



1. General information

Course: FINANCIAL MATHEMATICS**Type:** CORE COURSE**Degree:** 317 - UNDERGRADUATE DEGREE IN BUSINESS MANAGEMENT AND ADMINISTRATION**Center:** 5 - FACULTY OF ECONOMICS AND BUSINESS**Year:** 1**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 54308**ECTS credits:** 6**Academic year:** 2019-20**Group(s):** 12 13**Duration:** C2**Second language:** English**English Friendly:** Y**Bilingual:** N

Lecturer: ANA MARIA ESCRIBANO LOPEZ - Group(s): 12 13				
Building/Office	Department	Phone number	Email	Office hours
Facultad de CC Económicas y Empresariales/Despacho 3.07	ANÁLISIS ECONÓMICO Y FINANZAS	926052909	ana.escribano@uclm.es	El horario de tutorías se anunciará en el espacio virtual de la asignatura.
Lecturer: ROBERTO MARTINEZ LACOPA - Group(s): 12 13				
Building/Office	Department	Phone number	Email	Office hours
Ftad. CC.EE. y Emp./Despacho:3.20	ANÁLISIS ECONÓMICO Y FINANZAS	2792	Roberto.MLacoba@uclm.es	El horario de tutorías se anunciará en el espacio virtual de la asignatura.
Lecturer: MARÍA ISABEL MARTÍNEZ MARÍN - Group(s): 13				
Building/Office	Department	Phone number	Email	Office hours
	ANÁLISIS ECONÓMICO Y FINANZAS		Mariabel.Martinez@uclm.es	

2. Pre-Requisites

No pre-requisites have been established for accessing this course.

3. Justification in the curriculum, relation to other subjects and to the profession

This course is part of the 7th module on finance of the Bachelor's Degree in Business Administration and Management.

This course presents fundamental concepts of Finance, such as the principle of the value of money in time and the concept of interest, fundamental elements for the subsequent valuation of assets and investment analysis by capitalization and discounting of capital. It also analyses one of the main financing/investment operations in the company, such as loans in their different forms.

This subject is fundamental for the rest of the subjects of the Finance Module and in particular Investment Analysis and Portfolio Management (2nd year) and Financial Management (3rd year). It is necessary to be able to develop also all those subjects related to business management and, in particular, to Accounting (Financial and Business Accounting, and Accounting Analysis, etc...) and those related to taxation (Business Taxation). It also provides the necessary knowledge for the subjects of Economics (Microeconomics and Macroeconomics) and Economic Policy (in particular, monetary policy).

The concepts developed in this subject are fundamental to the management and financial management of companies, financial institutions and public entities. Basic concepts are developed to compare the cost of financing of different products as well as the profitability of alternative investment opportunities. An in-depth analysis is made of one of the first business financing operations: loans. On the other hand, the elements that are developed are essential for investment analysis and for the understanding of elementary financial products of both savings and investment.

4. Degree competences achieved in this course

Course competences

Code	Description
E02	Develop and enhance entrepreneurship, adaptability to change and creativity in any functional area of a company or organization.
E09	Ability to carry out a financial evaluation of the different assets of a company at different points in time and at different levels of risk.
E13	Ability to make logical representative models of the business reality
G01	Possession of the skills needed for continuous, self-led, independent learning, which will allow students to develop the learning abilities needed to undertake further study with a high degree of independence.
G04	Ability to use and develop information and communication technologies and to apply them to the corresponding business department by using specific programmes for these business areas.
G05	Capacity for teamwork, to lead, direct, plan and supervise multidisciplinary and multicultural teams in both national and international environments so as to create synergies which benefit organisations.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

To apply the quantitative analysis of the company and its environment.

Search for information in order to analyze it, interpret its meaning, synthesize it and communicate it to others.

Know the exchange of economic resources over time between individuals, companies and financial institutions, which involves the analysis of investment decisions and financing in the company, the theory of portfolios, the valuation of assets and the functioning of the financial markets.

Work autonomously and with personal initiative.

6. Units / Contents

Unit 1: The concept of interest

Unit 2: Fundamental concepts in mathematical finance

Unit 3: Annuities

Unit 4: Financial operations under certainty environment

Unit 5: Amortization operations

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	R	Description
Class Attendance (theory) [ON-SITE]	Lectures	E02 E09 E13 G01 G04	1.33	33.25	N	-	-	
Class Attendance (practical) [ON-SITE]	Combination of methods	E09 E13 G01 G04 G05	0.67	16.75	N	-	-	
Problem solving and/or case studies [ON-SITE]	Combination of methods	E13 G01	0.1	2.5	Y	N	N	
Final test [ON-SITE]	Assessment tests	G01 G04 G05	0.1	2.5	Y	Y	Y	
Other off-site activity [OFF-SITE]	Practical or hands-on activities	G01 G05	1.8	45	Y	N	N	
Study and Exam Preparation [OFF-SITE]	Self-study	E13 G01 G04	2	50	N	-	-	
Total:			6	150				
Total credits of in-class work: 2.2			Total class time hours: 55					
Total credits of out of class work: 3.8			Total hours of out of class work: 95					

As: Assessable training activity

Com: Training activity of compulsory overcoming

R: Rescheduling training activity

8. Evaluation criteria and Grading System

Evaluation System	Grading System		Description
	Face-to-Face	Self-Study Student	
Final test	70.00%	0.00%	
Other methods of assessment	30.00%	0.00%	
Total:	100.00%	0.00%	

Evaluation criteria for the final exam:

1.- Periodic evaluation of practice reports. 2.- Progress tests carried out during the class period. 3.- Final evaluation by means of a written exercise at the end of the course in which the student demonstrates his understanding of the theoretical concepts and the capacity to analyze and solve practical problems. The final written exercise must be passed with 50% of its maximum score (5 out of 10).

Specifications for the resit/retake exam:

Evaluations of practice reports and progress tests conducted during the class period will be retained.

Specifications for the second resit / retake exam:

No evaluation criteria have been specified.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours
Class Attendance (theory) [PRESENCIAL][Lectures]	33.25
Class Attendance (practical) [PRESENCIAL][Combination of methods]	16.75
Problem solving and/or case studies [PRESENCIAL][Combination of methods]	2.5
Final test [PRESENCIAL][Assessment tests]	2.5
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	45
Study and Exam Preparation [AUTÓNOMA][Self-study]	50
Global activity	
Activities	hours
Class Attendance (theory) [PRESENCIAL][Lectures]	33.25
Class Attendance (practical) [PRESENCIAL][Combination of methods]	16.75
Problem solving and/or case studies [PRESENCIAL][Combination of methods]	2.5
Final test [PRESENCIAL][Assessment tests]	2.5
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	45

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Baquero López, María José	Problemas resueltos de matemática de las operaciones financieras	ACThomson		84-7288-194-6	2003	
Bonilla, María, Ivars, Antonia y Moya, Ismael	Matemática de las operaciones financieras: teoría y práctica	Thomson D. L.	Madrid	978-84-9732-373-4	2006	
Cruz Rambaud, Salvador	Introducción a las matemáticas financieras	Pirámide		978-84-368-2176-5	2008	
Deyá Tortella, Bartolomé	Análisis de las operaciones financieras I	Universitat de les Illes Balears, Servei de Public		978-84-7632-977-1	2006	
García Boza, Juan	Problemas resueltos de matemáticas de las operaciones financieras	Pirámide	Madrid		2002	
Gil Peláez, Lorenzo	Matemática de las operaciones financieras	Editorial AC		84-7288-123-7	1989	
Gil Peláez, Lorenzo	Matemática de las operaciones financieras: Problemas resueltos	AC		84-7288-122-9	1999	
González Catalá, Vicente T.	Análisis de las operaciones financieras bancarias y bursátil	Ciencias sociales		84-87510-29-9	1995	
González Catalá, Vicente T.	Ejercicios sobre operaciones financieras, bancarias y bursátiles	Tebar Flores		8473600606	1985	
González Catalá, Vicente T.	Operaciones financieras bancarias y bursátiles: Curso Práctico	Ciencias Sociales		84-87510-34-5	1993	
González Velasco, María del Carmen	Análisis de las operaciones financieras (150 supuestos resueltos)	Civitas		84-470-1618-8	2001	
González Velasco, María del Carmen	Análisis financiero de los préstamos hipotecarios	Universidad de León, Secretariado de Publicaciones		84-7719-966-3	2001	
Lozano Gutiérrez, María del Carmen	Curso de matemática financiera II: ejercicios prácticos	Universidad		84-7684-571-5	1994	
Meneu, Vicente, Jordá, María Paz y Barreira, María Teresa	Operaciones financieras en el Mercado Español	Ariel	Barcelona	84-344-2091-0	1994	
Miner Aranzábal, Javier	Curso de matemática financiera	McGraw-Hill		978-84-481-6100-2	2008	
Miner Aranzábal, Javier	Matemática financiera	McGraw-Hill		84-481-9829-8	2004	
Navarro Arribas, Eliseo y Nave, Juan M.	Fundamentos de matemáticas financieras	Antoni Bosch	Barcelona	84-95348-01-2	2001	
Pablo López, Andrés de	Matemática de las operaciones financieras	Universidad Nacional de Educación a Distancia		84-362-4058-8 (v.2)	2000	
Pablo López, Andrés de	Matemática de las operaciones financieras	Universidad Nacional de Educación a Distancia		84-362-4675-6 (v.1)	2002	
Pozo Carrero, Eloy	Problemas de matemática financiera	Esic		84-7356-131-7	1996	
Sierra Fernández, María del Pilar	Préstamos bancarios: tipos y operativa : 50 ejercicios prácticos	Universidad de León, Secretariado de Publicaciones		84-7719-965-5	2001	
Valls Martínez, María del Carmen	Introducción a las matemáticas financieras : problemas resueltos	Pirámide		978-84-368-2255-7	2009	
Valls Martínez, María del Carmen	Cálculo financiero: teoría y ejercicios	AC		84-7288-166-0	2006	
Valls Martínez, María del Carmen	Problemas resueltos de matemática de las operaciones financieras	Pirámide		978-84-368-1703-4	2008	
Navarro Arribas, Eliseo	Matemáticas de las operaciones financieras	Pirámide	Madrid	978-84-368-4050-6	2019	
Alhabeeb, M.J.	Mathematical Finance	Hoboken: John Wiley & Sons, cop.	New Jersey	978-0-470-64184-2	2012	