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

Math 201 – Syllabus

2013-2014 (133)
Coordinator: Jawad Abuihlail

Title: Calculus III

Credit: 3-0-3

Textbook: Thomas Calculus (Early Transcendentals) by G. Thomas, M. 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, limits 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	25% (100 points)
	Date: **Wednesday, June 25.**	**Time:** TBA	
2. **Exam II** A common exam	**Material:** (12.5--14.6)	**Place:** TBA	25% (100 points)
	Date: **Monday, July 14.**	**Time:** TBA	
3. **Final Exam** A comprehensive common exam	**Material:** (Comprehensive)	**Place:** TBA	35% (140 points)
	Date: **Thursday, August 14.**	**Time:** 08:00-11:00AM	
4. **Class Work**	**i) Online Homework:** The web address for online homework is kfupm.mylabsplus.com		5% (20 points)
	ii) Class Activities: It is 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, 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 this 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.

Pacing Schedule

Week	Dates (2014)	Sec.	**Topics** (25 sections)
1	June 08-12	11.1	Parameterizations of Plane Curves
		11.2	Calculus with Parametric Curves
		11.3	Polar Coordinates
		11.4	Graphing in Polar Coordinates
		11.5	Areas and Lengths in Polar Coordinates
2	June 15-19	12.1	Three-Dimensional Coordinate Systems
		12.2	Vectors
		12.3	The Dot Product
		12.4	The Cross Product
3	June 22-26	12.5	Lines and Planes in Space
		12.6	Cylinders and Quadric Surfaces
Exam I: Material 11.1- 12.4; Wednesday, June 25, 2014.			
4	June 29- July 3	14.1	Functions of Several Variables
		14.2	Limits and Continuity in Higher Dimensions
		14.3	Partial Derivatives
		14.4	The Chain Rule
5	July 6-10	14.5	Directional Derivatives and Gradient Vectors
		14.6	Tangent Planes & Differentials
		14.7	Extreme Values and Saddle Points
6	July 13-17	14.8	Lagrange Multipliers
		15.1	Double and Iterated Integrals over Rectangles
		15.2	Double Integrals over General Regions
Exam II: Material 12.5- 14.6; Monday, July 14, 2014.			
Ramadhan Break			
7	August 03-07	15.3	Area by Double Integration
		15.4	Double Integrals in Polar Form
		15.5	Triple Integrals in Rectangular Coordinates
8	August 10-12	15.6	Triple Integrals in Cylindrical and Spherical Coordinates
			Review/Catch up
Final Exam (Comprehensive): Thursday, August 14, 2014; 08:00-11:00AM.			

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

- Do all the homework assignments on time.
- Practice (but not memorize) 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 it difficult to handle a certain type of problems, you should try more problems of that type.
- Review the last lecture before coming to 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.