MATH 1007B — Elementary Calculus I
BIT 1200A — Calculus
Fall 2019, Carleton University

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Lectures: Monday and Wednesday 10:05 am – 11:25 am, Room TBD

Office Hours: Monday 12:30 pm – 1:30 pm and Wednesday 2 pm – 3 pm
or email me for appointments


Prerequisite: Ontario Grade 12 Mathematics: Advanced Functions;
or MATH 0005 and MATH 0006; or equivalent

Tutorials: Monday 1:35 pm – 2:25 pm starting on Sept 16
Section B1 (Room TBD)
Section B2 (Room TBD)
Section B3 (Room TBD)

Term Tests: Three tests (50 minutes each) in the tutorial hours and rooms are scheduled on the following dates:

Oct 7, Nov 4, Nov 25

Grading Scheme: Tests 25%
Tutorial quizzes 10%
Online assignments 15%
Final Exam 50%

Note: No make-up, early, or delayed tests will be held. Any missing test will be counted as zero (except for medical reasons; a doctor’s note must be presented within 1 week). It is the students’ responsibility to pick up their tests in the following tutorial hours. Students must bring their student card to each test and place it on the desk where it is visible.

Your are advised to do the online assignments early as long as the material has been covered, instead of working at last minute. No doctor’s note will be accepted for missed assignments except for extraordinary situations like acute and prolonged illness (in this case a medical proof dated within 1 work day of the missed event is required).

If at least 25% is achieved in each of the three tests, then the best two out of three will be counted. 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 failure with a final grade of F regardless of the result of the final exam.
Important Dates:
- First lecture: Sept 4
- Last day to change courses: Sept 17
- Last day to withdraw: Sept 30
- Fall break: Oct 21-25
- Last lecture: Dec 4
- Exam period: Dec 9 – 21

Checking the Term/Tutorial Grades: Make sure you write tests in the tutorial section which you are assigned to. You will be able to check your grades on CuLearn. You have the responsibility to bring to the attention of your TA or instructor any incorrect grade within 2 weeks of the day the graded test/quiz is available to you. The original test or tutorial paper must be presented to make any correction.

Syllabus: Sections 1.1-1.3, 1.5, 1.6, 2.1, 2.2, 2.4-2.6, 3.1-3.9, 3.11, 4.1-4.5, 4.8, 5.1-5.4, 5.6 of the textbook, with certain topics omitted or abbreviated, plus your own reading of Appendices 1 and 3. The order of presentation will not always be the same as in the text.

MyMathLab: The course will be using Pearson’s MyMathLab for weekly online assignment, for which you will need to purchase access to MyMathLab. The campus bookstore offers three options:

**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 this 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).

Information and Assistance:
On Sept 19th from 19:35–20:25, there will be an office hour for Pearson located at HP 4325. This is a chance to make sure that you can gain access to MyMathLab and the first assignment in case there are issues getting your accessing your account.

Online Assignment Schedule: 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:
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<th>Assignment number</th>
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<td>bonus Assignment</td>
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For more information/instructions/suggestions regarding the online assignments, please see announcements on cuLearn.

**Tutorial Work:** You are required to attend all tutorials. You will spend 10 minutes working out short quiz problems on your own blank paper, and hand in the solution for grading. The TA uses the remaining time for problem solving and answering student questions.

**Off-line Homework:** Selected exercises, mainly from the text and as a supplement of the online assignment, will be assigned and posted on CuLearn. These exercises are not to be handed in and will not be graded. **However, to succeed in the course it is absolutely essential that you do the exercises on a regular basis.**

**Final Exam:** This is a three hour exam scheduled by the University. After the exam is written, the students are allowed to make an appointment with the instructor within 3 weeks to view their exam. This examination review is for educational purposes only and NOT for negotiation of your grade. Please remember that we do not change your grade on the basis of your needs (such as scholarships, etc).

**Calculators:** No calculators or other such electronic aids will be permitted on any of the tests or the final examination.

**Email to Instructor:** Please use your Carleton account ONLY for all course related email, and write on the subject line your course code MATH 1007, which I will use to manage email.

**Math Tutorial Centre:** Room 3422 HP (near the Science Success Centre) is a drop-in centre where students in elementary courses can get one-on-one help in mathematics and statistics. The centre will open in the 2nd or 3rd week of classes.

**Academic Accommodation:** You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and 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. Please make sure you respect these timelines particularly for tests and final exams. You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at http://carleton.ca/equity/accommodation.

**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. The deadline for submitting completed forms to the Paul Menton Centre for December Examinations is Nov 8, 2019.
Course Schedule:

Here are 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 ($1^\infty$ 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