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

Math 201 – Syllabus

2012-2013 (121)
Coordinator: Dr. Bilal Chanane

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:

- Exam I: 25% (100 points), Date: Wednesday, Oct. 03, 2012. [common exam, 100% written] Material: **[10.1 – 12.3]**. Place: Building 54, Time: 8:30-10:30 PM.
- Exam II: 25% (100 points), Date: **Thursday, Nov. 22, 2012. [common exam, 100% written] Material: [12.4 – 14.8]. Place: Building 54, Time: 5:30-7:30 PM.**
- 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.
- Final Exam: 35% (140 points), [comprehensive common exam.] Date: To be announced (final exam week)

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 102 Syllabus

2012-2013 (121)

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

Week	Date	Sec.	Topics (25 sections)
1		10.1 10.2	Curves Defined by Parametric Equations The Calculus with Parametric Curves
2		10.3 10.4	Polar Coordinates Areas and Lengths in Polar Coordinates
3	Sep. 15-19	12.1 12.2	Three-Dimensional Coordinate Systems Vectors
Sunday, Sep. 23, 2012: National Day (Holiday)			
4	Sep. 22-26	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	Sep. 29- Oct 3	12.5 12.6	Cylinders and Quadric Surfaces Review for Exam I (up to discretion of instructor)
Exam I: Wednesday, Oct. 03, 2012; Material: [10.1 – 12.3]			
6	Oct. 6-10	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. 13-17	14.2 14.3 14.4	Continued Partial Derivatives Tangent Planes & Linear Approximation
Id al-Adha Vacation: Oct. 18-Nov. 2, 2012			
8	Nov. 3-7	14.4 14.5 14.6	Continued The Chain Rule Directional Derivatives and the Gradient Vector
9	Nov. 10-14	14.6 14.7	Continued Maximum and Minimum Values
10	Nov. 17-21	14.8	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. 22, 2012; Material: [12.4 – 14.8]			
11	Nov. 24-28	15.1 15.2 15.3	Double Integrals over Rectangles Iterated Integral Double Integrals over General Regions
12	Dec. 1-5	15.3 15.4	Continued Double Integrals in Polar Coordinates The instructor may plan to review Mixed Problems from (15.2-3)
13	Dec. 8-12	15.6 15.7	Triple Integrals Cylindrical Coordinates (also, relation to rectangular coord.)
14	Dec. 15-19	15.7 15.8	Triple Integrals in Cylindrical Coordinates Spherical Coord. (also, relation to rectangular & cylind. coord.) Triple Integrals in Spherical Coordinates
15	Dec. 22-26		Review of Mixed Problems (15.6-8) if planned by the instructor
16	Dec. 29 Dec. 30-31		A Normal Sunday Class **(Last day of classes)** **Final Exam Preparation Break**
Final Exam: To be announced (exam week)			

Math 201 (121)
Homework and Recitation Problems

Section	Homework Problems
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 (Courtesy of Dr. Al-Rasasi):

1. Please do all the homework assignments on time.
2. You are urged to practice (but not memorize) more problems than the above lists.
3. You should always 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. You should try the recitation problems before coming to class.
6. You are encouraged to solve some of the review problems at the end of each chapter.
7. The practice you get doing homework and reviewing the class lectures and recitations will make exam problems easier to tackle.
8. Try to make good use of the office hours of your instructor.