

COURSE INFORMATION SHEET FALL 2007

1. **Course:** **MATHEMATICS 251 - Calculus I**
Lecture/Time/Session: L07: Tuesday and Thursday at 11:00 in ST 141
Instructor(s): L. Bates
Office/Phone/Email: MS388 / 220-3942 / bates@ucalgary.ca
2. **Prerequisites:** A grade of 70% or higher in Mathematics 30 or Pure Mathematics 30; and a grade of 50% or higher in Mathematics 31.
NOTE: Credit for more than one of MATH 249, 251 and AMAT 217 will not be allowed.

NOTE: The Faculty of Science policy on pre- and co-requisite checking is outlined in the current University Calendar (see www.ucalgary.ca/pubs/calendar) *Faculty of Science, section 5C*. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.**

3. **Fee policy:** After the last day to drop/add courses, there will be no refund of tuition fees if a student withdraws from a course, courses or the session.
4. **Academic Accommodations:** It is the student's responsibility to request academic accommodations. A student with a documented disability who may require academic accommodation must register with the Disability Resource Centre to be eligible for formal academic accommodation. DRC registered students are required to discuss their needs with the instructor no later than fourteen (14) days after the start of this course.
5. **The University policy on grading and related matters** is described in the current University Calendar, *Academic Standings*. In determining the overall grade in the course, the following weights will be used:

Quizzes	[5]	30%	[Best _4_ of _5_]
Mid-term Test	[1]	20%	
Final Exam		50%	

There will be a final examination scheduled by the Registrar's Office. A passing grade on the final examination is necessary to passing the course as a whole.

6. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined in the current University Calendar, *Faculty of Science, section 6A*. It is the student's responsibility to familiarize herself/himself with these regulations.
7. **Academic misconduct** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the current University Calendar under the heading *Student Misconduct* and the information on integrity at. www.ucalgary.ca/honesty
8. **Dates and times of class exercises held outside of class hours (evening tests, Saturday laboratory examinations, weekend field trips, etc.):**
REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY

THERE WILL BE NO OUT OF CLASS ACTIVITY SCHEDULED FOR THIS COURSE.

9. **Text:** Calculus, 6th edition. Either The Complete Course or the Single Variable version

Author: R. Adams

10. There will be five quizzes, each of duration 50 minutes or less, administered during the regularly scheduled labs of this lecture section. There will be one mid-term test and a two-hour final exam. A passing grade on the final exam is necessary to pass the course.
11. Calculators **ARE NOT** permitted at quizzes, mid-term test, or the final exam.

In addition to the instruction provided by their lecturer and tutorial instructor, there is a continuous tutorial available where students may obtain individual help with questions about the course material and exercise problems. Faculty members and graduate students will be available in the continuous tutorial room to answer questions in a one-to-one fashion. The location and hours of operation of the continuous tutorial will be announced by the lecturer and posted to the website: <http://math.ucalgary.ca/courses/2007/f07/125997>

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13. Students who already know the material of MATH 251 and wish to proceed immediately to take MATH 253 may take a Challenge Examination. The test is essentially a final exam in MATH 251 and a grade of A or A- is required to proceed immediately to MATH 253. Only those students who have never before enrolled in MATH 249 or 251 and who wish to take MATH 253 are eligible to write the test. Applicants should have done exceptionally well in high school mathematics. The test is held early during the second week of classes. The exact date and application materials can be obtained from the Department Office MS 476 (220-5203).
14. **SCUM**
The Society for Calgary Undergraduate Mathematics is located in MS337A. They sell exam packages, run final reviews, and can often assist with problems. Please see their website for drop-in hours and events. They look forward to meeting you! <http://math.ucalgary.ca/~scum/>
15. **CALCULUS CONNECTIONS**
Calculus Connections is a companion course to this one offered by Y. Elsabrouty. There are no prerequisites and there is no cost to the student. The Monday/Wednesday sessions will review the relevant high school material, while the Tuesday/Thursday sessions will integrate the background material with the calculus topics and explain the main concepts, give examples and strategies. Added to this are midterm and final examination reviews. The schedule is available at: <http://math.ucalgary.ca/courses/2007/f07/125997>

The University of Calgary
Faculty of Science
Department of Mathematics and Statistics
Mathematics 251 Course Schedule

Opposite are useful dates for Mathematics 251, Lecture 07, Fall 2007.

All section numbers are taken from the text *Single variable calculus*, by R. Adams, sixth edition.

If you wish to use a different text than the prescribed one, it is your responsibility to transcribe the sections overleaf to something appropriate for your text.

Month	Day	Section	Commentary
September	11	p.1	Numbers, review
September		p.2	Inequalities, Lines
September	13	p.3, p.4	Functions
September	18	p.5	Composition
September		p.6, p.7	Polynomials, Trigonometry
September	20	1.1, 1.2	Limits
September	25	1.3	Infinite limits Quiz #1
September		1.4	Continuity
September	27	2.1	Tangent lines
October	2	2.2	Derivatives
October		2.3	Rules of differentiation
October	4	2.4	Chain rule
October	9	2.5	Trigonometric derivatives Quiz #2
October		2.6	Mean value theory
October	11	2.8, 2.9	Higher derivatives, Implicit differentiation
October	16	2.10	Antidifferentiation
October		2.11	Dynamics
October	18	3.1	Inverse functions
October	23	3.2	Logarithms and exponentials, Quiz #3
October		3.3	Natural logarithms and e .
October	25	3.4	Exponential growth and decay
October	30	4.1	Related rates
November		4.2	Critical point theory, maxima, minima.
November	1		Midterm
November	6	4.3	Concavity
November		4.4	Graphing
November	8	4.5	Max-min problems
November		4.6	Newton's method
November	13		Reading day. No lectures.
November	15	4.7	Linear approximation
November	20	4.8	Taylor polynomials, Quiz #4
November		4.9	L'Hôpital's rule
November	22	5.1	Sums
November	27	5.2	Area
November		5.3	Definite Integral I
November	29	5.4	Definite Integral II
December	4	5.5	Fundamental theorem of calculus, Quiz #5
December		5.6	Substitution methods
December	6		Review