Prince Sultan University
Department of Mathematical Science

SYLLABUS
Semester 2, 2012-2013

Course : MATH 211
Title : Business Calculus
Textbook: Calculus for Business, Economics, and the Social & life Sciences
By: Laurence D. Hoffmann and Gerald Bradley; 10th Edition.

Week	Date	Sec.	Material
1	January 26 – 30	1.1 1.2	Functions The Graph of a Function
2	February 02 – 06	1.3 1.4	Linear Functions Functional Models
3	February 09 – 13	1.5 1.6	Limits One-Sided Limits and Continuity
4	February 16 – 20	2.1 2.2	The Derivative Techniques of Differentiation
5	February 23 – 27	2.3 2.4	Product and Quotient Rules; Higher-Order Derivatives The Chain Rule
6	March 02 – 06	2.5 2.6	Marginal Analysis & Approximations Using Increments Implicit Differentiation and Related Rates
7	March 09 – 13	3.1 3.2	Increasing and Decreasing Functions; Relative Extrema Concavity and Points of Inflection
8	**March 16 – 20**	3.3	Curve Sketching
9	March 21 – 29	x	**Midterm Vacation**
10	March 30 – April 03	3.3 3.4	Curve Sketching Optimization
11	April 06 – 10	3.5 4.1	Additional Optimization Problems Exponential Functions
12	April 20 – 24	4.2 4.3	Logarithmic Functions Differ. of Logarithmic & Exponential Functions
13	April 27 – May 01	5.1 5.2	Anti-differentiation: The Indefinite Integral Integration by Substitution
14	May 04 – 08	6.1 5.3	Integration by Parts The Definite Integral & The Fundam. Theo. of Calculus
15	May 11 – 15	5.4 5.5	Area between curves & Average Value Applications for Business and Economics
16	May 18 – 20	7.1 7.2	Functions of Several Variables Partial Derivatives
17	**May 21 –June 2**		**Final Exams**

Course Description:

The course includes the following materials:

- Functions, Graphs, and Limits: Functions, The graph of a function, Linear Functions, Limits, and Continuity.

- Differentiation: The Derivative, Techniques of Differentiation, The product and quotient Rules, Marginal Analysis, The chain Rule, The second Derivative, Implicit Differentiation and related rates.

- Additional Applications of the Derivative: Increasing and Decreasing Functions, Concavity, Limits involving Infinity, Optimization.

- Exponential and Logarithmic Functions: Exponential Functions, Logarithmic Functions, Differentiation of Logarithmic and Exponential Functions.

- Integration: The Indefinite Integral, Integration by Substitution, and by Parts.

- Further Topics in Integration: Definite Integral and its interpretation as area, The fundamental Theorem of Calculus.

- Calculus of Several Variables: Functions of several Variables, Partial Derivatives, Optimization Functions of two Variables, The Method of Lagrange Multipliers**.**

Grading Policy:

➢ First Exam	20%
➢ Second Exam	20%
➢ Quizzes	10%
➢ Homework	5%
➢ Attendance	5%
➢ Final Exam	40%

Class attendance:

- ➢ Students should not miss any class lecture without a legitimate excuse.

- ➢ In case a student misses a class, he must contact any one of his classmates to get all information and topics covered of classes he missed.

- ➢ "DN Grade" will be issued to a student who misses 13 classes.