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

Math 201 – Syllabus

2011-2012 (111)

Coordinator: Dr. Muhammad A. Bokhari **Course Instructor:** …….

Title: Calculus III
Credit: 3-0-3
Textbook: Calculus (Early Transcendentals), by James Stewart, 6th edition, Brooks/Cole, 2008
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.

Prerequisites: The students must review the material of MATH 001/002/101/102 which is required in the contents of MATH 201

Grading Policy:

1. **Exam I**: 25% (100 points), **Date:** Thursday, Oct. 13, 2011. [**common exam**.] **Material:** 10.1-12.4. **Place:** Building 54, **Time:** 10:00-12:00 noon.
2. **Exam II**: 25% (100 points), **Date:** Thursday, Nov. 24, 2011. [**common exam.**] **Material:** 12.5-14.8. **Place:** Building 54, **Time:** 10:00-12:00 noon.
3. **Class Work**: 15% (60 points). It is based on quizzes (around 5 quizzes), homework, or other class activities determined by the class instructor. Any quiz or test under class activity should be of written type, not in the format of MCQ.
4. **Final Exam**: 35% (140 points), [**comprehensive common exam**.] **Date: Monday**, Jan. 9, 2012 **at** 7:00 p.m**.**

Class Work Average: The average (x out of 60) of the Class Work of the sections taught by the same instructor should be in the interval [36, 45].

Exam Questions: The questions of the common exams are based on the examples, homework problems, recitation problems and the exercises of the textbook.

Missing Exam I or Exam II: No makeup exam will be given under any circumstance. When a student misses Exam I or Exam II for a legitimate reason (such as medical emergencies), his grade for this exam will be determined based on the Department policy. Further, the student must provide an official excuse within one week of the missed exam.

Attendance: Attendance is a University Requirement (see p. 38 of the Undergraduate Bulletin 2006-2009.) A DN grade will be awarded to any student who accumulates 9 unexcused absences.

Academic Integrity: All KFUPM policies regarding ethics apply to this course. The students are advised to discuss their grievances/problems with course instructor in a respectful manner.

The course instructor has the right to report a student's misconduct in the class, instructor's office or at the exam site to the chairman's office. The complaint will be forwarded to the Dean of Sciences & the Dean, Student Affairs for appropriate investigation.

Math 201 Syllabus

2011-2012 (111)

Note: *The pace of coverage given in the syllabus is tentative and may be adjusted by each instructor as per need.*

Week	Date	Sec.	Text Sections (25)
1	Sep. 10-14, 2010	10.1 10.2	Curves Defined by Parametric Equations Calculus with Parametric Curves
2	Sep. 17-21	10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
Saturday, Sep. 24, 2011: National Day (Holiday)			
3	Sep. 25-28	12.1 12.2	Three-Dimensional Coordinate Systems Vectors
4	Oct. 1-5	12.3 12.4 12.5	The Dot Product The Cross Product + Exer. 43 p.793 **(End of Exam I Material)** Equations of Lines and Planes
5	Oct 8-12	12.5 12.6 **Oct 12**	Continued Cylinders and Quadric Surfaces **Review for Exam I (up to discretion of instructor)**
Exam I: Thursday, Oct. 13, 2011; Bld 54, Time: 10:00-12:00 noon Material: [10.1 – 12.4]			
6	Oct. 15-19	**Oct 15** 14.1 14.2	The instructor may plan to review Mixed Problems from (12.5-6) Functions of Several Variables Limits and Continuity
7	Oct. 22-26	14.2 14.3 14.4	Continued Partial Derivatives Tangent Planes & Linear Approximation
8	Oct. 29-31	14.4 14.5 14.6	Continued The Chain Rule Directional Derivatives and the Gradient Vector
Id al-Adha Vacation: Nov. 1-11, 2011			
9	Nov. 12-16	14.6 14.7	Continued Maximum and Minimum Values
10	Nov. 19-23	14.8 **Nov21** **Nov23**	Lagrange Multipliers **(End of Exam II Material)** The instructor may plan to review Mixed Problems from (14.7- 8) **Review for Exam II (up to discretion of instructor)**
Exam II: Thursday, Nov. 23, 2011; Bld 54, Time: 10:00-12:00 noon Material: [12.5 – 14.8]			
11	Nov. 26-30	15.1 15.2 15.3	Double Integrals over Rectangles Iterated Integral Double Integrals over General Regions
12	Dec. 3-7	15.3 15.4 **Dec. 7**	Continued Double Integrals in Polar Coordinates The instructor may plan to review Mixed Problems from (15.2- 3)
13	Dec. 10-14	15.6 15.7	Triple Integrals Cylindrical Coordinates (also, relation to rectangular coord.)
14	Dec. 17-21	15.7 15.8 15.8	Triple Integrals in Cylindrical Coordinates Spherical Coord. (also, relation to rectangular & cylind. coord.) Triple Integrals in Spherical Coordinates
15	Dec. 24-28		Review of Mixed Problems (15.6-8) if planned by the instructor
16	Dec. 31-Jan 2.		**Review/Catch up material (as planned by the course instructor)**
Final Exam: Monday, January 9, 2012 at 7:00 p.m. (Comprehensive Exam)			

Homework/Practice Problems: Math 201 (111)

Note: Each Class Instructor will announce the Weekly Homework Problems from the following list or other sources as may be determined by him.

Section	Suggested HW/Practice Problems from the Text
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

Note

Students are encouraged to do **Word & CAS** problems which may require the use of a technology tool (e.g., graphing calculators or a computer). These problems enhance understanding of the concepts involved.

Tips on how to enhance your problem-solving abilities (by compliments of Dr. Al-Rasasi)

1. Do all the homework assignments on time.
2. Practice (but not memorize) more problems than the above lists.
3. Try to solve a problem on your own before reading the solution or asking for help.
4. If you find it difficult to handle a certain type of problems, you should try more problems of that type.
5. Review the last lecture before coming to class.
6. Solve some of the review problems at the end of each chapter.
7. Practicing homework problems and reviewing the class lectures will make exam problems easier to tackle.
8. Visit your instructor in his office hours. Always bring partial solution of the questions which you want to discuss with your instructor.