مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

Course Syllabus

1	**Course title**	Mathematical Economics
2	**Course number**	1607341
3	**Credit hours**	3
	Contact hours (theory, practical)	48
4	**Prerequisites/corequisites**	Mathematical Economics
5	**Program title**	Bachelor
6	**Program code**	
7	**Awarding institution**	University of Jordan
8	**School**	Business
9	**Department**	Economics
10	**Course level**	3rd Year
11	**Year of study and semester (s)**	2023/2024 1st Semester
12	**Other department (s) involved in teaching the course**	
13	**Main teaching language**	English and Arabic
14	**Delivery method**	xFace to face learning
15	**Online platforms(s)**	xMicrosoft Teams ☐Others……
16	**Issuing/Revision Date**	Oct 2, 2022

17 Course Coordinator:

Name: Prof. Said Alkhatib Contact hours: M & W (12-1, 4-5)

Office number: 104 Phone number: 24167

Email: s_khatib@ju.edu.jo

مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

19 Course Description:

As stated in the approved study plan. This course concerns with studying mathematical tools and techniques that is necessary to analyze economic models. The course deals mainly with how to determine the optimal points (maximum and minimum).

20 Course aims and outcomes:

A- Aims:

A- Aims:

1- Understanding mathematical analysis tools
2- Learning how to express economic relations by mathematics

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

1- Understanding and analyzing equations with many variables

2- be able to use mathematical tools to express economic theory in mathematical form

3- be able to study economic problems by mathematics

SLOs / SLOs of the course	SLO (1)	SLO (2)	SLO (3)	SLO (4)
1Explain the core economic terms, concepts, and theories, and the main foundations of microeconomic and macroeconomic	***			

disciplines and illustrate them with examples.				
2Utilize critical thinking and problem solving to analyze an economic problem and draw correct inferences using quantitative analysis based on the statistical and econometric tools.		****		
3Employ the “economic way of thinking” through discussing the application of marginal analysis and explaining the use of benefit/cost analysis.		****	****	
4Evaluate theory and critique research within the discipline, and conduct an economic modeling for an economic phenomenon.			*******	
1Explain the core economic terms, concepts, and theories, and the main foundations of microeconomic and macroeconomic disciplines and illustrate them with examples.	***			
6				

مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	**Concepts of Mathematical economics**	SLO1	Face to Face				
	1.2	**Solving Linear equations**	SLO1	Face to Face				
	1.3	**Matrix**	SLO1	Face to Face				

2	2.1	**Derivative**	SLO1	Face to Face				
	2.2	**Derivative**	SLO1	Face to Face				
	2.3	**Derivative**	SLO1	Face to Face				
Week	**Lecture**	**Max and min points (one variable)**	**Intended Learning Outcome**	**Learning Methods (Face to Face**	**Platform**	**Synchronous / Asynchronous Lecturing**	**Evaluation Methods**	**Resources**
3	3.1	**Max and min points (one variable)**	SLO1 SLO2	Face to Face				
	3.2	**Max and min points (one variable)**	SLO1,SLO	Face to Face				
	3.3	**Exponential and logarithmic functions**	SLO1	Face to Face				
4	4.1	**Exponential and logarithmic functions**	SLO1,SLO2	Face to Face				
	4.2	**Implicit and total derivative**	SLO1	Face to Face				
	4.3	**Implicit and total derivative**	SLO1	Face to Face				
5	5.1	**Partial derivative**	SLO1	Face to Face				
	5.2	**Partial derivative**	SLO1	Face to Face				

	5.3	**Partial derivative**	SLO1	Face to Face				
6	6.1	**Max and min points for multivariable functions**	SLO1,SLO2	Face to Face				
	6.2	**Max and min points for multivariable functions**	SLO1,SLO2	Face to Face				
	6.3	**Max and min points for multivariable functions**	SLO1,SLO2	Face to Face				
7	7.1	**Max and min points for multivariable functions**	SLO1,SLO2	Face to Face				
	7.2	**Max and min points for multivariable functions**	SLO1,SLO2	Face to Face				
	7.3	**Max and min points for multivariable functions**	SLO1,SLO2 ,SLO3	Face to Face				

8-9	8.1	**Integration**	SLO1	Face to Face				
	8.2	**Integration**	SLO1	Face to Face				
	8.3	**Integration**	SLO1	Face to Face				
10-11	9.1	**Integration**	SLO1,SLO2 ,SLO3	Face to Face				
	9.2	**Linear programming**	SLO1	Face to Face				
	9.3	**Linear programming**	SLO1	Face to Face				
12-13	10.1	**Linear programming**	SLO1,SLO2 ,SLO3	Face to Face				
	10.2							
	10.3		SLO1					

22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Mid	30				
Short exam	20				
Final exam	50				

23 Course Requirements

(e.g: students should have account on a specific software/platform…etc):

24 Course Policies:

A- Attendance policies:

B- Absences from exams and submitting assignments on time:

C- Health and safety procedures:

مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

D- Honesty policy regarding cheating, plagiarism, and misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:

25 References:

A- Required book(s): Fundamental Methods of Mathematical Economics, ***Alpha C***. ***Chiang*** and **Kevin Wainwright**, 4th edition, McGraw-Hill 2005.

B- Recommended books, materials, and media:

26 Additional information:

Name of Course Coordinator Signature: ---------- Date 15/10/2023
Head of Curriculum Committee/Department: ---------- Signature: ----------
Head of Department: ---------- Signature: ----------
Head of Curriculum Committee/Faculty: ---------- Signature: ----------
Dean: ---------- Signature: ----------