King Fahd University of Petroleum and Minerals
Department of Mathematics & Statistics
Math 201 – Syllabus
2014-2015 (141)
Coordinator: Hafiz Fukhar-ud-din

Title: Calculus III
Credit: 3-0-3
Textbook: Thomas Calculus (Early Transcendentals) by G. B. Thomas, M. D. Weir and J. Hass, 12th edition, Pearson (2010)
Description: Polar coordinates, polar curves, area in polar coordinates, vectors, lines, planes and surfaces, cylindrical and spherical coordinates, functions of two and three variables, limit and continuity, partial derivatives, directional derivatives, extrema of functions of two variables, double integrals, double integrals in polar coordinates, triple integrals, triple integrals in cylindrical and spherical coordinates.

Grading Policy:

1. Exam I A common exam	**Material: (11.1—12.4) Place: TBA** **Date : Oct 22, 201: (Wednesday) Time: 5:45-7:45 pm**	25% (100 points)
2. Exam II A common exam	**Material: (12.5--14.7) Place: TBA** **Date: Nov 26, 2014 (Wednesday) Time: 5:45-7:45 pm**	25% (100 points)
3. Final Exam A comprehensive common exam	**Material: (Comprehensive) Place: TBA** **Date: Dec 30, 2014(Tuesday) Time: 8:00-11:00 am**	35% (140 points)
4. Class Work	**i) Online Homework:** The web address for online homework is: **kfupm.mylabsplus.com**	5% (20 points)
	ii) Class Activities: These are based on quizzes, class tests, or other class activities determined by the instructor. Any quiz or test under class activity should be of written type and not of multiple-choice type. **The average x (out of 40) of class activities of the sections taught by the same instructor should be in the interval [24, 30].**	10% (40 points)

Exam Questions: The questions of the common exams are based on the examples, online homework 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 the missed exam will be determined based on the existing formula which depends on his performance in the non-missing exam and in the final 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 8 unexcused absences.
Academic Integrity: All KFUPM policies regarding ethics apply to this course

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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	Aug.31-Sep.4	11.1	Parameterizations of Plane Curves
		11.2	Calculus with Parametric Curves
2	Sep. 7-11	11.3	Polar Coordinates
		11.4	Graphing in Polar Coordinates
3	Sep. 14-18	11.5	Areas and Lengths in Polar Coordinates
		12.1	Three-Dimensional Coordinate Systems
4	Sep. 21-25	12.2	Vectors
		12.3	The Dot Product
	⏃ **Tuesday, Sep 23, 2012: National Holiday**		
	⏃ **Id al-Adha Vacations: Sep 28-Oct 9, 2014**		
5	Oct. 12-16	12.4	The Cross Product
		12.5	Lines and Planes in Space
6	Oct. 19-23	12.6	Cylinders and Quadric Surfaces
			Review for Exam I
	⏃ **Exam I: Wednesday, Oct 22, 2014; Material: [11.1 – 12.4]**		
7	Oct. 26-30	14.1	Functions of Several Variables
		14.2	Limits and Continuity in Higher Dimensions
8	Nov. 2-6	14.3	Partial Derivatives
		14.4	The Chain Rule
9	Nov. 9-13	14.5	Directional Derivatives and the Gradient Vectors
		14.6	Tangent Planes & Differentials
10	Nov. 16-20	14.7	Extreme Values and Saddle Points
		14.8	Lagrange Multipliers
11	Nov. 23-27	14.8	Lagrange Multipliers (continued)
			Review for Exam II
	⏃ **Exam II: Wednesday, Nov 26, 2014; Material: [12.5 – 14.7]**		
12	Nov.30-Dec.4	15.1	Double and Iterated Integrals over Rectangles
		15.2	Double Integrals over General Regions
13	Dec. 7-11	15.2	Double Integrals over General Regions(continued)
		15.3	Area by Double Integration
14	Dec. 14-18	15.4	Double Integrals in Polar Form
		15.5	Triple Integrals in Rectangular Coordinates
15	Dec. 21-25	15.7	Triple Integrals in Cylindrical and Spherical Coordinates
			Review/Catch up
	Dec. 28		A Normal Tuesday Class **(Review)**
	Dec. 29		**Final Exam Preparation Break**
	Dec. 30		**Final Exam(Comprehensive)**

❖ *Tips on how to enhance your problem-solving abilities*
➢ Do all the homework assignments on time and practice more problems than the above lists.
➢ Try to solve a problem on your own before reading the solution or asking for help.
➢ If you find difficulty to handle some type of problems, you try more problems of same type.
➢ Review the previous lecture before coming to the class.
➢ Solve some of the review problems at the end of each chapter.
➢ Practicing homework problems and reviewing the class lectures will make exam problems easier to tackle.
➢ Visit your instructor in his office hours. Always bring partial solution of the questions, which you want to discuss with your instructor.