

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

**SYLLABUS
MATH 201**

Semester: II, 2009-2010 (092)
Coordinator: Dr. Muhammad Yousuf

Course #: Math 201
Title: Calculus III
Textbook: Calculus (Early Transcendentals): by James Stewart; **Fifth edition (2003)**
Course The concepts studied in Math 201 include solid analytic geometry, vectors and surfaces, differentiation of functions of several variables and multiple integrals.
Description:

Week	Date	Sec. #	Topics
1	Feb 20 – 24	10.1 10.2	Curves Defined by Parametric Equations Calculus with Parametric Curves
2	Feb 27 – Mar 03	10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
3	Mar 06 – 10	12.1 12.2 12.3	Three-Dimensional Coordinate Systems Vectors The Dot Product
4	Mar 13 – 17	12.4 12.5	The Cross Product Equations of Lines and Planes (End of Exam I Material)
5	Mar 20 – 24	12.6 12.7	Cylinders and Quadric Surfaces Cylindrical and Spherical Coordinates
Major Exam I: Tuesday, March 30, 2010 Exam I Material: 10.1-12.5			
6	Mar 27 – 31	12.7 14.1 14.2	Cylindrical and Spherical Coordinates (Contd.) Functions of Several Variables Limits and Continuity
7	Apr 03 – 07	14.2 14.3	Limits and Continuity (Contd.) Partial Derivatives
8	Apr 10 – 14	14.4 14.5	Tangent Planes & Linear Approximation The Chain Rule
April 17-21 : Midterm Vacation			
9	Apr 24 - 28	14.6 14.7	Directional Derivatives and the Gradient Vector Maximum and Minimum Values
10	May 01 – 05	14.7 14.8	Max. and Min. Values (Contd.) (End of Exam II Material) Lagrange Multipliers
11	May 08 – 12	15.1 15.2	Double Integrals over Rectangles Iterated Integrals
Major Exam II: Saturday, May 01, 2010 Exam II Material: 12.6-14.7			
12	May 15 – 19	15.2 15.3	Iterated Integrals (Contd.) Double Integrals over General Regions
13	May 22 – 26	15.3 15.4	Double Integrals over General Regions (Contd.) Double Integrals in Polar Coordinates
14	May 29 – Jun 02	15.7 15.8	Triple Integrals Integrals in Cylindrical and Spherical Coordinates
15	Jun 05 – 09		Review/ Catch up
Final Exam will be Comprehensive. The Registrar Office will announce the schedule of final exam			

KFUPM policy with respect to attendance will be strictly enforced.

Math 201, Semester 092
Suggested Homework Problems*

Sec. #	Suggested Homework Problems
10.1	2,3,6,11,24,26,28
10.2	5,8,13,36,43
10.3	9,16,22,29,40,48,54
10.4	3,6,8,12,31,35,40
12.1	6,10,14,18,21,23,25,29,37,41
12.2	1,4,8,18,24,28,32
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	1,3,15,16,17,30,38,51,61,73
12.6	2,5,9,11,21-28
12.7	4,10,13,20,23,28,34,36,50
14.1	1,2,6,11,30,32
14.2	3,7,10,11,28,37,39
14.3	1,4,5,16,21,51,66,83
14.4	2,12,16,20,24,31
14.5	4,8,16,17,22,28,36
14.6	3,5,9,15,23,27,36,38,41,48
14.7	1,3,5,11,37
14.8	1,4,10,23,25,39
15.1	3,6,8,12,17
15.2	4,5,8,11,14,19
15.3	3,5,10,16,24,39,43,50,52
15.4	1,3,7,10,18,21,33,36
15.7	3,8,16,23,26,29,31,38
15.8	3,8,9,18,33,36

- The students are advised to understand all solved examples. These examples are part of the course and can be included in the Quizzes or Exams.
- The students are strongly urged to solve **much more problems** than the homework problems listed above.