

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

Math 201-SYLLABUS
Term 2009-2010 (093)

Coordinator: Dr. Assane Lo
Course: Math 201, Calculus III
Text Book: Calculus (Early Transcendentals): by James Stewart; **6th edition (2008)**
Course Description: Math 201 is a continuation of Math 101 (Calculus I) and Math 102 (Calculus II). 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.

W	Date	Sec.	Topics	Homework
1	July 03 – 07	10.1	Curves Defined by Parametric Equations	3,4,6,12,24,26,28,30
		10.2	Calculus with Parametric Curves	6,8,12,36,44
		10.3	Polar Coordinates	10,16,22,29,40,48,54
		10.4	Areas and Lengths in Polar Coordinates	3,6,8,12,32,35,40
2	July 10 – 14	12.1	Three-Dimensional Coordinate Systems	6,10,14,18,20,23,25,30,37,41
		12.2	Vectors	1,4,8,18,24,28,32
		12.3	The Dot Product	1,2,4,8,10,11,14,17,23,36,41,52
		12.4	The Cross Product	2,9,12,26,34,36,40,45
3	July 17 – 21	12.5	Equations of Lines and Planes	2,3,15,16,17,30,38,50,61,72
		12.6	Cylinders and Quadric Surface	2,4,10,11,21-28
		12.7	Cylindrical and Spherical Coordinates	4,10,13,20,23,28,34,36,50
Exam I (25%): Tuesday July 20, 2010. Material [10.1-12.5]				
4	July 24 – 28	14.1	Functions of Several Variables	1,2,6,10,30,32
		14.2	Limits and Continuity	3,6,10,11,28,37,39
		14.3	Partial Derivatives	2,4,5,16,21,51,66,83
5	Jul.31-Aug4	14.4	Tangent Planes & Linear Approximation	2,12,16,20,24,31
		14.5	The Chain Rule	4,8,16,18,22,28,36
		14.6	Directional Derivatives and the Gradient Vector	3,6,9,16,23,27,36,38,41,48
6	Aug. 7 - 11	14.7	Maximum and Minimum Values	2,3,5,11,12,37
		14.8	Lagrange Multiplier	2,4,10,23,25,39
		15.1	Double Integrals over Rectangles	1,3,6,8,12,17
Exam II (25%): Tuesday August 10, 2010. Material [12.6-14.7]				
7	Aug. 14 – 18	15.2	Iterated Integrals	4,5,8,11,14,19
		15.3	Double Integrals over General Regions	3,5,10,16,24,39,43,50,52
		15.4	Double Integrals in Polar Coordinates	1,4,7,10,18,21,33,36
8	Aug. 21-23	15.7	Triple Integrals	2,8,16,23,26,29,31,38
		15.8	Integrals in Cylindrical and Spherical Coordinates	1,4,8,9,18,33,36
Final Exam (35%): Wednesday August 25th, 2010 at 8:00 AM (Comprehensive)				

Class Work: 15%. It is based on quizzes, homework, or other class activities determined by the instructor. All quizzes must be of written type and not of multiple choice type.

- KFUPM policy with respect to attendance (**lectures and recitations**) will be strictly enforced.
- The students are strongly urged to solve much more problems than the homework listed above.