



Future Academy
Higher Future Institute for Specialized Technological Studies

Course Specification

1- Course information:	
Course Code:	214
Course Title:	Mathematics of Business
Year/level	1 st
Academic Programs	Business Administration Program (B.Sc.)
Contact hours/ week	Theoretical 3 hrs. / Tutorial 2 hrs. = Total 5 hrs.

2- Course aims:
Provide a firm foundation of the concepts of mathematics of business and how it used to solve business problems especially in marketing and accounting. To archive this goal the student Mainly Differentiation of functions of one and several variables and integrations with practical application especially how to calculate areas and volumes of bounded regions

3- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding:

On successful completion of this course, the student should be able to:

- A1: Recognize firm foundation in the concepts and techniques of calculus.
- A2: Recognize good knowledge of integrable one variable functions.
- A3: identify the major concepts and approaches in Mathematics.
- A4: state the rules of integration and differentiation.
- A5: Provide good analysis to Linear programming.

b- Intellectual skills:

On completing this course, the student should be able to:

- B1: compare the different approach to solve mathematical problems .
- B2: Develop a general appreciation of the goals, subareas, achievements and difficulties of the Problem by determinant and matrices.
- B3: Apply logical and intellectual skills to maximize and minimize the functions.

B4: Apply the basic skills of integration for calculating areas and volumes of complicated regions.

B5: Develop skills in the use of computer tools for solving mathematical problems related to course topics.

c- Professional and practical skills:

At the end of this course, the student will be able to:

C1: draw the different graphs for linear programming .

C2: Investigate to describe the best module of the Problem.

C3: prepare best techniques for solving integral problems.

C4: prepare best techniques for applying integration methods.

C5: solve the quadratic equations.

d- General and transferable skills:

On successful completion of this course, the student should be able to:

D1: Compute the maximum profit by differentiation .

D2: compute the value of determinant and matrix

D3: Work effectively both in a team and independently.

D4: Use the internet and electronic library.

D5: Mathematical techniques for application in physical sciences.

4- Course contents

Topics/units	Number of hours		ILO's
	Lecture hours	Practical hours	
1- Introduction to principle of Mathematics	3	2	a1, b1, c2, d3
2- types of functions	3	2	a2, b1, c2, d4
3- linear equations	3	2	a3, b2, c2, d3
4- quadratic equations and applications +Quiz 1	3	2	a1. b3. c5. d4s
5- Linear programming			a5, b5, c1. d1
6- Introduction to Determinants and its properties.	3	2	a2, b2, c2, d2
7- Midterm Exam	3	2	a 1, a2, b1, b2, b4
8- how to solve it using Sarrv's rule and Crummer's law (2×2) and (3×3)	3	2	a3, b4, c2, d2
9- Introduction to Matrices and how to solve it using determinants	3	2	a1,b1,c1,d2
10- differentiation			a4, b4, c1, d1

11 Max, and, min Limits Quiz 2	3	2	a3, b3, c1, d1
12 Integration	3	2	a4 , b4, c4, d4
13- Integration in business applications	3	2	a4,b4, c4, d5
14- Revision			a2, b3, c4. d5

5- Teaching and learning methods

Methods	ILO's																			
	a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	c1	c2	c3	c4	c5	d1	d2	d3	d4	d5
Lectures	√						√				√							√		
Practical sections/ Tutorial		√			√						√	√				√				
Self-learning			√	√		√		√					√				√			
Assays and reviews	√								√			√						√		
Discussion groups		√			√		√							√		√				
Brainstorming																				
Problem-solving																				
E-learning																				
Blended learning																				

Teaching and learning methods for Low-achieving students

- Extra teaching hours for those who need help
- More quizzes to assess their ability for understanding the course
- Encourage the team work for those students with other advanced ones to increase their participation and understanding

6- Student assessment

Assessment method	Time	Grade weight (%)	Week	ILOs
Course Work (Tutorial Exercise and Assignments)		10	Every week	a1, a3, a5, b1, b4, c2, c1,d1, d2
Quiz 1	1	10	Week#4	a 2, b1, b2

Mid-term exam	1	20	Week#7	a 1, a2, b1, b2, b4
Quiz 2	1	10	Week#11	a 1, b1, b3
Final Written exam	2	50	----	a1, a3, a5 ,b1,b4

7-List of references

8.1. Student notebooks:

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8.2. Essential textbooks:

Calculus, Stokowski, Fifth Edition, 1991.

8.3. Recommended textbooks:

Mathematical Analysis For Business, Economics, and the life and Social Sciences

8.4. Journals, Periodical and Reportsetc.

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8.5. Websites

<https://www.mathplanet.com/>

Course Coordinator: Assoc. Prof. Amira Eldesokey

Head of department: Associate professor Dr. Mohamed Elbaz

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