

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

SYLLABUS

Semester III 2007-2008 (073)

Instructor: Dr. Muhammad Yousuf, <http://faculty.kfupm.edu.sa/math/myousuf/>
Course: Math 201, Calculus III
Text Book: Calculus (Early Transcendentals): by James Stewart; **Fifth edition (2003)**
Course Description: Math 201 is a continuation of Math 101 (Calculus I) and Math 102 (Calculus II). 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	Home Work
1	July 05 – 09	10.1 10.2 10.3 10.4	Curves Defined by Parametric Equations Calculus with Parametric Curves Polar Coordinates Areas and Lengths in Polar Coordinates	2,3,6,11,24,26,28 5,8,13,36,43 9,16,22,29,40,48,54 3,6,8,12,31,35,40
2	July 12 – 16	12.1 12.2 12.3 12.4	Three-Dimensional Coordinate Systems Vectors The Dot Product The Cross Product	6,10,14,18,21,23,25,29,37,41 1,4,8,18,24,28,32 1,2,4,8,10,11,14,17,23,37,41,52 2,9,12,26,33,36,39,45
3	July 19 – 23	12.5 12.6 12.7	Equations of Lines and Planes Cylinders and Quadric Surface Cylindrical and Spherical Coordinates	1,3,15,16,17,30,38,51,61,73 2,5,9,11,21-28 4,10,13,20,23,28,34,36,50
4	July 26 – 30	14.1 14.2 14.3	Functions of Several Variables Limits and Continuity Partial Derivatives	1,2,6,11,30,32 3,7,10,11,28,37,39 1,4,5,16,21,51,66,83
5	Aug. 02 – 06	14.4 14.5 14.6	Tangent Planes & Linear Approximation The Chain Rule Directional Derivatives and the Gradient Vector	2,12,16,20,24,31 4,8,16,17,22,28,36 3,5,9,15,23,27,36,38,41,48
6	Aug. 09 - 13	14.7 14.8 15.1	Maximum and Minimum Values Lagrange Multiplier Double Integrals over Rectangles	1,3,5,11,37 1,4,10,23,25,39 3,6,8,12,17
7	Aug. 16 – 20	15.2 15.3 15.4	Iterated Integrals Double Integrals over General Regions Double Integrals in Polar Coordinates	4,5,8,11,14,19 3,5,10,16,24,39,43,50,52 1,3,7,10,18,21,33,36
8	Aug. 23-25	15.7 15.8	Triple Integrals Integrals in Cylindrical and Spherical Coordinates	3,8,16,23,26,29,31,38 3,8,9,18,33,36

The students are strongly urged to solve much more problems than the homework listed above.

Day/Time	Saturday	Sunday	Monday	Tuesday	Wednesday
09:20-10:20	Math 131-02 Bldg 5 - Rm 104	Math 131-02 Bldg 5 - Rm 104	Math 131-02 Bldg 5 - Rm 104	Math 131-02 Bldg 5 - Rm 104	Math 131-02 Bldg 5 - Rm 104
10:30-11:30	Math 201- 06 Bldg 59-Rm 1005	Math 201- 06 Bldg 59-Rm 1005	Math 201- 06 Bldg 59-Rm 1005	Math 201- 06 Bldg 59-Rm 1005	Math 201- 06 Bldg 59-Rm 1005
12:15-01:00	Office Hour Bldg 5-Rm 420	Office Hour Bldg 5-Rm 420	Office Hour Bldg 5 -Rm 420	Office Hour Bldg 5-Rm 420	Office Hour Bldg5 -Rm 420