اعتماد
NCAAA

T4
2020

Course Specifications

Course Title:	**Business Mathematics**
Course Code:	**MATH 1121**
Program:	**(English)**
Department:	**Finance and Banking**
College:	**College of Business Administration**
Institution:	**Dar Al Uloom University**

Table of Contents

A. Course Identification

1. Credit hours: 3	
2. Course type	
a. University ☐ College ☑ Department ☐ Others ☐	
b. Required ☑ Elective ☐	
3. Level/year at which this course is offered: Third / 2nd year	
4. Pre-requisites for this course (if any)**: MATH 1100**	
5. Co-requisites for this course (if any)**: NIL**	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	45	%100
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	45
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

The purpose of this course "Business Mathematics" is to increase student mathematical knowledge and skills and provide methods for solving business problem. The course covers linear and quadratic functions and graphs, as well as presents solution of equations and inequalities. The course also introduces students to the average rate of change and instantaneous rate of change as the definition of derivatives, differentiation rules, differentiation techniques, and differentiation of exponential and logarithmic functions. In addition, the course presents application of first and second derivatives in finding local maximum and local minimum and inflection points. The last part introduces the idea of integration as anti-derivatives and extends the topics to the fundamental theorem of calculus and applications.

2. Course Main Objective
- Introduce students to function and equations.
- Introduce students to the average rate of change and instantaneous rate of change.
- Introduce students to introduces the idea of integration

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize the Numerical, Algebraic and graphical viewpoints of linear and quadratic equations.	K.1
1.2	Recognize the limits, derivatives, anti-derivatives, slope of a function, extremas, and inflection point of a function, definite integrals and its applications.	K.2
1.3	Interpret mathematical information and how it applies to real - world context.	K.3
1.4	Demonstrate knowledge of derivatives and the ability to apply them to find solutions for financial problems in real life.	K.4
2	**Skills :**	
2.1	Use mathematical knowledge and calculations in the context of real-world settings.	S.1
2.2	Ability to identify and apply correct mathematical methods to solve real-world problems.	S.2
3	**Values:**	
3.1	Develop team work and participation spirit that will help them in real life work environment to be successful team player.	V.1
3.2	Show accountability for their own learning and scientific work by being independent and self-directed learners.	V.2
3.3	Demonstrate information technology and numerical ability through the use of Microsoft excel and software's.	V.3

C. Course Content

No	List of Topics	Contact Hours
1	Fundamentals of Algebra	3
2	Equations and Inequalities (linear and quadratic)	3
3	Functions and Graphs	3
4	Differential Calculus (Limits and Continuity)	6
5	Differential Calculus (Tangent Line and Derivatives)	6
6	Differential Calculus (Finding Derivatives: Products, Quotient, and Chain Rules)	6
7	Applications of Derivatives (Increasing and Decreasing Functions, Concavity, and Extrema's)	6
8	Integral Calculus (Anti-derivatives)	6
9	Integral Calculus (Fundamental Theorem of Calculus and Applications)	6
	Total	**45**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Recognize the Numerical, Algebraic and graphical viewpoints of linear and quadratic equations.	• Direct	Quizzes Assignments Midterm exam • Final exam
1.2	Recognize the limits, derivatives, anti-derivatives, slope of a function, extremas, and inflection point of a function, definite integrals and its applications.	• Direct	Quizzes Assignments Midterm exam • Final exam
1.3	Interpret mathematical information and how it applies to real - world context.	• Direct	Quizzes Assignments Midterm exam • Final exam
1.4	Demonstrate knowledge of derivatives and the ability to apply them to find solutions for financial problems in real life.	• Direct	Quizzes Assignments Midterm exam • Final exam
2.0	**Skills**		
2.1	Use mathematical knowledge and calculations in the context of real-world settings.	• Direct/Indirect	Exams Quizzes Assignment • Project
2.2	Ability to identify and apply correct mathematical methods to solve real-world problems.	• Direct/Indirect	Exams Quizzes Assignment • Project
3.0	**Values**		
3.1	Develop team work and participation spirit that will help them in real life work environment to be successful team player.	• Interactive instruction	• Group Projects Assignments
3.2	Show accountability for their own learning and scientific work by being independent and self-directed learners.	. Interactive instruction	. Group Projects Assignments
3.3	Demonstrate information technology and numerical ability through the use of Microsoft excel and software's.	• Interactive instruction	• Assignments

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz		10%
2	Homework/Assessments/Projects		20%
3	Mid term		30%
4	Final Exam		40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

1. Eight Office hours weekly can be booked through the students' SIS account.
2. Online discussion through the LMS forums and instant messaging.
3. Instructor email available in the course syllabus.

4. Occasional mobile calls or SMS for urgent messages.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Calculus for Business, Economics, and the Social and Life Sciences, 11th EditionLaurence D. Hoffmann and Gerald L. Bradley.
Essential References Materials	Introduction to Mathematics for Business and Social Sciences, 3rd Edition
Electronic Materials	https://www.mathsisfun.com/data/function-grapher.php
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom.
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show + smart boards.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Internet access point.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
End of semester Course Evaluation.	Students	Indirect
Effectiveness of teaching and assessment.	Peer reviewer	Indirect
Course learning outcomes assessment.	Faculty members	Direct
Quality of learning resources	Students	• Indirect

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department of Finance & Banking
Reference No.	Meeting Num 3, second semester
Date	March 17th 2022 at 12h30, Room B116