

Faculty of Science  
DEPARTMENT OF MATHEMATICS AND STATISTICS

Course Information Sheet

<b>Course:</b>	MATH 253/263	Winter 2005
<b>Lecture/Time/Session</b>	L03 M W F	9:00 ST 141
MATH 263	T	11:00 MS 527
<b>Instructor/e-mail:</b>	Elena Braverman	maelena@math.ucalgary.ca
Lab B01 M 13:00 MS 371	Jordan Watts	jawatts@math.ucalgary.ca
Lab B02 M 13:00 MS 325	Leung Lung Chan	lchan@math.ucalgary.ca
Lab B03 T 9:00 MS 371	Aaron Pratt	aspratt@math.ucalgary.ca
Lab B04 T 9:00 MS 325	Andrew Taylor	ataylor@math.ucalgary.ca
<b>Office/Phone/Hours:</b>	MS 444, 220-3956	MWF 10-11:00 T 10-10:50, 14-15
<b>Course's homepage:</b>	www.math.ucalgary.ca/~maelena/253.html	
<b>Prerequisites:</b>	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:

Quizzes	[best 4 of 5]	30 %
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 a calculator up to the level of TI 83 will be allowed on all tests.**

2. **The mid-term** test will be in class on **March 11**, 2004. There will be five quizzes of approximately 35 minutes duration which will be held in labs: **January 24 or 25, February 7 or 8, February 28 or March 1, March 21 or 22, April 4 or 5**. The best four marks will be used in the assessment.
3. **Textbook:** Robert A. Adams: Single-Variable Calculus (or Complete Course) - 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. **Out-of-class activities:** There will be no out-of-class scheduled activities. Regularly scheduled classes have precedence over any out-of-class-time-activity.
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](http://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is students' responsibility to ensure that they have the prerequisites for the course and if they do not, they will be withdrawn from the course without notice.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 (January 21, Friday), there will be no refund of tuition fees if a student withdraws from a course, courses or the session.
8. **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	10.01-14.09	Inverse functions, exponential and logarithmic functions	3.1 (1-29) 3.2(1-33),3.3(1-49,55)
2	17.01-21.01	Inverse trigonometric functions, hyperbolic functions	A24-A33, 3.5 (1-35,45,47) 3.6 (2,7)
3	24.01-2.02	Integration by parts Integration by substitution Inverse trigonometric substitution	6.1 (1-25) 5.6 (1-9,13,15,19-43,47) 6.2 (1-35,43,45)
4	4.02-9.02	Partial fractions Numerical integration	6.3 (1-25) 6.6 (1,3,9,11)
5	11.02-16.02	Improper integrals Areas, volumes	6.5 (1-25,31-41) 5.7 (1-21),7.1 (1-11)
6	18.02	Applications of integration	7.3(1-11)
7	4.03-9.03	Taylor and Maclaurin polynomials	4.8 (1-23,29)
8	11.03-16.03	Taylor polynomials, midterm	
9	18.03	Differential equations	7.9 (1-5), A23-A39
10	21.03-28.03	Separable equations Linear equations	7.9(1-19) A38-A39 (1-25)
11	30.03-6.04	Second order homogeneous equations	3.7 (1-17,19-23)
12	8.04-13.04	Linear nonhomogeneous equations	17.8 (1-11)
13	13.04-15.04	Review	

**No classes February 21-25, March 25.**

In addition to the instruction provided by the tutorial instructor there is a continuous tutorial (beginning January 17) available where students may obtain individual help with questions about the course material and exercise problems:

Mondays through Thursdays 11-15:00      Fridays 11-14:00  
Room MS 365

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](mailto:scum@math.ucalgary.ca), phone 220 3938, webpage [www.math.ucalgary.ca/~scum](http://www.math.ucalgary.ca/~scum))