Faculty of Science

DEPARTMENT OF MATHEMATICS AND STATISTICS

Course Information Sheet

Course:	MATH 253 Fall 2006
Lecture/Time/Session	L02 M W F 12:00 ENA 101
Instructor/e-mail:	Elena Braverman maelena@math.ucalgary.ca
Lab B05 W 15:00 MS 427	
Lab B06 W 15:00 MS 431	
Lab B07 R 10:00 MS 427	
Lab B08 R 10:00 MS 569	
Office/Phone/Hours:	MS 444, 220-3956 MWF 10:10-11:30 W 13:00-14:30
Course's homepage:	www.math.ucalgary.ca/~maelena/253.html
Prerequisites:	MATH 249 or MATH 251 or AMAT 217

1. **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:

Webwork Homework	[10]	10 %
Quizzes	[5]	20 %
Mid-term exam	[one]	20 %
Final exam		50 %

   A passing grade on the final exam is necessary to pass the course. There will be a two-hour final examination scheduled by the Registrar's Office. The use of calculators during quizzes, the midterm test and the final examination **IS NOT** permitted.

2. **The midterm** test will be in class on Friday, **November 3**, 2006. Five quizzes will be held in labs: **September 27-28, October 11-12, October 25-26, November 15-16, November 29-30.**

3. **Textbook:** Robert A. Adams: Single-Variable Calculus (or Complete Course) - 6th or any edition.

4. **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.

5. **Homework:** Homework problems will be assigned (approximately) weekly. These are to be completed using the computer homework system WEBWORK which can be accessed at http://webwork.ucalgary.ca

6. **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is students' responsibility to ensure that they have the prerequisites for the course and if they do not, they will be withdrawn from the course without notice. There are no co-requisites to this course.

7. **Fee policy:** After the last day to drop/add courses (September 22, Friday), there will be no refund of tuition fees if a student withdraws from a course, courses or the session.

8. **Academic Accommodations:** It is 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 the course.

9. **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 see: http://www.ucalgary.ca/honesty

MATHEMATICS 253
"CALCULUS II"

Calendar Description: H(3-1T-1)

Exponential and trigonometric functions and their inverses, hyperbolic functions. Methods of integration, improper integrals. Separable differential equations, first and second order linear differential equations, applications.

Note: Credit for both Mathematics 253/263 and either Applied Mathematics 209 or 219 will not be allowed.

Note: This course is a prerequisite for many 300-level courses in Pure Mathematics, Applied Mathematics, Statistics and Actuarial Science.

Syllabus

Week	Date	Topics	Section, problems
1	11.09-15.09	Inverse functions, exponential and logarithmic functions	3.1 (1-29) 3.2(1-33),3.3(1-55)
2	18.09-22.09	Inverse trigonometric functions, hyperbolic functions	3.5 (1-35,45,47) 3.6 (1-7)
3	25.09-29.09	Integration by parts Integration by substitution Inverse trigonometric substitution	6.1 (1-25) 5.6 (1-43,47) 6.2 (1-35,43,45), Q. 1
4	2.10-6.10	Partial fractions	6.3 (1-25)
5	11.10-13.10	Numerical integration Improper integrals	6.6 (1,3,9,11) 6.5 (1-25,31-41), Q. 2
6	16.10-20.10	Areas	5.7 (1-21)
7	23.10-27.10	Volumes, applications of integration	7.1 (1-11), 7.3 (1-11), Q. 3
8	30.10-3.11	Taylor polynomials, **midterm**	4.8 (1-23)
9	6.11-10.11	Differential equations	7.9 (1-5), notes
10	15.11-17.11	Separable equations Linear equations	7.9(1-5), 17.2(1-5) 7.9 (1-19), Q. 4
11	20.11-24.11	Second order homogeneous equations	3.7 (1-17,19-23),notes
12	27.11-1.12	Linear nonhomogeneous equations	17.6 (1-11), notes, Q. 5
13	4.12-8.12	Review	

No classes Monday, October 9 (Thanksgiving Day) and Monday, November 13-14 (Reading Days).

In addition to the instruction provided by the tutorial instructor there is a continuous tutorial (beginning January 16) available where students may obtain individual help with questions about the course material and exercise problems. The tutorial will be held in MS 365, MTWR 11:00-15:00, F 11:00-14:00.

The Society for Calgary Undergraduate Mathematics (SCUM) sells exam packages, runs final reviews (SCUM's office is in MS337A, e-mail scum@math.ucalgary.ca, phone 220-3938, webpage www.math.ucalgary.ca/~scum)