

Faculty of Science
DEPARTMENT OF MATHEMATICS AND STATISTICS
Course Information Sheet

Course: MATH 253 Fall 2007
Lecture/Time/Session L01/L02 M W F 10:00/12:00 ICT121/ENA 101
Instructor/e-mail: Elena Braverman maelena@math.ucalgary.ca
Office/Phone/Hours: MS 444, 220-3956 MWF 11:05-11:45 M 13:10-14:30 W 14:10-15:30
Course's homepage: www.math.ucalgary.ca/~maelena/253.html
Prerequisites: MATH 249 or MATH 251 or AMAT 217

1. **Prerequisites:** 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responsibility to ensure that they have the pre- and co-requisites for the course, and if they do not they will be withdrawn from the course without notice.
2. **Fee policy:** After the last day to drop/add courses (September 21, 2007, Friday), there will be no refund of tuition fees if a student withdraws from a course, courses or the session.
3. **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.
4. **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	[4]	20 %
Mid-term test	[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, formula sheets, books during the midterm test and the final examination **IS NOT** permitted.

5. **The midterm** test will be in class on Wednesday, **October 31**, 2007. Four quizzes will be held in lab MS 317.
6. **Textbook:** Robert A. Adams: Single-Variable Calculus (or Complete Course) - 6th or any edition, or an electronic book.
7. **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.
8. **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>
9. **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.
10. **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. This course is a prerequisite for many 300-level courses in Pure Mathematics, Applied Mathematics, Statistics and Actuarial Science.

Syllabus

W	Date	Topics	Section, problems
1	10.09-14.09	Inverse functions, exponential and logarithmic functions	3.1 (1-29) 3.2(1-33),3.3(1-55)
2	17.09-21.09	Inverse trigonometric functions, hyperbolic functions	3.5 (1-35,45,47) 3.6 (1-7)
3	24.09-28.09	Integration by parts Integration by substitution Inverse trigonometric substitution	6.1 (1-25) Q. 1 (B01,B03,B05,B07) 5.6 (1-43,47) 6.2 (1-35,43,45)
4	1.10-5.10	Partial fractions	6.3 (1-25) Q. 1 (B02,B04,B06,B08)
5	10.10-12.10	Numerical integration Improper integrals	6.6 (1,3,9,11) 6.5 (1-25,31-41)
6	15.10-19.10	Areas	5.7 (1-21) Q. 2 (B01,B03,B05,B07)
7	22.10-26.10	Volumes, applications of integration	7.1 (1-11), 7.3 (1-11) Q. 2 (B02,B04,B06,B08)
8	29.10-2.11	Taylor polynomials	4.8 (1-23), MIDTERM
9	5.11-9.11	Differential equations	7.9 (1-5), notes Q. 3 (B01,B03,B05,B07)
10	14.11-16.11	Separable equations Linear equations	7.9(1-5), 17.2(1-5) 7.9 (1-19)
11	19.11-23.11	Second order homogeneous equations	3.7 (1-17,19-23),notes Q. 3 (B02,B04,B06,B08)
12	26.11-30.11	Linear nonhomogeneous equations	17.6 (1-11), notes Q. 4 (B01,B03,B05,B07)
13	3.12-7.12	Review	Q. 4 (B02,B04,B06,B08)

No classes Monday, October 8 (Thanksgiving Day) and Monday, November 12-13 (Reading Days).

In addition to the instruction provided by the tutorial instructor there is a continuous tutorial (beginning September 17) 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.