King Fahd University of Petroleum and Minerals Department of Mathematics and Statistics

SYLLABUS

Semester II-(072) Coordinator: Ashfaque H. Bokhari

Course #: Math 201
Title: Calculus III

Textbook: Calculus (Early Transcendentals): James Stewart; **Fifth edition (2003)**

Course Math 201 is a continuation of Math 101 (Calculus I) and Math 102 (Calculus II). **Description:** These courses are designed as an introduction to the fundamental concepts of

calculus and analytic geometry. The concepts studied in Math 201 include solid analytic geometry, vectors and surfaces, differentiation of functions of several

variables and multiple integrals.

Week	Date	Sections	Topics	
1	Feb 16-20	10.1	Curves Defined by Parametric Equations	
		10.2	Calculus with Parametric Curves	
2	Feb 23-27	10.3	Polar Coordinates	
		10.4	Areas and Lengths in Polar Coordinates	
3	March 01-05	12.1	Three-Dimensional Coordinate Systems	
		12.2	Vectors	
4	March 07-12	12.3	The Dot Product	
		12.4	The Cross Product	
5	March 15-19	12.5	Equations of Lines and Planes	
		12.6	Cylinders and Quadric Surfaces	
Major Exam I: Monday, March 17, 2008				
6	March 22-26	12.6	Continued	
		12.7	Cylindrical and Spherical Coordinates	
7	March 29-April 02	14.1	Functions of Several Variables	
/		14.2	Limits and Continuity	
8	April 05-09	14.3	Partial Derivatives	
		14.4	Tangent Planes & Linear Approximation	
April 12-16: Mid Term Break from				
9	April 19-23	14.5	The Chain Rule	
7		14.6	Directional Derivatives and the Gradient Vector	
10	April 26-30	14.6	Continued	
		14.7	Maximum and Minimum Values	
Major Exam II: Monday, April 28, 2008				
11	May 03-07	14.8	Lagrange Multipliers	
		15.1	Double Integrals over Rectangles	
12	May 10-14	15.2	Iterated Integrals	
12		15.3	Double Integrals over General Regions	
13	May 17-21	15.3	Continued	
		15.4	Double Integrals in Polar Coordinates	
14	May 24-28	15.7	Triple Integrals	
		15.8	Integrals in Cylindrical and Spherical Coordinates	
15	June 31-04	-	Tgxkgy 'cpf 'ecvej /wr''	

- The dates for Major Exams I and II are set by the College of Sciences to avoid conflicts with other exams.
- The date, time and place of Final examination will be announced by the Registrar. The Final examination will be comprehensive.

Suggested Homework Problems for Math 201, Term 072

Sections	Suggested Homework Problems
10.1	1,3,7,9,12,14, 20,26,29,35(a)
10.2	2,4,8,9,14,16,19,32,39,59
10.3	2, 3,5,11,17,2631,35,55
10.4	1,4,7,9,14,17,21,23,31,35,40,45
12.1	2,4,7,10,12,17,21,25,27,32,35
12.2	1,4,7,22,25,26
12.3	2,6,9,11,14,16,20,24,27,29,38,43,50
12.4	1,7,9,13,16,25,29,33,36,39,41,45
12.5	1,5,9,15, 17,22,30,38,41,49,51,73
12.6	1,3,6,9,11,21,29,41,43
12.7	3,11,18,21,26,31,34,37,40,43,49,57
14.1	7,14,319,24,27,45
14.2	4,8,10,11,20,28,34,35,37
14.3	1,5,14,21,24,35,39,47,54,67
14.4	1,11,16,23,30
14.5	3,6,9,21,25,27,44,47,51
14.6	4,10,11,17,20,24,28,39,52
14.7	1,7,13,27,32,37,45
14.8	3,9,23,38
15.1	2,9,11,17
15.2	2,3,5,8,12,17,19,21,23,27,30,33
15.3	2,6,11,15,18,20,24,27,37,40,44,49
15.4	1,5,8,10,17,18,22,26,32
15.7	4,9,14,18,20,25,28,32,33,40
15.8	1,4,5,8,10,17,21,33,35