

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 ( <b>End of Exam I Material</b> ) Equations of Lines and Planes
5	Mar 20 – 24	12.6 12.7	Cylinders and Quadric Surfaces Cylindrical and Spherical Coordinates
<b>Major Exam I: Saturday, March 27, 2010      Exam I Material: 10.1-12.5</b>			
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
<b>April 17-21 : Midterm Vacation</b>			
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.) ( <b>End of Exam II Material</b> ) Lagrange Multipliers
11	May 08 – 12	15.1 15.2	Double Integrals over Rectangles Iterated Integrals
<b>Major Exam II: Saturday, May 01, 2010      Exam II Material: 12.6-14.7</b>			
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
<b>Final Exam will be Comprehensive. The Registrar Office will announce the schedule of final exam</b>			

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.