

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

SYLLABUS

Semester I, 2010-2011 (101)

Coordinator: Dr. Assane Lo

Course #: Math 201
Title: Calculus III
Textbook: Calculus (Early Transcendentals): by James Stewart; **6th edition (2008)**
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	Sec. #	Topics
1	Sep. 25-29	10.1 10.2	Curves Defined by Parametric Equations Calculus with Parametric Curves
2	Oct. 02-06	10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
3	Oct. 09-13	12.1 12.2 12.3	Three-Dimensional Coordinate Systems Vectors The Dot Product
4	Oct. 16-20	12.4 12.5	The Cross Product + Exer. 43 p.793(End of Exam I Material) Equations of Lines and Planes
Exam I (25% / 100pts): Wednesday Nov. 03, 2010. Material [10.1-12.4]			
5	Oct. 23-27	12.6 14.1	Cylinders and Quadric Surfaces Functions of Several Variables
6	Oct. 30-Nov. 3	14.1 14.2	Functions of Several Variable(Contd.) Limits and Continuity
7	Nov. 06-10	14.3 14.4	Partial Derivatives Tangent Planes & Linear Approximation
Nov. 11-Nov 21: Id al-Adha Vacation			
8	Nov. 22-24	14.5 14.6	The Chain Rule Directional Derivatives and the Gradient Vector
9	Nov. 27- Dec. 1st	14.7	Maximum and Minimum Values
10	Dec. 04-08	14.8 15.1	Lagrange Multipliers (End of Exam II Material) Double Integrals over Rectangles
Exam II (25% / 100pts): Material [12.5-14.8] (Date will be announced later)			
11	Dec. 11-15	15.2	Iterated Integrals
12	Dec. 18-22	15.3	Double Integrals over General Regions
13	Dec. 25-29	15.4	Double Integrals in Polar Coordinates
14	Jan. 01-05 (2011)	15.6 15.7	Triple Integrals Triple Integrals in Cylindrical Coordinates
15	Jan. 08-12	15.8	Triple Integrals in Spherical Coordinates
16	Jan. 15-16		Review/ Catch up
Final Exam (35% / 140pts): (Comprehensive MCQ) is scheduled on Saturday January 22, 2011 at 7:00 PM. The location will be announced later.			

Class Work: (15% / 60pts). 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.

The class-work average (x out of 60) of the sections taught by the same instructor should be in the interval [36, 45].

- 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.

Math 201, Semester 101
Suggested Homework Problems

Sec. #	Suggested Homework Problems
10.1	2,3,6,11,24,26,28,33,38
10.2	5,8,13,25,28,36,43,57,60
10.3	9,16,22,29,40,48,54,56,60,66
10.4	3,6,8,12,25,28,31,35,40
12.1	6,10,14,18,21,23,32
12.2	1,4,8,18,24,28,39
12.3	1,2,4,8,10,11,14,17,23,37,41,52
12.4	2,9,12,26,33,36,39,45
12.5	1,3,15,16,17,30,38,51,61,66,70
12.6	2,5,9,11,21-28,29,36
14.1	1,2,6,11,30,32
14.2	3,7,10,11,28,37,39
14.3	1,4,5,16,21,51,66,89,90
14.4	2,12,16,20,24,31
14.5	4,8,16,17,22,28,50,52
14.6	3,5,9,15,23,27,36,38,41,48,59
14.7	1,3,5,11,30,36,40,44,47
14.8	1,4,10,23,25,39,40,44
15.1	3,6,8,12,17
15.2	4,5,8,11,14,19,28,36
15.3	3,5,10,16,24,39,43,45,50,52,56
15.4	1,3,7,10,18,21,33,36
15.6	2,8,10,18,28,32,34
15.7	2,4,6,8,17,20,22,28
15.8	2,4,6,10,17,20,23,26,40