Course Specifications

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

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7. Course Identification

1. Credit hours:	**3 Hours**
2. Course type	
a.	University ☐ College **P** Department ☐ Others ☐
b.	Required **P** Elective ☐
3. Level/year at which this course is offered:	2nd year/First semester
4. Pre-requisites for this course (if any)**: Math 131**	
5. Co-requisites for this course (if any)**:**	

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	**Correspondence**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	45
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	45
Other Learning Hours*		
1	**Study**	1
2	**Assignments**	1
3	**Library**	
4	**Projects/Research Essays/Theses**	2
5	**Others**(specify)	
	Total	4

***The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

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	AlignedPLOs
1	**Knowledge:**	
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.1
2	**Skills:**	
2.1	Identify the useful mathematical information from data presented in numerical, algebraic and graphical form.	S.2
2.2	Interpret mathematical information and its appliications.	S.2
3	**Competence:**	
3.1	Develop team work and participation spirit that will help them in real life work environment to be successful team player	C.1
3.2	Develop leadership skills and ability to take initiatives in solving complex problem	C.1
3.3	illustrate information technology and numerical ability through the use of Microsoft excel and softwares.	C.3,C.4

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**		
1.1	Recognize the Numerical, Algebraic and graphical viewpoints of linear and quadratic equations.	Direct Indirect	Exams Homework
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 Indirect	
2.0	**Skills**		
2.1	Identify the useful mathematical information from data presented in numerical, algebraic and graphical form.	Direct Indirect	Quizzes Homework Midterm exam Final exam
2.2	Interpret mathematical information and its appliications.	Direct Indirect	
3.0	**Competence**		
3.1	Develop team work and participation spirit that will help them in real life work environment to be successful team player	Interactive	Homework
3.2	Develop leadership skills and ability to take initiatives in solving complex problem		
3.3	illustrate information technology and numerical ability through the use of Microsoft excel and softwares.		

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	Mathematical Applications for the Management, Life, and Social Sciences, 12th Edition, **Harshbarger/Reynolds - ©2019**
Essential References Materials	Introduction to Mathematics for Business and Social Sciences, 3rd Edition, Dr. Ibrahim Aljasser
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 oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	