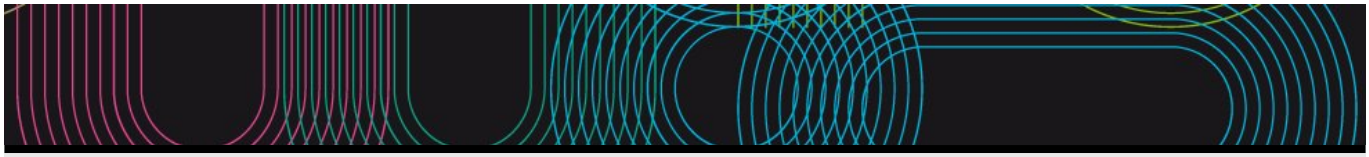

IDENTIFYING DATA				
Business: Mathematics of financial transactions				
Subject	Business: Mathematics of financial transactions			
Code	V03G720V01213			
Study programme	PCEO Grado en Administración y Dirección de Empresas/Grado en Derecho			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	2nd	1st
Teaching language	Spanish			
Department				
Coordinator	Rodríguez Parada, Sonia Margarita			
Lecturers	Rodríguez Parada, Sonia Margarita			
E-mail	srparada@uvigo.es			
Web	http://moovi.uvigo.gal/ Curso MOF Virtu@l			
General description	Financial Mathematics is a subject that opens the door to financial understanding and introduces the student into the logical rationale of financial valuation. This knowledge is fundamental to make right decisions and properly appreciating information in the field of Finance and Accounting. Under the basic principle of the time value of money, the student fully comprehends and applies the mathematical-financial methodology to the analysis of the most frequent financial transactions.			

Training and Learning Results
Code

Expected results from this subject	
Expected results from this subject	Training and Learning Results
Application of the most appropiate financial valuation tools to address the proposed issues	
Fluency in solving basic financial problems and adequately interpreting the results	
Ease in use technical vocabulary and financial mathematics symbols	
Good judgment concerning the consistency of the performed financiial calculation	
Application of financial functions on spreadsheets	
Efficient learning management	
Identification of the general field of Financial Mathematics	
Analysis of the essential financial transaction features	
Extension of financial valuation rationale to new transactions	
Management of realiable and up-to-date economic and financial information sources	
Use of feedback within the learning process	
A respectful attitude towards others and oneself throughout the learning process	
Self-evaluation concerning subject learning progress	

Contents
Topic

1. Logic of the financial assessment and financial operation	1.1. Value of the money in the time 1.2. Financial capital 1.3. Comparison and election of financial capitals 1.4. Financial law 1.4.1. Financial law of capitalisation 1.4.2. Financial law of discount 1.5. Financial sum of financial capitals 1.6. Financial operation 1.6.1. Concept 1.6.2. Elements 1.6.3. Classification 1.7. Mathematical reservation in a financial operation 1.7.1. Concept 1.7.2. Methods of calculation 1.8. Logical principles of financial assessment 1.8.1. *Subestimación Of future capitals with regard to the presents of equal quantity 1.8.2. Projection or financial replacement for financial capitals 1.8.3. Nominal productivity 1.8.4. Equivalence in all financial operation
2. Financial operations of capitalisation	2.1. Financial laws of capitalisation 2.2. Simple capitalisation 2.2.1. Concept 2.2.2. Mathematical formulation 2.2.3. Simple interest 2.2.4. Types of interest 2.2.5. Settlement of interests in a common account 2.3. Compound capitalisation 2.3.1. Concept 2.3.2. Mathematical formulation 2.3.3. Compound interest 2.3.4. Types of interest 2.4. Comparison of totals in simple and compound capitalisation 2.5. Mathematical reservation of a financial operation of capitalisation 2.5.1. Calculation by the retrospective method 2.5.2. Calculation by the method *prospectivo 2.6. Type of interest and inflation
3. Financial operations of discount	3.1. Financial laws of discount 3.2. Commercial simple discount 3.2.1. Concept 3.2.2. Mathematical formulation 3.2.3. Simple discount 3.2.4. Types of discount 3.3. Banking discount 3.3.1. Concept 3.3.2. Modalities 3.3.3. Discount of an effect 3.3.4. Discount of a remittance of effects 3.4. *Vencimientos 3.4.1. *Vencimiento Common 3.4.2. *Vencimiento Half
4. True financial incomes	4.1. Concept 4.2. Elements of an income 4.3. Types of incomes 4.4. Financial assessment of an income 4.4.1. Current value 4.4.2. Final value 4.4.3. Relation between current value and final value 4.5. Assessment of constant incomes 4.5.1. Temporary incomes 4.5.2. Perpetual incomes 4.6. Assessment of variable incomes 4.6.1. Temporary incomes 4.6.2. Perpetual incomes 4.7. Equivalent financial incomes 4.8. Incomes valued to type of variable interest

5. Financial operations of loan	5.1. Concept 5.2. Classification 5.3. Types of interest 5.4. Forms to amortise a capital 5.4.1. *Amortización To fixed term 5.4.2. *Amortización Normal or American 5.4.3. *Amortización Successive 5.5. Methods of *amortización successive: particular cases 5.5.1. Method of *amortización French 5.5.2. Method of *amortización with increasing terms in geometrical progression 5.5.3. Method of *amortización Italian 5.6. Loans with lack 5.7. Loans with cancellation anticipated 5.8. Loans *indizados
6. Financial operations of constitution	6.1. Concept 6.2. Classification 6.3. Forms to constitute a capital 6.4. Particular cases in modality *prepagable 6.4.1. Constant constitutive terms 6.4.2. Increasing constitutive terms in geometrical progression 6.4.3. Quotas of constant constitution 6.5. Particular cases in modality *pospagable 6.5.1. Constant constitutive terms 6.5.2. Increasing constitutive terms in geometrical progression 6.5.3. Quotas of constant constitution
7. Cost and performance of the financial operations	7.1. Simple financial operations 7.2. Compound financial operations

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	22.5	40	62.5
Problem solving	22.5	45	67.5
Autonomous problem solving	5	5	10
Problem and/or exercise solving	2.5	7.5	10

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	The teacher explains the most relevant and difficult conceptual subject matter in the classroom. Examples are chosen to clarify concepts. 15 sessions, 90 minutes per session. Attendance required
Problem solving	In the practical sessions, students are offered a set of exercises and several cases. The teacher will guide the students through the exercises to solve the problems after a brief debate in class. Students are additionally offered a set of exercises to solve on their own. This forms part of the on-going evaluation of the student. 9 sessions, 150 minutes per session. Attendance required
Autonomous problem solving	Two tutorials are held in small groups: Tutorial I, at about mid-course, aims: a) To carry out a general review of the first part of the program and address pending doubts. b) To follow up on the knowledge and skill acquired in the practice of the first part of the syllabus thtough a basic level written test. This forms part of the on-going evaluation of the student. 1 session, 150 minutes. Attendance required Tutorial II, at the end of the course, aims: a) To carry out a general review of the second part of the program and address pending doubts. b) To follow up on the knowledge and skill acquired in the practice of the second part of the syllabus thtough a basic level written test. 1 session, 150 minutes. Attendance required

Personalized assistance

Methodologies	Description
Autonomous problem solving	

Assessment

	Description	Qualification	Training and Learning Results
Autonomous problem solving	(*)SISTEMA DE AVALIACIÓN CONTINUA (AC): Realizaranse tres probas no cuadrimestre, cunha ponderación do 30%, 30% e 40%, respectivamente. A última proba de AC celebrarase o mesmo día que a data oficial da avaliación global (AG) de primeira oportunidade.	30, 30 y 40	
Problem and/or exercise solving	Final exam mark Maximun 10 points This is a written test, taken on site on the official calendar date, that evaluates the acquisition of theoretical competences, practical skills in applying financial logic to new situations. This is assessed at three leves: basic, intermediate and advanced.	100	

Other comments on the Evaluation

The teacher informs the students about everything related to on-going assessment on the first day of the course. The student is provided with a week by week planned learning schedule.
The teacher also presents the online course specifically designed for learning Financial Mathematics. This online course follows the syllabus and the real-time progress of the lessons.
The students' on-going evaluation mark is kept exclusively in the academic year in which it is obtained.

Sources of information

Basic Bibliography

Rodríguez Parada, S. M., **MOF Virtu@l: un recurso para el aprendizaje colaborativo. Curso en línea. Plataforma Moovi**, 2022

Pablo López, A. de, **Matemática de las operaciones financieras I y II**, 2000

Pablo López, A. de, **Manual práctico de Matemática comercial y financiera. Tomos I y II.**, 2001

Complementary Bibliography

Guthrie, G. L. & Lemon, L. D., **Mathematics of Interest Rate and Finance**, 2004

Recommendations

Subjects that continue the syllabus

Investment decisions/V03G020V01402

Other comments

This subject in the double degree in Business Administration and Management/Law School is taught in the 1st quarter of the 2nd year.
Sonia M. Rodríguez Parada is the Coordinating Professor.