



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
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	Number of Pages	07

1.	Course Title	Mathematics for finance
2.	Course Number	0301274
3.	Credit Hours (Theory, Practical)	3
	Contact Hours (Theory, Practical)	3
4.	Prerequisites/ Corequisites	0301102
5.	Program Title	B.Sc.
6.	Program Code	
7.	School/ Center	Science
8.	Department	Mathematics
9.	Course Level	Elective Specialization requirement
10.	Year of Study and Semester (s)	2nd year, 1st or 2nd semester
11.	Other Department(s) Involved in Teaching the Course	none
12.	Main Learning Language	English
13.	Learning Types	☒ Face to face learning ☐ Blended ☐ Fully online
14.	Online Platforms(s)	☒ Moodle ☒ Microsoft Teams
15.	Issuing Date	October 31, 2022
16.	Revision Date	November 3, 2024

17. Course Coordinator:

Name: Amal Helu	Contact hours: 10:30-11:30 am
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18. Other Instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

19. Course Description:

An introduction to mathematical and numerical models used to price financial securities and make risk estimates. Topics include time value of money, simple and compound interest, annuities, Amortization and Sinking Funds and Bonds.

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)

SO1: 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

SO5: 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. Understand the Time Value of Money and Interest Calculations.
2. Interpret Financial Instruments and Payment Structures.
3. Analyze Annuities and Related Financial Products.
4. Evaluate Bonds and Yield Rates.
5. Apply Financial Mathematics in Real-World Scenarios.



Course CLOs	The learning levels to be achieved					
	Remembering	Understanding	Applying	Analysing	evaluating	Creating
CLO1	✓	✓	✓			
CLO2	✓	✓	✓	✓		
CLO3		✓	✓	✓	✓	
CLO4		✓	✓	✓	✓	
CLO5		✓	✓	✓	✓	

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

Course CLO's	Program SO'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)	✓				✓			



23. Topic Outline and Schedule:

Week	Topic	CLO/s Linked to the Topic	Learning Types Face to Face (FF) Blended (BL) Fully Online (FO)	Platform Used	Synchronous (S) Asynchronous (A)	Evaluation Methods	Learning Resources
1-2	Simple Interest and Simple Discount Simple interest, equations of value, partial payments, Simple Discount, Promissory Notes.	1,2	FF		S		Textbook and Moodle
3-5	Compound Interest and Compound Discount Accumulated value, equivalent rates, discounted value, accumulated and discounted values for fractional interest periods, equation of value, compound discount at a discount rate.	1,2,5	FF		S		Textbook and Moodle
6-7	Simple Annuities Accumulated value of an ordinary simple annuity, discounted value of an ordinary simple annuity, other simple annuities.	3,5	FF		S		Textbook and Moodle
8-10	General and Other Annuities General annuities, perpetuities, annuities whose payments vary.	3,5	FF		S		Textbook and Moodle
11-12	Amortization and Sinking Funds Amortization of a debt, outstanding principal, mortgages, refinancing a loan, sinking funds, comparison of Amortization and sinking-fund methods.	3,5	FF		S		Textbook and Moodle
13-15	Bond	4,5	FF		S		Textbook and Moodle



	Purchase price to yield a Given investment rate, callable bonds, premium and discount, price of a bond between bond interest dates, other types of bonds.						
16						Final Exam	

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
Project	5%	Simple interest, partial payments	1,2	Week 2	On Campus
Test 1	20%	Simple and compound interest, promissory notes	1,2,5	Week 6	On Campus
Test 2	20%	Accumulated value of an ordinary simple annuity, discounted value of an ordinary simple annuity, other simple annuities. General annuities, perpetuities, annuities whose payments vary.	3,5	Week 10	On Campus
Quiz	5%	Amortization of a debt, outstanding principal, mortgages, refinancing a loan, sinking funds	3,5	Week 12	On Campus



25. Course Requirements:

Account on Microsoft Teams.

26. Course Policies:

1. All cell phones must be turned off during class. Phones cannot be used during class, even as calculators, to check your answers. Earphones or earbuds may not be used during quizzes, tests, or exams. Texting and browsing the web on phones are not allowed.
2. The questions must be directed to the instructor during the lecture. Disrespectful or disruptive behavior will not be tolerated.
3. If you are late to class or need to leave early, enter and leave the room quietly.
4. Please come to class prepared to participate. Please be courteous to your classmates and keep extra noise to a minimum.
5. Appeal of grading should be submitted in writing within 5 days of receiving the evaluation.
6. Students are responsible for all announcements and supplements given within any lecture.
7. Cheating and plagiarism will not be tolerated. Please see the University of Jordan student Handbook for the definition of cheating and plagiarism and the severe consequences of such behaviors.
8. Food and drink are not allowed in the classroom except bottled water.
9. No guests are allowed in class.

27. References:

Mathematics of Finance by Zima, Brown and Kopp

**28. Additional information:**

1. Do not miss any classes.
2. Print out and review the lecture notes before each class.
3. Take notes directly on the printed materials.
4. Collaborate in groups of two or more.
5. If you are experiencing significant difficulties, please see me or make an appointment right away.

Name of the Instructor or the Course Coordinator: Prof. Amal Helu	Signature:	Date: 3/11/2024
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: