Prince Sultan University
College: DES
First Semester 2017 – 2018 (Sem. 171)

INSTITUTIONAL COURSE SYLLABUS TEMPLATE

Course Code: **MATH 211**	Course Title: **Business Calculus**
Course Instructor: **Mr. Abid Bashir Zargar**	Email: **zargar@psu.edu.sa**
Credit Hours: **3**	Lectures: **U,T, Th.**
Office Hours: **8-9am**	
Office: **A-343**	

Mission:

The Department of General Sciences is committed to offering a broad high quality education that will lay a durable educational foundation to meet the specialized professional development requirements in PSU degree programs. The department supports the development of student's skills that enables them to perceive patterns in complexity, render reasoned judgments, and seek the highest level of intellectual achievement and personal growth. We also encourage the students to develop personal qualities such as perseverance, initiative, self-confidence and independence.

Course Description:

The course covers useful calculus functions such as one variable limits and differentiation, applications of Heuristic treatment of the exponential and logarithmic functions, and their properties.

II. Course Learning Outcomes:

Skills	Course Learning Outcomes	Measured by
Knowledge	**1) Recognize properties of functions and mathematically model real-life applications. (Knowledge)**	**Quizzes Major Exams Final Examination**
Cognitive Skills	**2) Evaluate limits of functions from their graphs and/or equations. (Cognitive)** **3) Use derivatives to construct graphs of selected functions (Cognitive)**	**Quizzes Major Exams Final Examination**
Communication, Information Technology, Numerical	**4) Determine derivatives for functions involving powers, exponentials, logarithms and combinations of these functions and solve business and economic applications using these derivatives. (Numerical)** **5) Integrate selected functions and solve business and economic applications using these results. (Cognitive and Numerical)** **6) Evaluate multivariable functions and determine the first-order and second-order partial derivatives(Cognitive and Numerical)**	**Quizzes Major Exams Final Examination**

III. Course Content / Weekly schedule

Week	Date	Sec.	Topics	Contact Hours
1	Sep 17 – 21	1.1	Introduction Functions	3
2	Sep 24 – 28	1.1 1.2	Functions The Graph of a Function	3
3	October 01 – 05	1.3 1.4	Linear Functions Functional Models	3
4	October 08 – 12	1.5 1.6	Limits One-Sided Limits and Continuity	3
5	October 15 – 19	2.1 2.2 2.3	The Derivative Techniques of Differentiation Prod. & Quot. Rules; High-Order Deriv.	3
6	October 22 – 26	2.4 2.5	The Chain Rule Marginal Analysis & Approximations	3
Major I Exam Sunday 29 October (Ch. 1.1 -- 2.4)				
7	Oct. 29 – Nov. 02	2.6 3.1	Implicit Differentiation and Related Rates Inc. and Dec. Functions; Relative Extrema	3
8	November 05 – 09	3.2 3.3	Concavity and Points of Inflection Curve Sketching	3
9	November 12 – 16	3.4 4.1	Optimization Exponential Functions	3
10	November 19 – 23	4.2 4.3	Logarithmic Functions Diff. of Logarithmic & Exponential Functions	3
11	November 26 – 30	5.1	Anti-differentiation: The Indefinite Integral	3
12	Dec. 03 – 07	5.2 5.3	Integration by Substitution The Definite Integral	3
Major II Exam Sunday 10 December (Ch. 2.5 – 5.2)				
13	Dec. 10 – 14	5.4 6.1	Area between curves & Average Value Integration by Parts	3
14	Dec. 17 – 21	6.1	Integration by Parts	3
15	Dec. 24 – 28	7.1 7.2	Functions of Several Variables Partial Derivatives	3

IV. Course Components

Component	Contact Hours
Lecture	3

V. Teaching Strategies

Domain	Strategy
Knowledge	Lectures, Concept presentation..
Cognitive Skills	Drill work , Lectures, Concept presentation
Interpersonal Skills & Responsibility	Example presented in the class , Lectures, Concept presentation
Numerical & Communication Skills	Practice Sheets Problem Solving questions

VI. Course Requirements

Quizzes, Major Exams, Homework, and Final Exam

VII. Student Assessment

A. Assessment Task

Domain	Assessment Task
Knowledge	Major Exams , Final Examination, Quizzes
Cognitive Skills	Assignments , Major Exams & Final Examination
Interpersonal Skills & Responsibility	Class Participation & Attendance, Major Exams , Final Examination, Quizzes
Numerical & Communication Skills	Oral, Written Tests and Assignments

B. Schedule of Assessment

Assessment	Assessment Task	Week Due	Proportion of Final Assessment
1	**Quizzes**	**Weekly**	**10%**
2	**Major Exams**	**Week 7 Week 13**	**40%**
3	**Homework**	**As per published deadlines**	**5%**
4	**Attendance and Participation**	**Daily**	**5%**
5	**Final Examination**	**Week 17**	**40%**

VIII. Learning Resources

1. Text Book:- **Calculus for Business, Economics, and the Social & Life Sciences By: Laurence D. Hoffmann and Gerald Bradley; 11th Edition.**

2. Reference Book:-**Introductory Mathematical Analysis for Business, Economics and the life& Social Sciences Author: Ernest Haeussler, Richard Paul, Richard Wood, Saadia Khouyibaba Arab Edition, Pearson**

Electronic Materials, Web Sites

Access to University LMS

A. Facilities Required

a. Classrooms with capacity of 30 students
b. Whiteboard
c. Data show projector and screen
d. Smart board

B. Learning Management System

LMS is efficiently used. All solutions to quizzes and Major Exams, Lecture Notes and Important instructions can be found on the university LMS at https://lms.psu.edu.sa/

Class attendance:

- Students are required to attend all classes starting from the first day of the semester. Attendance will be taken at the start of the lecture. If the student enters the classroom after the attendance was taken and within **5 minutes,** he will be marked **late.** 3 lates will be counted as one absence. If the student enters the classroom **after 5 minutes,** he will be marked **absent.**

- **No excuses for missing classes, including medical reasons, are accepted.** Any excuse, legitimate or not, will be counted against the student's limit for DN (13 Absences).

- "**DN Grade**" will be issued to a student who **misses 13 classes**. This means he cannot enter any more classes or exams. **(1st warning: 5 absences ; 2nd warning: 9 absences)**

- 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.**

- 5 points will be assigned to the attendance. **Half a point will be deducted** from the student's total grade for every one absence.

Math Department Website:

- A student can visit "The Math Department Page" through the "Math and General Sciences" Website **(info.psu.edu.sa)** where he can find several helping information such as the syllabi for all math courses, useful links to help the student in his study, and a huge collection of the previous midterm and final exams that were administered by the Department through the previous semesters.

Calculators:

- Only Scientific Calculators are allowed in this course (No Graphing Calculators).
  We recommend **Casio fx-991ES**

Office Hours:

- You are advised and encouraged to seek help to clarify matters that are not clear to you as soon as possible.
- Check the table posted on your instructor's door for the office hours incase you need assistance or you need to inquire about matters concerning your marks, absence, and so on. If you need to see him at a different time, arrange with him in advance.