

COURSE OUTLINE 2003-2004
MATHEMATICS 200 (3 credits)
CALCULUS III

Prerequisite:

One of MATH 101, MATH 103, MATH 105, MATH 121.

Instructor:

Joel Feldman

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home page	http://www.math.ubc.ca/~feldman
office hours	Mon 2:00–3:00, Tue 11:00–12:00, Fri 1:30–2:30

Text:

James Stewart, Multivariable Calculus, 5th edition, Brooks/Cole Publishing.

I will post all handouts, problem sets, final grades, etc. on the web at

<http://www.math.ubc.ca/~feldman/m200/>

Topics

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| <p>1. Vectors and the Geometry of Space (§13.1-13.6)
 Three dimensional coordinate systems,
 Vectors, dot and cross products,
 Equations of lines and planes,
 Quadric surfaces.</p> | 5 hours |
| <p>2. Vector Functions (§14.1, 14.2, 14.4)
 Vector functions and space curves,
 Derivatives and integrals of vector functions,
 Velocity and acceleration.</p> | 2 hours |
| <p>3. Partial Derivatives (§15.1-15.8)
 Functions of several variables,
 Limits, continuity, partial derivatives,
 Tangent planes and linear approximations,
 Chain rule, directional derivatives, gradient,
 Maximum and minimum values,
 Lagrange multipliers.</p> | 14 hours |
| <p>4. Multiple Integrals (§16.1-16.8, §13.7)
 Double and iterated integrals, polar coordinates,
 Applications, surface area,
 Triple integrals,
 Cylindrical and Spherical co-ordinates.</p> | 12 hours |

Quizzes	3 hours
Review	<u>2 hours</u>
	38 hours

Grading

There will be six quizzes (Jan 19, Jan 30, Feb 11, Mar 3, Mar 17 and Mar 29). The best five of these will account for 50% of the final mark. The final will account for 50% on the final mark. All grades will be scaled.

January 5, 2004
 Joel Feldman

Quizz Schedule

	Mon	Wed	Fri
Jan	5	7	9
	12	14	16
	19 Quiz I	21	23
	26	28	30 Quiz II
Feb	2	4	6
	9	11 Quiz III	13
	16 midterm break	18 midterm break	20 midterm break
	23	25	27
Mar	1	3 Quiz IV	5
	8	10	12
	15	17 Quiz V	19
	22	24	26
	29 Quiz VI	31	2
Apr	5	7	9 no class