

King Fahd University of Petroleum and Minerals
 Department of Mathematical Science
SYLLABUS
 Semester I, 2006-2007 (061)
 Prepared by Dr. Monther Rashed Alfuraidan

Course #: Math 201
Title: Calculus III
Textbook: 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). 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 9-14*	10.1 10.2	Curves Defined by Parametric Equations Calculus with Parametric Curves
2	Sep 16-20	10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
3	Sep 24*-27	12.1 12.2	Three-Dimensional Coordinate Systems Vectors
4	Sep 30-Oct 4	12.3 12.4	The Dot Product The Cross Product
Major Exam I: Tuesday, October 10, 2006.			
5	Oct 7-11	12.5 12.6	Equations of Lines and Planes Cylinders and Quadric Surfaces
Oct. 12 -27: Eid al-Fitr Vacation			
6	Oct 28-Nov 1	12.6 12.7	Continued Cylindrical and Spherical Coordinates
7	Nov 4-8	14.1 14.2	Functions of Several Variables Limits and Continuity
8	Nov 11-15	14.3 14.4	Partial Derivatives Tangent Planes & Linear Approximation
9	Nov 18-22	14.5 14.6	The Chain Rule Directional Derivatives and the Gradient Vector
10	Nov 25-29	14.6 14.7	Continued Maximum and Minimum Values
11	Dec 2-6	14.8 15.1	Lagrange Multipliers Double Integrals over Rectangles
Major Exam II: Wednesday, December 13, 2006.			
12	Dec.9-13	15.2 15.3	Iterated Integrals Double Integrals over General Regions
13	Dec16-20	15.3 15.4	Continued Double Integrals in Polar Coordinates
Dec 21-Jan 5: Id al-Adha Vacation			
14	Jan 6-10 (2007)	15.7 15.8	Triple Integrals Integrals in Cylindrical and Spherical Coordinates
15	Jan.13-17	-	Review/ Catch up

* September 14 is a normal Saturday classes.

* September 23 is a national holiday.

- The dates for Major Exams I and II are set by the College of Sciences to avoid conflicts with other exams.
- The date, time and the place of the Final Examination will be announced by the Registrar. The Final Exam will be Comprehensive.

King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
Math 201, Semester 061
Suggested Homework

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

- Evaluation:** Grades in this course are based upon the point total of two major exams (totaling 180 points), Homework assignments (totaling 60 points) and a *uniform* final exam (worth 160 points). **There will be no “make-ups” for exams.** Unless a valid excuse is presented in advance, a missed exam will receive the score 0. Of course, family vacations, commercial travel schedules, etc. are NOT acceptable excuses for missing scheduled classes. Students must look at this syllabus carefully and plan well ahead.
- Homework:** A number of problems (listed above) have been selected from each section. It is recommended that you try to work out these problems after the lecture. 30% of the problems in the exams will be similar to the homework problems. You are encouraged to come to my office hours or make an appointment to discuss any difficulties related to the course, including the homework problems. **Remember that “The best way to learn Mathematics is to do Mathematics.”**
- Attendance:** KFUPM policy with regard to attendance will be enforced. Students are expected to attend all class meetings and are responsible for all of the material covered. Any changes in this syllabus or in the scheduling of exams, etc. will be announced during class meetings. Students who miss a class meeting should copy a classmate’s notes for that meeting.
- Help:** Individuals’ questions regarding the course work should be directed to the lecturer, either immediately after class or during scheduled office hours.