UNIVERSITY OF CALGARY

Faculty of Science
DEPARTMENT OF MATHEMATICS AND STATISTICS
Course Information Sheet

1. **Course**: MATHEMATICS 251 - Calculus I
   Lecture/Time/Session: L06/13 MWF 16:00-16:50 ST 141 FALL 2003
   Instructor(s): Kristine Bauer
   Office/Phone/Email: MS 440 220-7675 kristine@math.ucalgary.ca
   Webpage: www.math.ucalgary.ca/~kristine/math251

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 on page 198 of the 2003-2004 Calendar. **It is the students' responsibility to ensure that they have the pre- and co-requisites for the course. If they do not, they will be withdrawn from the course without notice.**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. **The University policy on grading and related matters** is described on pages 41-42 of the 2003-2004 Calendar. In determining the overall grade in the course, the following weights will be used:

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

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

5. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are outlined on page 199, of the 2003-2004 Calendar. It is the student's responsibility to familiarize herself/himself with these regulations. Please also see page 40 and pages 42-44 of the 2003-2004 Calendar for additional information.

6. **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 2003-2004 University Calendar under the heading "Student Misconduct", pages 53-56.

7. **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

   A make-up exam will be scheduled for the midterm examination one week after the regular time in the evening. Students with legitimate reasons for missing the regular exam must provide documentation to the instructor as soon as possible in order to be granted permission to take the make-up exam.

8. **Text**: Calculus: Early Transcendentals Single Variable (edition 5)

   Author: James Stewart

9. There will be five quizzes, each of duration 35 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.

Lab Sections:	B21/49	F 15:00 MS431 Bauer
	B22/50	F 15:00 MS427 Papez
	B23	W 17:00 MS317 Porat
	B24	W 17:00 MS427 Papez

   The midterm exam is tentatively scheduled for Monday, October 27th. The quizzes are tentatively scheduled for the weeks of September 22, October 6, October 20, November 17 and December 1. The material to be covered on each of the exams and quizzes will be posted on the course web page (http://www.math.ucalgary.ca/~kristine/math251).

10. Calculators **ARE NOT** permitted at quizzes, mid-term test, or the final exam.

11. 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 continuous tutorial is located in MS 365 and operates from 11:00-15:00 Mondays, Tuesdays, Wednesdays, Thursdays, and from 11:00-14:00 on Fridays.

    There is also a free and optional course of review material for Calculus, called Calculus Connections, taught by Professor Elsabrouty. Please consult the course handout for class meetings and times. You are encouraged to attend Professor Elsabrouty's lectures to review any material which you do not feel you have mastered.

12. 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 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 Dr. A.F. Ware in MS 586 (220-7200) or J. Longworth in MS 476 (220-5203).

13. **SCUM**
    The Society for Calgary Undergraduate Mathematics is located in MS337A. They sell exam packages, run final reviews, and can often assist with problems. The office is open from 10am to 3pm Monday-Friday, and you are welcome to drop by. They look forward to meeting you!

14. **Homework Problems.** Homework will not be collected in this course. However, you should expect to do roughly 10-20 problems after each lecture in order to keep up with the course. I have provided below a list of problems for most of the material we will cover. We will cover approximately one section per lecture, and the list below is the recommended MINIMUM number of problems you should do to ensure your understanding for each section. If you have trouble with a particular problem, seek help from the continuous tutorials, your lab section, during your instructor's office hours, or by working with other students. After you have solved the problem, do several similar problems on your own to ensure that you understand the solution.

Chapter 1:
Section 1.1 page 22 # 1, 5, 7, 11, 23, 33, 35, 41, 53, 61.
Section 1.2 page 35 # 1, 2, 3, 4, 5, 9, 11.
Section 1.3 page 45 # 1, 7, 11, 15, 27, 29, 37, 41, 49, 55, 63.
Section 1.5 page 62 # 1, 9, 13, 15, 17, 19, 21, 25 (except part (d)).
Section 1.6 page 74 # 9, 13, 21, 25, 27, 31, 35, 38, 41, 47, 49, 53, 55, 59, 65, 71.
Optional: page 85 # 4, 15.

Chapter 2:
Section 2.1 page 91 # 1, 5.

Section 2.2 page 102 # 1, 3, 7, 9, 13, 25, 31(a)(b), 33(a), 35.
Section 2.3 page 111 # 1, 3, 7, 10, 11, 15, 35, 37 (hint: Squeeze), 39, 47, 49, 51, 57.
Section 2,4 page 122 # 1, 3, 5, 17, 19, 25, 33, 39 (**2.4 is VERY IMPORTANT**!!).
Section 2.5 page 133 # 3, 5, 7, 9, 11, 13, 17, 21, 35, 41, 49, 51(a), 61, 63.
Section 2.6 page 146 # 1, 3, 5, 11, 19, 33, 43, 45, 49(a), 51, 63, 67.
Section 2.7 page 155 # 1, 3, 5(a)(b), 7, 11, 15, 19, 25, 27.
Section 2.8 page 163 # 1, 5, 7, 13, 17, 23, 25, 29, 35 (be sure to use the definition of the derivative, no
        shortcuts!).
Section 2.9 page 173 # 1, 4, 9, 17, 27, 29, 37, 41, 43, 46.

Chapter 3:
Section 3.1 page 191 # 3, 7, 13, 15, 29, 39, 45, 47, 49, 51, 57, 61.
Section 3.2 page 197 # 1, 3, 15, 17, 23, 31, 33, 35, 41.
Section 3.3 page 208 # 1, 9, 13, 15, 21, 25, 28, 35.
Section 3.4 page 216 # 1, 7, 9, 15, 19, 23, 29, 31, 33, 35, 39, 47.
Section 3.5 page 224 # 3, 5, 11, 15, 21, 23, 31, 41, 45, 51, 55, 61, 67, 75, 79.
Section 3.6 page 233 # 1, 7, 11, 13, 21, 23, 29, 37, 39, 45, 55, 59, 67.
Section 3.7 page 240 # 1, 9, 19, 23, 29, 33, 35, 39, 47, 53, 55, 61.
Section 3.8 page 249 # 1, 3, 11, 17, 23, 27, 37, 41, 43, 47, 51.
Section 3.9 - if time allows problems will be posted on the web page.
Section 3.10 page 260 # 1, 3, 7, 11, 19, 21, 25, 27.
Section 3.11 page 267 # 3, 5, 7, 17, 25, 29, 35, 37, 43, 49.

Chapter 4:
Section 4.1 page 285 # 2, 5, 7, 11, 17, 25, 33, 39, 53, 59, 63, 69, 75.
Section 4.2 page 295 # 1, 3, 5, 7, 13, 15, 17, 21, 23, 25, 27, 29, 31, 35.
Section 4.3 page 304 # 1, 7, 9, 11, 17, 23, 27, 29, 31, 41, 45, 49, 71, 73.
Section 4.4 page 313 #1, 5, 11, 13, 15, 21, 29, 43, 51, 59, 67, 69, 77.
Section 4.5 page 323 # 1, 11, 21, 27, 31, 37, 41, 43, 55, 63, 65, 68.
Section 4.6 - we'll skip this section.
Section 4.7 page 336 # 1, 5, 7, 11, 17, 19, 29, 43, 53, 55 (add as many odd numbered problems as you can
        stand until you get it).
Section 4.8 - if time allows problems will be posted on the web page.
Section 4.9 - if time allows problems will be posted on the web page.
Section 4.10 page 358 # 1, 7, 11, 13, 17, 23, 27, 35, 43, 47, 53, 61, 65, 77, 79.

Chapter 5:
Section 5.1 page 378 # 1, 3, 11, 15, 17, 19, 21, 22.
Section 5.2 page 390 # 1, 3, 7, 11, 17, 21, 25, 27, 29, 33, 37, 43, 49, 51, 57, 61, 63, 67.
Section 5.3 page 402 # 3, 5, 7, 11, 15, 21, 27, 33, 37, 41, 51, 53, 59, 61, 67.
Section 5.4 page 411 # 1, 3, 7, 11, 13, 21, 25, 33, 39, 43, 45, 53, 55, 63.
Section 5.5 page 420 # 1, 5, 7, 11, 23, 31, 37, 53, 57, 69, 73, 77, 83.
Section 5.6 page 429 # 3, 5, 7, 9.