

QF01/0408-4.0E	Course Plan for Bachelor program - Study Plan Development and Updating Procedures/ Mathematics Department
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Study plan No.	2021/2022	University Specialization	Bachelor of Mathematics
Course No.	0101347	Course name	Financial Mathematics
Credit Hours	3	Prerequisite/ Co-requisite	
Course type	<input type="checkbox"/> MANDATORY UNIVERSITY REQUIREMENT <input type="checkbox"/> UNIVERSITY ELECTIVE REQUIREMENTS	<input type="checkbox"/> FACULTY MANDATORY REQUIREMENT <input type="checkbox"/> Support course family requirements	<input type="checkbox"/> Mandatory requirements <input checked="" type="checkbox"/> Elective requirements
Teaching style	<input type="checkbox"/> Full online learning	<input checked="" type="checkbox"/> Blended learning	<input type="checkbox"/> Traditional learning
Teaching model	<input type="checkbox"/> 1 Synchronous: 1 asynchronous	<input checked="" type="checkbox"/> 1 face to face : 1 asynchronous	<input type="checkbox"/> 2 Traditional

Faculty member and study divisions' information (to be filled in each semester by the subject instructor)

Name	Academic rank	Office No.	Phone No.	E-mail	
Division number	Time	Place	Number of students	Teaching style	Approved model

Brief description

Simple interest theory: present value and discount, debt settlement, discount commercial paper, amortization of short-term loans and deal with compound interest theory: basic laws for applying compound interest, calculation of duration and rate, present value and discount, debt settlement, payments, amortization of loans.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc)	الرياضيات المالية المعاصرة ، د. غازي فلاح المومني، 2014، دار المناهج.			
Supportive learning resources (Books, databases, periodicals, software, applications, others)	Robert Cissell, Helen Cissell, Mathematics of finance, Houghton Mifflin, boston, M.S.A, 2004			
Supporting websites	https://www.mdrscenter.com https://www.edraak.org/courses/ https://abwaab.me			
The physical environment for teaching	<input checked="" type="checkbox"/> Class room	<input type="checkbox"/> labs	<input checked="" type="checkbox"/> Virtual educational platform	<input type="checkbox"/> Others
Necessary equipment and software				
Supporting people with special needs				
For technical support				

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Course learning outcomes (S= Skills, C= Competences K= Knowledge,)

No.	Course learning outcomes	The associated program learning output code
Knowledge		
K1	Identify the basic laws on simple interest, commercial discount, correct discount, and the basic laws on compound interest and regular and irregular payments	MK1
K2	Describe the method of settling and repaying debts and how to repay loans in simple interest and compound interest	MK2
K3	Describe the different types of bond repayment and amortization	MK3
Skills		
S1	Evaluate the correct commercial discount and the present value when debts are paid before maturity	MS1
S2	Evaluate the total payments and the present value in simple interest and compound interest and discounting commercial papers and comparison between banks at discount	MS2
Competences		
S1	Work effectively in collaborative work tasks that are carried out through groups.	MS1

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm exam	30%	30%	40%	30%
	0	0	10%	30%
Asynchronous interactive activities	30%	20%	0	0
Final exam	40%	50%	50%	40%

Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style	Reference
1	The simple benefit: - Interest and wholesale laws - The concept of interest - Items of interest - Interest equation and sentence equation	Lecture	17 -40
2	-Right Interest and Trade Interest: -The relationship between the two benefits -Relativity between them - The difference between them - Tiger's Way	Lecture	40 - 77

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3	-Present value and discount: - Correct discount and trade discount -The ratio between the two opponents -The difference between the two opponents	Lecture	79 - 116
4	-Commercial paper discount: net present value Discount invoice	Lecture	117 - 157
5	Debt Settlement: -equalization equation -settlement methods -Medium Maturity	Lecture	159 - 193
6	Payments: - total payments -The present value of the payments	Lecture	195 - 223
7	Amortization of short-term loans: The consumption equation Methods of amortizing loans	Lecture	225 - 256
8	Second: Compound interest: - Interest and wholesale laws - at annual rates Non-annual rates	Lecture	259 - 285
9	Real rate and nominal rate: Real interest rates Interest at nominal rates	Lecture	285 - 317
10	Present value and discount: - at annual rates Non-annual rates	Lecture	313 - 347
11	Long-term debt settlement: - settlement methods Medium Maturity	Lecture	349 - 397
12	Equal Payments: -Regular payments -Bulk instant payments	Lecture	381 - 402
13	Present value of temporary payments: - Urgent Ordinary -Urgent Immediate	Lecture	403 - 424
14	Present value of temporary payments: Regular deferred -immediate deferred	Lecture	424- 433
15	Present value of standing payments: -urgent -postponed	Lecture	424 - 433
16	Loan amortization: Amortization of ordinary loans - Valuation and amortization of bonds (final exam = 50)	Lecture	435 - 500

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Schedule of asynchronous interactive activities (in the case of e-learning and blended learning)

Week	Task / activity	Reference	Expected results
1	General information	Text Book Web sites	Self-reading and Discussion in the class
2	Solve the activity on the site	Text Book Web sites	Discussion in the class
3	Homework(1)	Text Book Web sites	Submit a pdf or word sheet on the E-learning
4	Self-reading of the material on the site	Text Book Web sites	Submit a pdf or word sheet on the E-learning
5	Self-reading of the material on the site	Text Book Web sites	Discussion in the class
6	Homework(2)	Text Book Web sites	Submit a pdf or word sheet on the E-learning
7	Solve the activity on the site	Text Book Web sites	Submit a pdf or word sheet on the E-learning
8	Solve the activity on the site	Text Book Web sites	Submit a pdf or word sheet on the E-learning
9	Solve the activity on the site	Text Book Web sites	Submit a pdf or word sheet on the E-learning
10	Homework(3)	Text Book Web sites	Submit a pdf or word sheet on the E-learning
11	Solve the activity on the site	Text Book Web sites	Submit a pdf or word sheet on the E-learning
12	Self-reading of the material on the site	Text Book Web sites	Discussion in the class
13	Self-reading of the material on the site	Text Book Web sites	Discussion in the class
14	Homework(4)	Text Book Web sites	Submit a pdf or word sheet on the E-learning
15	Solve the activity on the site	Web sites	Discussion in the class
16	Final Exam		