KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

COURSE SYLLABUS FOR BUSINESS MATHEMATICS			
Course Title	**Business Mathematics**		
Course Code	**MTH1405**	**No. of Credits**	**4**
Department	**Business Departments**	**College**	**Business**
Pre-requisites Course Code	**College Algebra**	**Co-requisites Course Code**	
Course Coordinator(s)	**Dr. hothefa shaker jassim**		
Email	**Hothefa.shaker@komar.edu.iq**	**IP No.**	**117**
Other Course Teacher(s)/Tutor(s)			
Class Hours	**10:00 to 11:50 Sunday, Tuesday**		
Contact Hours	**2:30 to 4:30 Sunday Tuesday**		
Course Type	**❒University course ☐College course ☐Department course ☐ Elective**		
Offer in Academic Year	**Fall 2015**		

COURSE DESCRIPTION

This course has been designed to provide mathematical functions for students enrolled in Business and economics. It begins with non-calculus topics such as functions, equations, and matrix algebra, then some calculus topics will be covered with applications.

COURSE OBJECTIVES

Describe the main concepts calculus, and sketch a function and to learn about derivatives, integrals, and the fundamental theorem of calculus that gives the relation between derivatives and integrals

COURSE LEARNING OUTCOMES

After participating in the course, students would be able to:

AACSB (C and E)

1- Recognize the terms domain and range.
2- Find the Average rate of change, slop and formula of tangent.
3- Evaluate the limit of a function and its continuity at a point.
4- Sketch graphs, using function, its first derivative, and the second derivative.
5- Compute the value of a definite integral using the Fund. Theorem.

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GUIDELINES ON GRADING POLICY

Points	Percentage Scores	Grade
A	95–100	4.0
A-	90-94	3.7
B+	87–89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	75–79	2.3
C	70-74	2.0
C-	65-69	1.7
D+	60–64	1.3
D	55-59	1.0
D-	50-54	0.7
F	0–49	0
I	Incomplete Course Work	
W	Official Withdrawal	

Note: The minimum passing grade to pass this course is C- which is equivalent to 65%.

COURSE CONTENT

Course topics include:
Chapter 1: Linear Systems Equations (1)
Chapter 2: Functions, Graphs and Lines (1 and 2)
Chapter 3: Limits and Continuity (2 and 3)
Chapter 4: Differentiation (4)
Chapter 5: Additional Differentiation Topics (4)
Chapter 6: Integration (5)

COURSE TEACHING AND LEARNING ACTIVITIES

Course Teaching and Learning Activities: (short description)

1. Student will be exposed to business applications of each math concept that introduced every week.
2. Student will be taking a short-sided assessment consisting of 3-4 questions from the week worth of lessons. They will be given the first 15 minutes of class every week.
3. Interactive class discussion
4. Hands-on exercises.
5. Quizzes.
6. Assignments.
7. Tests.
8. All students will be given the opportunity to earn extra credit points throughout the semester. However, the extra credit offered will not exceed one full letter grade of the student's total grade for the quarter.

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COURSE ASSESSMENT Tools	
Assessment Tool	**Weight**
ESSENTIAL READINGS: (Journals, textbooks, website addresses etc.)	
Homework & Assignment Exercises	10%
Quizzes	15%
Midterm	20%
Test #1	15 %
Final Exam	40%

Textbooks:

By Laurence D. Hoffmann. Gerald L. Bradley, **Calculus for Business Economics, and the Life and Social Sciences.** 10th Edition, 2010McGraw-Hill Companies, Inc.

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References:

1. **Mathematics for economics and Business.** By Ian Jacques, 3rd Edition, 1999, Prentice Hall.
2. **Calculus for Business Economics, and the Life and Social Sciences.** By Laurence D. Hoffmann. Gerald L. Bradley, 10th Edition, 2010McGraw-Hill Companies, Inc.
3. **Calculus Author: Ron Larson Cengage Learning 2013, 10th edition ISBN-10: 1285057090 | ISBN-13: 978-1285057095**

COURSE POLICY *(including plagiarism, academic honesty, attendance etc)*

Classroom Expectations Policy

Students are expected to come to class on time and expected and attend each class for the entire semester. Students are responsible for material presented in lectures. Students should prepared and ready to work. Students are to respect each other and their property. Students are expected to be responsible for their work – making sure all assignments are turned in on time. Students are not permitted to eat or drink in the classroom.

Attendance is taken at the beginning of each class. Only students with official KUST absences, family crises, and illness are excused from class. Three occasions of lateness count as one absence. The student who misses 10 percent of the course classes will be placed on probation. **Class attendance will be part of the final grade.**

Make-up Policy

Since all examinations are announced in advance, **zero grade** will be given to any missed examination unless a student has an acceptable reason such as illness (MUST bring MC), for not being able to take the examination during **all** those days when the examination was announced.

Homework Policy

Students are expected to complete homework to be turned in the next day of class at the beginning of the period. (unless otherwise specified) The homework must be headed with name, date, and the problems assigned. Late work will be accepted only one day late, and the student will receive partial credit at that time.

Students must be prepared in case to present homework problems on the board the next day.
Copying of homework will result in an automatic **0.**

Calculators: calculators are allowed and may be useful in class only.

Academic Dishonesty

Students who violate university standards of academic integrity are subject to disciplinary sanctions, including failure in the course and further punishment by the University Consul.

GUIDELINES FOR SUCCESS

Be Responsible

1. Be on time and be prepared with daily material, completed assignments and prepared questions
2. Follow the student Code of Conduct, and always act with academic honesty*

Be Respectful

1. Speak kindly to others
2. Listen quietly to others
3. Understand that others may have different opinions

Be Ready to Learn

1. Arrive on time and bring your supplies to class every day
2. Keep food out of sight/no sharing
3. Electronics should be stowed and in the off position during class

Course calendar: Please check the academic calendar for fall2014

Note: Supple problems will be given either as homework or hands on exercises during the class, two difficulty levels will be followed:

1- Level A which is classified as easy.
2- Level B which is classified as average to difficult.

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Week	Beg/End Dates	Topics (Chapters)	Course Task and Requirement
1	28/02/2016 3/03/2016	**Syllabus Discussion** CHAPTER 1 Linear Equations and Graphs 1.1 Sets of Real Numbers 1.2 Some Properties of Real Numbers 1.3 Linear Equations and Inequalities 1.4 Operations with Algebraic Expressions **Business Applications for the above concepts**	**Exercises**: # All odd number 1.1,1.2,1.4 and 3.1
2	6/03/2016 10/03/2016	CHAPTER 2 Functions 2.1 Introduction to function 2.2 Functions and Their Graphs 2.3 Combining Functions; Shifting and Scaling Graphs	**Exercises: 2.1**: all odd numbered problems from 1 to 43 **Exercises: 2.2**: all odd numbered problems from 1 to 21 **Exercises: 2.3**: all from 1 to 15
3	13/03/2016 17/03/2016	2.4 Inverse Functions 2.5 Lines 2.6 Linear Functions and Applications 2.7 Exponential Functions and Logarithms **Business Applications for the above concepts**	**Exercises: 2.4**: all from 1 to 11 **Exercises: 2.5**: all odd numbered problems from 1 to 39 **Exercises: 2.6**: all odd numbered problems from 1 to 18 **Exercises: 2.7**: 18 and all odd numbered problems from 1 to 19 Quiz 1
Nawroz Holiday			
4	27/03/2016 31/03/2016	CHAPTER 3 3.1 Introduction to Limits 3.2 The Precise Definition of a Limit 3.3 Limits Involving Infinity	**Exercises**: 3.1: all odd numbered problems from 1 to 61 **Exercises**: 3.3: all odd numbered problems from 1 to 27
5	3/ 04/2016 7/ 04/2016	3.4 Continuity 3.5 the Average rate of change 3.6 LHopital s Rule **Business Applications for the above concepts**	**Exercises**: 3.4: all odd numbered problems from 1 to 23 **Exercises**: 3.5: all problems from 1 to 14 Quiz 2
6	10/04/2016 14/04/2016	CHAPTER 4 4.1 Differentiation Rules The Derivative as a Rate of Change 4.2 Basic Differentiation Properties **Business Applications for the above concepts**	**Exercises**: 4.1: all problems from 1 to 14 **Exercises**: 4.2: all odd numbered problems from 1 to 55

7	17/04/2016 21/04/2016	4.4 Derivative using Chain Rule 4.5 Derivatives of Exponential and Logarithmic Functions	**Exercises**: 4.3: all odd numbered problems from 1 to 53 **Exercises**: 4.4: all odd numbered problems from 1 to 35
Midterm Exam			
8	1/05/2016 5/05/2016	CHAPTER 5 5.1 First Derivative and Graphs **Business Applications for the above concepts**	**Exercises: 5.1**: problems 1-43 and all odd numbered problems from 9 to 43
9	8/05/2016 12/05/2016	5.3 Second Derivative and Graphs 5.2 The Mean Value Theorem **Business Applications for the above concepts**	Quiz 3
10	15/05/2016 19/05/2016	**Lab Programming** (**Real business problems to be solved using Programming**)	**Exercises: 5.2**: all odd numbered problems from 1 to 57 **Exercises: 5.3**: all odd numbered problems from 1 to 33 **Exercises: 5.4**: all odd numbered problems from 1 to 25
11	22/05/2016 26/05/2016	5.4 Concavity and Curve Sketching. 5.5 Absolute Maxima and Minima 5.6 Sketching the Graph with points **Business Applications for the above concepts**	Quiz 4
12	29/05/2016 2/06/2016	CHAPTER 6 6.1 Idea of Integrations {Antiderivatives, sigmanotation and Limits of Finite Sums}.	**Exercises: 6.2**: all odd numbered problems from 1 to 27
13	5/06/2016 16/06/2016	6.2 The Fundamental Theorem of Calculus. 6.3 Indefinite integrals and the substitution method. **Business Applications for the above concepts**	**Exercises 6.3**: all odd numbered problems from 1 to 55 **Exercises 6.4**: all problems from 1 to 8 **Test #1**
14	12/06/2016 16/06/2016	6.4 The Definite Integral 6.5 Applications in Business and Economics 6.6 Finding the area under the curve	Quiz 5
15	**Study week**		
16	**Final Exam**		