will be used for this course.

Course Information:

Prerequisites: Ontario Grade 12 Mathematics: Advanced Functions, or MATH 0005 & MATH 0006

Textbook: J. Hass, M.D. Weir, G.B. Thomas, Single Variable University Calculus, Early Transcendentals, 4th ed., available at the Campus Bookstore.

Required Resources: **This course will be using Pearson's MyMathLab for weekly homework assignments. You will be required to purchase MyMathLab** in one of three options outlined below:

Option 1: MyMathlab Access Card Only (\$60)

This is a good option if you do not want the textbook, already have the textbook, or find a cheap copy/older version of the textbook elsewhere.

Option 2: MyMathlab Access Card and eText Access (\$95)

This is a good option if you are uninterested in a paper copy of the textbook, but still want access to the textbook in an online format (Note that you require internet access to be able to access the eText every time you use the eText).

Option 3: MyMathLab Access Card, Loose-Leaf Textbook, and eText Access (\$115)

This is option 2, but also comes with a Loose-Leaf version of the book.

If you are repeating the course:

If you already had access to MyMathlab 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 to see if he can give you access. He will require: your Pearson account email/username, the section of your current course, and the email of your instructor

(NOTE YOU CAN ONLY REQUEST THIS IF YOU HAVE REPEATED THE COURSE AND PREVIOUSLY PURCHASED MYMATHLAB)

Course Overview: Limits. Differentiation of the elementary functions, including trigonometric functions. Rules of differentiation. Applications of differentiation: max-min problems, curve sketching, approximations. Introduction to integration: definite and indefinite integrals, areas under curves, fundamental theorem of calculus.

Calculators: No calculators or other memorandum will be permitted on tests, quizzes, or the final exam.

Assessment:

Online Assignments (15%): There will be weekly online assignments for this course due each Friday at 11:59 pm. **There are no extensions in the online assignments**, so be sure to manage your time. Each assignment will be posted on Wednesday morning, and due 9 days later. Each assignment is graded out of 20 marks, except for the bonus assignment which is graded out of 10 bonus marks that will be added to your assignment total. The assignment schedule can be found below:

Assignment Number	Posting Date	Due Date
1	Jan 6	Jan 24
2	Jan 6	Jan 31
3	Jan 6	Feb 7
4	Feb 5	Feb 14
5	Feb 12	Feb 28 (Due after Winter break)
6	Feb 26	Mar 6
7	Mar 4	Mar 13
8	Mar 11	Mar 20
9	Mar 18	Mar 27
10	Mar 25	Apr 3
Bonus Assignment	Mar 25	Apr 10

For more details about the assignments, please see the “Assignment Notes” document posted in CuLearn.

Tutorial Quizzes (10%): During the first 10 minutes of tutorials, there will be a short quiz. During the remainder of the tutorial, the TA will go through some examples related to the topics covered in the weekly assignments.

Tutorial Tests (25%): There will be 3 tests to be taken place in the tutorials. Provided that you maintain at least 30% on every test, the lowest test will be dropped. Each test will be weighted equally. There will be no make up tests. If you provide adequate documentation (doctor’s note, etc...), then the weighting of that test will be placed on the final exam, otherwise a mark of 0 will be given for the test. **There are no make up tests!** You must bring your student card to each test and exam and place it on your desk where it is visible. **The dates of the tests will be: Feb 14, Mar 6 & Mar 27.** Any request to review your grade for your test or tutorial must be done within two weeks of receiving the grade.

Final Exam (50%): The final exam will be a three hour closed book exam to be held during the exam period set by Carleton University. The questions will be similar to those seen on the tests, tutorials, and in the homework assignments. Students who wish to review their final examination paper must do so within two weeks from the release of final grades. This privilege is for educational purposes and not an opportunity to argue about the marking.

The above grading scheme applies only when the Term Grade is at least 20/50. A Term Grade of less than 20/50 will automatically result in a failure with the final grade of F, regardless of the result of the final exam.

Policies:

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: <http://www.carleton.ca/cu0607uc/regulations/acadregsuniv14.html>

Pregnancy or 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 see <http://carleton.ca/equity/accommodation/academic/students/>

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.

Extra Help Options:

My office Hours: 11-12 Wednesdays and Fridays.

TA Office Hours: A detailed list of TA office hours will be posted in CuLearn. You can see any TA to get help in the course, but please do try to make arrangements with your TA if you see a grade discrepancy on a test or quiz.

Tutorial Centre: 3422 HP (near the Science Student Success Centre): This is a drop-in centre where students in elementary courses can get one-on-one help in mathematics and statistics, on a first come first serve" basis. For more information, including hours of operation, see: <http://www5.carleton.ca/math/math-tutorial-centre/>

MS-LAP: Online support is available for this course through MS-LAP. You should automatically be registered in MS-LAP via CuLearn. You have access to online tutorial videos free of charge. For more information and tutorials on how to access MS-LAP, please see: <https://carleton.ca/math/math-learning-assistance-program/>

Course Schedule:

Here is a list of topics that will be covered over the course of the year. Please note that topics may be added or dropped based on the progression of the class:

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 & Differentials

Absolute and Local Extrema & Critical Points

Mean Value Theorem

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)

Mean Value Theorem

Antiderivatives

Definite and Indefinite Integrals

Area Under Curves & Area Contained Between Curves

Fundamental Theorem of Calculus