UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course:	FINANCIAL MATHEMATICS	**Code:**	54308
Type:	CORE COURSE	**ECTS credits:**	6
Degree:	317 - UNDERGRADUATE DEGREE IN BUSINESS MANAGEMENT AND ADMINISTRATION (AB)	**Academic year:**	2021-22
Center:	5 - FACULTY OF ECONOMICS AND BUSINESS	**Group(s):**	12 13
Year:	1	**Duration:**	C2
Main language:	Spanish	**Second language:**	English
Use of additional languages:		**English Friendly:**	Y
Web site:		**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	The office hours will be announced in the virtual space of the course.

2. Pre-Requisites

No prerequisites have been established for access to this course.

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

This course is part of the finance module 7 of the syllabus of the Bachelor's Degree in Business Administration and Management.
In this course fundamental concepts of Finance are presented, such as the principle of the time value of money and the concept of interest, fundamental elements for the subsequent valuation of assets and investment analysis through capitalization and discounting of capital. It also analyzes one of the main financing/investment operations in the company, such as loans in their different modalities.
This subject is fundamental for the rest of the subjects of the Finance Module and in particular Investment and Financing in the Company (9 credits in 2nd year) and Financial Management of the Company (3rd year). It is also necessary to develop all those subjects related to business management and in particular Accounting (Financial and Company 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 course are fundamental for the direction and financial management of companies, financial institutions and public entities. Basic concepts are introduced to compare the cost of financing different products as well as the profitability of alternative investment opportunities. One of the first business financing operations is analyzed in depth: loans. On the other hand, the elements introduced will be fundamental for the analysis of investments and the understanding of elementary financial products for 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 is 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: Basic magnitudes of financial mathematics.

Unit 3: Annuities.

Unit 4: Financial operations in a certainty environment.

Unit 5: Loans.

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E02 E09 E13 G01 G04 G05	1.33	33.25	N	-	
Class Attendance (practical) [ON-SITE]	Combination of methods	E02 E09 E13 G01 G04 G05	0.67	16.75	N	-	
Problem solving and/or case studies [ON-SITE]	Combination of methods	E13 G01	0.16	4	Y	N	Practical exercises and/or progress tests
Final test [ON-SITE]	Assessment tests	G01 G04 G05	0.1	2.5	Y	Y	Exam
Study and Exam Preparation [OFF-SITE]	Self-study	E13 G01 G04	2	50	N	-	
Other off-site activity [OFF-SITE]	Combination of methods	E02 E13 G01 G04	1.74	43.5	Y	N	
		Total:	**6**	**150**			
		Total credits of in-class work: 2.26					**Total class time hours: 56.5**
		Total credits of out of class work: 3.74					**Total hours of out of class work: 93.5**

As: Assessable training activity
Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	70.00%	100.00%	Exam
Other methods of assessment	30.00%	0.00%	Practical exercises and/or progress tests
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

The course follows an evaluation system based on the assessment of various training activities and an exam. The student is required to obtain a 4 (out of 10) in the final evaluation test in order to average the grade obtained in the rest of the proposed training activities. Those students who, even though they have done evaluable activities, wish to be evaluated with the non-continuous evaluation criteria must inform the teacher before the end of the class period.

Regarding the evaluation in case of illness or other special circumstances (extenuating rules), see article 7 of the Student Evaluation Regulations of the University of Castilla-La Mancha.

Non-continuous evaluation:

The evaluation will be carried out with a final test or exam that will include the specific tests deemed necessary to evaluate all the competences of the subject.
Regarding the evaluation in case of illness or other special circumstances (extenuating rules), see article 7 of the Student Evaluation Regulations of the University of Castilla-La Mancha.

Specifications for the resit/retake exam:

The evaluations of the practical reports and exercises, of the use of teaching and of the resolution of problems and/or progress tests carried out during the class period will be kept.

Specifications for the second resit / retake exam:

The evaluation will be based on a single written test, being necessary to pass the course a minimum score of 5 out of 10.

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]	4
Final test [PRESENCIAL][Assessment tests]	2.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	50
Other off-site activity [AUTÓNOMA][Combination of methods]	43.5

Global activity

Activities	hours
Final test [PRESENCIAL][Assessment tests]	2.5
Problem solving and/or case studies [PRESENCIAL][Combination of methods]	4
Study and Exam Preparation [AUTÓNOMA][Self-study]	50
Other off-site activity [AUTÓNOMA][Combination of methods]	43.5
Class Attendance (theory) [PRESENCIAL][Lectures]	33.25
Class Attendance (practical) [PRESENCIAL][Combination of methods]	16.75
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Valls Martínez, María del Carmen	Cálculo financiero: teoría y ejercicios	A.C.		84-7288-166-0	2006	
González Velasco, María del Carmen	Análisis de las operaciones financieras (150 supuestos resueltos)	Civitas		84-470-1618-8	2001	
Valls Martínez, María del Carmen	Problemas resueltos de matemática de las operaciones financieras	Pirámide		978-84-368-1703-4	2008	
Cruz Rambaud, Salvador	Introducción a las matemáticas financieras	Pirámide		978-84-368-2176-5	2008	
García Boza, Juan	Problemas resueltos de matemáticas de las operaciones financieras	Pirámide	Madrid		2002	
Miner Aranzábal, Javier	Matemática financiera	McGraw-Hill		978-84-481-9829-9	2004	
González Catalá, Vicente T.	Ejercicios sobre operaciones financieras, bancarias y bursátiles	Tebar Flores		84-73600-60-6	1985	
Sierra Fernández, María del Pilar	Préstamos bancarios: tipos y operativa: 50 ejercicios prácticos	Universidad de León, Secretariado de Publicaciones		84-7719-965-5	2001	
Bonilla Musoles, M., Ivars Escortell, A. y Moya Clemente, I.	Matemática de las operaciones financieras: teoría y práctica	Thomson		978-84-9732-373-4	2011	
Gil Peláez, Lorenzo	Matemática de las operaciones financieras	Editorial AC		84-7288-123-7	1989	
Meneu, Vicente, Jordá, María Paz y Barreira, María Teresa	Operaciones financieras en el Mercado Español	Ariel		84-344-2091-0	1994	
Pablo López, Andrés de	Matemática de las operaciones financieras	Universidad Nacional de Educación a Distancia		84-362-3774-9	2000	
Alhabeeb, M. J.	Mathematical finance	John Wiley & Sons		978-0-470-64184-2	2012	
Baquero López, María José	Problemas resueltos de matemática de las operaciones financieras	AC: Thomson		84-7288-194-6	2003	
González Catalá, Vicente T.	Análisis de las operaciones financieras bancarias y bursátil	Ciencias sociales,		84-87510-29-9	1995	
González Velasco, María del Carmen	Análisis financiero de los préstamos hipotecarios	Universidad de León, Secretariado de Publicaciones		84-7719-966-3	2001	
Pablo López, Andrés de	Matemática de las operaciones financieras	Universidad Nacional de Educación a Distancia		978-84-362-4675-6	2002	
Gil Peláez, Lorenzo	Matemática de las operaciones financieras: Problemas resueltos	A.C.		84-7288-122-9	1999	
Navarro Arribas, Eliseo y Nave Pineda, Juan M.	Fundamentos de matemáticas financieras	Antoni Bosch	Barcelona	84-95348-01-2	2001	
Miner Aranzábal, Javier	Curso de matemática financiera	Mcgraw-Hill		978-84-481-6100-2	2008	
Lozano Gutiérrez, María del Carmen	Curso de matemática financiera II: ejercicios prácticos	Universidad		84-7684-571-5	1994	
Navarro Arribas, Eliseo	Matemáticas de las operaciones financieras	Pirámide	Madrid	978-84-368-4050-6	2019	
Deyá Tortella, Bartolomé	Análisis de las operaciones financieras I	Universitat de les Illes Balears, Servei de Public		978-84-7632-977-1	2006	
González Catalá, Vicente T.	Operaciones financieras bancarias y bursátiles: Curso Práctico	Ciencias Sociales		84-87510-34-5	1993	
Pozo Carrero, Eloy	Problemas de matemática financiera	Esic		84-7356-131-7	1996	
Valls Martínez, María del Carmen	Introducción a las matemáticas financieras: problemas resueltos	Pirámide		978-84-368-2255-7	2009	