



Form: Course Syllabus	Form Number	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	
	Deans Council Approval Decision Number	2/3/24/2023
	The Date of the Deans Council Approval Decision	23/01/2023
	Number of Pages	08

1.	Course Title	Mathematics for Business Administrative
2.	Course Number	0331103
3.	Credit Hours (Theory, Practical)	3
	Contact Hours (Theory, Practical)	3
4.	Prerequisites/ Corequisites	None
5.	Program Title	BSc. Mathematics
6.	Program Code	
7.	School/ Center	Science
8.	Department	Mathematics
9.	Course Level	Mandatory Specialisation requirement
10.	Year of Study and Semester (s)	1 st , 2 nd , 3 rd or 4 th year, 1 st and 2 nd or summer semester
11.	Other Department(s) Involved in Teaching the Course	None
12.	Main Learning Language	English
13.	Learning Types	Face to Face
14.	Online Platforms(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
15.	Issuing Date	6/10/2024
16.	Revision Date	

17. Course Coordinator:

Name: Iman ALdarawi	Contact hours: 9:300-10:30 am (Sun,Tue, Thu) 8:30-9:30 am (Mon, Wed)
Office number: 300	Phone number:
Email:i.aldarawi@ju.edu.jo	



18. Other Instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

19. Course Description:

As stated in the approved study plan.

Linear functions: Graphs, solving system of linear functions. Economic applications: Supply and demand analysis. Non-linear functions: Quadric, exponential and logarithmic, economic applications: Revenue, cost and profit. Mathematics of finance: percentages, compound interest. Differentiation: Rules for differentiation, derivatives of exponential and logarithmic functions, chain rule, optimization, economic applications: Marginal Functions, elasticity of Supply and elasticity of demand. Partial derivatives: several variable functions, elasticity of demand as a multivariable function, implicit differentiation, utility function, unconstrained optimization, constrained optimization. Integration: definite and indefinite, Economic applications: Consumer's surplus, producer's surplus and investment flow. Matrices: Basic matrix operations.

20. Program Student Outcomes (SO's):

(To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

1. Identify, formulate, and solve broadly-defined technical or scientific problems by applying knowledge of Mathematics and Science and/or technical topics to areas relevant to the discipline.
5. Reflect the impact of technical and/or scientific solutions in economic, environmental, and societal contexts.

**21. Course Intended Learning Outcomes (CLO's):**

(Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. solve a system of two simultaneous linear equations in two unknowns using elimination method and Identify and sketch a linear demand and supply functions and determine the equilibrium price and quantity.
2. Solve quadratic equations and graph quadratic functions as: supply, demand, revenue and profit functions also find the maximum or minimum values for these functions.
3. Find percentage. Solve problems involving a percentage increase or decrease. Write down scale factors associated with percentage changes. Calculate the future value of a principal under annual compounding.
4. Find the first and second derivative of the function $f(x)$ and all first and second order partial derivatives for $f(x,y)$ in order to find and classify the stationary points
5. Find economic functions as marginal functions associated with revenue, cost, production, and saving, and optimize these functions with constraint and without constraint.
6. Master integration rules and evaluate definite integrals in simple cases then use integration to find total cost and revenue functions given their marginal functions and calculate producer and consumer's surplus.
7. Understanding the basic matrix operations also find the inverse of (2×2) matrix (if it exists) to use the inverse in solving a system of linear equations or use Cramer's rule to solve a system of linear equations.

Course CLOs	The learning levels to be achieved					
	Remembering	Understanding	Applying	Analysing	evaluating	Creating
1	•	•			•	
2	•	•	•	•	•	
3	•	•	•		•	
4	•	•	•	•	•	
5	•	•	•	•	•	
6	•	•	•	•	•	
7	•	•		•	•	•



22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

Program SO's Course CLO's	SO (1)	SO (2)	SO (3)	SO (4)	SO (5)	SO (6)	SO (7)	SO (8)
CLO (1)	•				•			
CLO (2)	•				•			
CLO (3)	•				•			
CLO (4)	•				•			
CLO (5)	•				•			
CLO (6)	•				•			
CLO (7)	•				•			

23. Topic Outline and Schedule:

Week	Lecture	Topic	CLO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	1.1	Introduction to algebra	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	1.2	further algebra	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	1.3	the absolute Value function	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
2	2.1	linear Functions	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	2.2	graphs of linear equations	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	2.3	supply and demand analysis	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book



3	3.1	transposition of formulae	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	3.2	algebraic solution of simultaneous linear equations.	1	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	3.3	quadratic functions.	2	Face to Face	Teams, Moodle	Sync	Exam	Text Book
4	4.1	revenue, cost and profit	2	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	4.2	indices and logarithms	2	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	4.3	the exponential and natural logarithm function.	2	Face to Face	Teams, Moodle	Sync	Exam	Text Book
5	5.1	exponential and logarithmic equations	2	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	5.2	percentages	3	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	5.3	percentages	3	Face to Face	Teams, Moodle	Sync	Exam	Text Book
6	6.1	Compound interest	3	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	6.2	Compound interest	3	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	6.3	the derivative of a function	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
7	7.1	rules of differentiatio n.	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	7.2	further rules of differentiatio n	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	7.3	the derivative of the exponential and the natural logarithm functions	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
8	8.1	Midterm	1,2 ,3	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	8.2	functions (MR,MC, MP_L, MPC, MPS)	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	8.3	elasticity	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
9	9.1	optimization of economic functions	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	9.2	further optimization of economic functions	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	9.3	functions of several variables- partial derivatives	4	Face to Face	Teams, Moodle	Sync	Exam	Text Book
10	10.1	partial derivatives	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book



	10.2	Elasticity as a function of several variables	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	10.3	implicit Differentiation n-Utility	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
11	11.1	unconstrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	11.2	unconstrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	11.3	unconstrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
12	12.1	constrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	12.2	constrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	12.3	constrained optimization	5	Face to Face	Teams, Moodle	Sync	Exam	Text Book
13	13.1	indefinite integration	6	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	13.2	indefinite integration	6	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	13.3	definite integration	6	Face to Face	Teams, Moodle	Sync	Exam	Text Book
14	14.1	Consumer's surplus and Producer's surplus	6	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	14.2	Investment	6	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	14.3	basic matrix	7	Face to Face	Teams, Moodle	Sync	Exam	Text Book
15	15.1	basic matrix operations	7	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	15.2	determinant properties	7	Face to Face	Teams, Moodle	Sync	Exam	Text Book
	15.3	matrix inversion	7	Face to Face	Teams, Moodle	Sync	Exam	Text Book

**24. Evaluation Methods:**

Opportunities to demonstrate achievement of the CLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	CLO/s Linked to the Evaluation activity	Period (Week)	Platform
Midterm	30	Ch1+ch2+ch3	1,2,3	8	On Campus
Quizzes	20	Every 3 lectures	1,2,3,4,5,6,7	Every Thursday	On Campus
Final exam	50	From ch1 up to ch7	1,2,3,4,5,6,7	Final exams period	On Campus

25. Course Requirements:

No requirements.

26. Course Policies:

- A. Attendance policies:** Attendance is absolutely essential to succeed in this course. You are expected to attend every class; please notify your instructor if you know you are going to be absent. If a student is absent for more than 10% of lectures without an excuse of sickness or due to other insurmountable difficulty, then he/she shall be barred from the final examination also he/she will get a failing grade in this course.
- B. Absences from exams and submitting assignments on time:** All exams must be taken at the scheduled time. Exceptions will be made only in extreme circumstances, by prior arrangement with the instructor. Students must attend all the exams, students with acceptable excuse will have an average of the other exams. Medical certificates shall be given to the University Physician to be authorized by him.
- C. Health and safety procedures:**
- D. Honesty policy regarding cheating, plagiarism, misbehavior:** Cheating is prohibited. The University of Jordan regulations on cheating will be applied to any student who cheats in exams or on homework.
- E. Grading policy:** Test papers shall be returned to students after correction. His/her mark is considered final after a lapse of one week following their return.
- F. Available university services that support achievement in the course:** We will use the E-learning platform to upload lecture notes and other useful material.

**27. References:**

A- Required book (s), assigned reading and audio-visuals:

Ian Jacques, Mathematics for Economics and Business. 9th Edition

B- Recommended books, materials, and media:

Okon Umoh and Eammanuel P. Udofia, Mathematics for Economics Business and the Social Sciences.

28. Additional information:

--

Name of the Instructor or the Course Coordinator: Iman ALdarawi	Signature:	Date:
Name of the Head of Quality Assurance Committee/ Department: Prof. Manal Ghanem	Signature:	Date:
Name of the Head of Department: Prof. Baha Alzalg	Signature:	Date:
Name of the Head of Quality Assurance Committee/ School of Science: Prof. Emad A. Abuosba	Signature:	Date:
Name of the Dean or the Director: Prof. Mahmoud I. Jaghoub	Signature:	Date: