UNIVERSITY OF REGINA
DEPARTMENT OF MATHEMATICS AND STATISTICS
Mathematics 110–004 — Calculus I
Fall 2018
COURSE OUTLINE

INSTRUCTOR: Dr. Paul Arnaud SONGHAFOUO TSOPMENE

EMAIL: pso748@uregina.ca

OFFICE: College West 307.28

OFFICE HOURS: MWF 11—12 (or by appointment)

LECTURES: MWF 12:30—1:20 in CL 130

LAB: M 2:30—3:20 in CL 128. The first lab will hold on Monday 10.

TEXT: *Calculus* by James Stewart, 8th edition

PREREQUISITES: Precalculus 30 with at least 75%, or Calculus 30, or Mathematics B30 and C30 with a grade of at least 65% in each, or Math 102.

MARKING SCHEME:

Quizzes (best 4 out of 5)	20%
Midterms	30%
Final Exam	50%

IMPORTANT DATES:

September 5	First day of class.
September 18	Last day to drop the class with no record.
November 7-10	Winter Break (no lectures).
November 15	Last day to drop the class with a W grade.
December 6	Last lecture.
December 14	Final exam.

QUIZZES IN LAB (20 minutes each):

September 17	Quiz 1
October 1	Quiz 2
October 15	Quiz 3
November 5	Quiz 4
November 19	Quiz 5

MIDTERMS IN LAB (50 minutes each):

October 22	Midterm 1
November 26	Midterm 2

COURSE NOTES:

1. Neither calculators nor formula sheets are allowed during quizzes, midterms or final exam.

2. Practice problems will be posted on UR Courses on a regular basis. While completion of these problems is essential for your success in this course, you do not hand them in for grading.

3. You are expected to follow the class closely. Considerable time should be spent *every week* studying from the text and lecture notes as well as working on the homework problems. Cramming before tests does not lead to success. Come to my office for help as soon as a problem arises. Do not fall behind.

4. In the event that you are unable to write the final exam, you may request a deferral on the basis of illness, bereavement or other extreme and legitimate circumstance. Written documentation is required within **two weeks** of the date of the final exam.

5. **Picture ID** must be produced in order to write the final exam.

6. Email must be sent from a valid **@uregina.ca** address and **Math 110** must be included in the subject. Emails sent to any address other than pso748@uregina.ca will be ignored.

7. Any student with a disability, injury or illness who feels they may need academic accommodation should discuss this with the course instructor after contacting the **Centre for Student Accessibility**, located in Riddell Centre 251, telephone 306-585-4631, email **accessibility@uregina.ca**.

8. Cheating will not be tolerated in this class. By "cheating" I mean submitting work that is not your own. This includes plagiarism (copying off of another student or from another source) or having another person write your tests. If I suspect a student of cheating, their test will be sent to the Associate Dean Academic for the Faculty of Science who will then contact the student and deal with the situation. Typical consequences for cheating can be found at:

http://www.uregina.ca/arts/student-resources/
avoiding-academic-misconduct/penalty-guidelines.html

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COURSE SYLLABUS

TEXT: *Calculus* by James Stewart, 8th edition.

CHAPTER 1: Functions and Limits	**Sections**
• The tangent and velocity problems	1.4
• The limit of a function	1.5
• Calculating limits and the limit laws	1.6
• The precise definition of a limit	1.7 (will be skipped)
• Continuity	1.8

CHAPTER 2: Derivatives	
• Derivatives and rates of change	2.1
• The derivative of a function	2.2
• Differentiation formulas	2.3
• Derivatives of trigonometric functions	2.4
• The chain rule	2.5
• Implicit differentiation	2.6
• Rates of change in the natural and social sciences	2.7
• Related rates	2.8
• Linear Approximations and Differentials	2.9

CHAPTER 3: Applications of Differentiation	
• Maximum and minimum values	3.1
• The mean value theorem	3.2
• How derivatives affect the shape of a graph	3.3
• Limits at infinity; horizontal asymptotes	3.4
• Summary of curve sketching	3.5
• Optimization problems	3.7
• Antiderivatives	3.9

CHAPTER 4: Integrals	
• Areas and distances	4.1
• The definite integral	4.2
• The fundamental theorem of calculus	4.3
• Indefinite integrals	4.4
• The substitution rule	4.5
• Areas between curves	5.1