



Prince Sultan University
College: DES
Second Semester 2017 – 2018 (Sem. 172)

INSTITUTIONAL COURSE SYLLABUS TEMPLATE

Course Code: MATH 211	Course Title: Business Calculus
Course Instructor: Mr. Khaled Naseralla	Email: knaseralla@psu.edu.sa
Credit Hours: 3	
Office Hours: Various	Course Location: E - 352
Office Location: E - 334	

Mission Statement:

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. Tentative Weekly Course Schedule:

Week	Date	Sec.	Topics	Contact Hours
1	January 21 – 25	1.1	Introduction Functions	3
2	January 28 – Feb. 01	1.1 1.2	Functions The Graph of a Function	3
3	February 04 – 08	1.3 1.4	Linear Functions Functional Models	3
4	February 11 – 15	1.5 1.6	Limits One-Sided Limits and Continuity	3
5	February 18 – 22	2.1 2.2 2.3	The Derivative Techniques of Differentiation Prod. & Quot. Rules; High-Order Deriv.	3
6	Feb. 25 – March 01	2.4 2.5	The Chain Rule Marginal Analysis & Approximations	3
Major I Exam Monday 05 March (Ch. 1.1 -- 2.4)				
7	March 04 – 08	2.6 3.1	Implicit Differentiation and Related Rates Inc. and Dec. Functions; Relative Extrema	3
8	March 11 – 15	3.2 3.3	Concavity and Points of Inflection Curve Sketching	3
9	March 18 – 22	3.4 4.1	Optimization Exponential Functions	3
Thursday - March 22, Last day for dropping one or more courses with grade of "W"				
10	March 25 – 29	4.2 4.3	Logarithmic Functions Diff. of Logarithmic & Exponential Functions	3
11	April 01 – 05	5.1	Anti-differentiation: The Indefinite Integral	3
12	April 08 – 12	5.2 5.3	Integration by Substitution The Definite Integral	3
Major II Exam Monday 16 April (Ch. 2.5 – 5.2)				
13	April 15 – 19	5.4 6.1	Area between curves & Average Value Integration by Parts	3
14	April 22 – 26	6.1	Integration by Parts	3
15	April 29 – May 03	7.1 7.2	Functions of Several Variables Partial Derivatives	3

IV. Course Components

Component
Lecture

Contact Hours
45

**V. Student Assessment & Teaching Strategies: Assessment Task
 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	14 May, 2018	40%

VIII. Learning Resources

A. References

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

B. Facilities Required

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

C. 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/>

IX Classroom Policies

A. Academic Integrity Policy (e.g. plagiarism or dishonesty)

Plagiarism can be defined as unintentionally or deliberately using another person's writing or ideas as though they are one's own. Plagiarism includes, but is not limited to, copying another individual's work and taking credit for it, paraphrasing information from a source without proper documentation, and mixing one's own words with those of another author without attribution. In addition, buying a paper or project, or downloading a paper from the Internet, and submitting them as your own are also plagiarism. The penalty for academic dishonesty will bring course expulsion and failure, or even suspension.

B. Attendance Policy

- **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 after the first 3 absences.**

C. Homework Submission Policy

Homework will be given throughout the semester whenever appropriate and to be handed back as specified by the instructor. Late homework is *not* accepted. Homework is very important to consolidate your understanding of the topics discussed in class.

Homework counts for 5% of your total grade.

A list of problems for practice is provided along with the syllabus.

D. Quizzes:

Quizzes will be given at the beginning of some lessons. The quiz covers the materials discussed during the previous lecture.

- **If you are absent or late, then you will get a zero for the quiz. There are no make-up quizzes.**
- **Quizzes count for 10% of your total grade.**

Make-up for Quizzes and Exams

- If you miss an exam due to a severe medical emergency the department may offer you a make-up exam provided you bring a **valid medical excuse from a governmental hospital** within **one-week** of the exam. **After one week no excuses will be accepted and no make-up exam will be offered.**

Math Department Website:

- A student can visit “The Math Department Page” through the “Math and General Sciences” Website (info.psu.edu.sa/psu/math) 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 in case 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.**

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Title : Business Calculus

Textbook: Calculus for Business, Economics, and the Social and life Sciences Laurence D. Hoffmann and Gerald Bradley; 11th Edition.

SECTION	PAGE	SUGGESTED PRACTICE PROBLEMS
1.1	12	4, 7, 10, 13, 21, 24, 28, 34, 38, 42, 46, 48, 57, 58, 60, 62, 66, 76
1.2	26	2, 6, 8, 11, 16, 19, 24, 28, 30, 33, 40, 42, 44, 45, 48
1.3	40	1, 4, 6, 10, 18, 20, 22, 25, 26, 28, 34, 36, 38, 51, 55, 57
1.4	56	4, 8, 12, 15, 16, 18, 34, 35, 37, 38
1.5	74	8, 11, 14, 16, 18, 22, 24, 26, 28, 32, 34, 36, 40, 42, 46, 48, 52, 54, 58
1.6	87	2, 4, 8, 10, 12, 14, 16, , 20, 24, 26, 28, 32, 38, 40, 42, 54, 56, 57, 58, 60
Review	92	2, 6, 8, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 36, 37, 55, 58
2.1	114	4, 6, 10, 12, 18, 22, 24, 26, 32, 34, 38
2.2	128	4, 8, 12, 14, 18, 22, 24, 28, 30, 32, 34, 40, 42, 45, 46, 47, 48, 50, 52, 54, 60,70, 72
2.3	142	2, 6, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 34, 38, 44, 46, 48, 52, 62, 64
2.4	156	2, 4, 8, 12, 14, 16, 20, 22, 24, 26, 32, 34, 36, 38, 40, 44, 50, 52, 58, 66, 68, 70, 72
2.5	168	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 21
2.6	181	2, 4, 6, 7, 12, 16, 18, 22, 24, 30, 33, 36, 40, 42, 46
Review	186	2, 4, 6, 10, 12, 14, 16, 18, 22, 24, 30, 35, 40, 48, 51, 55, 61, 62
3.1	209	2, 6, 8, 10, 14, 18, 20, 22, 24, 26, 30, 32, 34, 36, 40, 42, 54, 56, 72
3.2	228	4, 6, 10, 12, 16, 18, 20, 24, 28, 30, 34, 38, 40, 44, 54, 56, 58
3.3	243	2, 6, 8, 10, 14, 16, 18, 24, 28, 32, 40, 42, 44, 46, 48, 61
3.4	261	2, 8, 12, 16, 18, 20, 24, 28, 32, 34, 36, 45
Review	287	2, 4, 6, 8, 16, 22, 24, 26, 28, 30, 31, 40, 42, 43
4.1	309	4, 6, 8, 12, 16, 18, 20, 22, 28, 34, 36, 38, 40, 40, 42, 44, 46, 52, 54, 63
4.2	325	6, 8, 12, 16, 20, 24, 28, 30, 36, 42, 44, 46, 48, 50, 52
4.3	340	2, 4, 6, 10, 16, 22, 26, 34, 36, 38, 40, 44, 46, 48, 50, 54, 56, 58, 60, 62, 66, 70, 72
Review	364	2, 5, 12, 14, 18, 22, 26, 28, 30, 32, 40, 44, 46, 57, 58, 60
5.1	388	6, 10, 12, 16, 20, 24, 28, 30, 34, 38, 40, 44, 46, 48, 54, 56
5.2	403	2, 4, 8, 10, 14, 18, 20, 26, 30, 34, 38, 42, 44, 48, 58, 74, 76
5.3	419	4, 6, 10, 12, 20, 22, 28, 34, 36, 41, 42, 44, 52, 56, 58, 66, 68
5.4	437	4, 6, 10, 12, 13, 17, 20, 24, 25, 28, 30, 32, 35, 45, 62
5.5	450	2, 4, 8, 12, 16, 20, 24, 34
Review	469	2, 4, 6, 10, ,12, 17, 19, 24, 26, 29, 30, 32, 34, 36, 40, 47
6.1	461	4, 10, 14, 18, 22, 24, 26, 30, 36, 38, 44, 46
7.1	556	2, 4, 6, 10, 12, 14, 19, 22, 34
7.2	571	2, 4, 6, 12, 16, 22, 26, 30, 32, 36, 39

