

**COURSE DATA****Data Subject**

<b>Code</b>	35947
<b>Name</b>	Fixed-income markets and stocks
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2020 - 2021

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1315 - Degree in Finance and Accounting	Faculty of Economics	3	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1315 - Degree in Finance and Accounting	16 - Financial markets and assets	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
BALLESTER MIQUEL, LAURA	113 - Financial and Actuarial Economics

**SUMMARY**

*Fixed-income markets and assets* is a compulsory training course that is taught in the first term of the third year of the Degree in Finance and Accounting. It is included in the subject *Financial Markets and Assets* and belongs to the module called *Finance* within this Degree. In the current curriculum this course consists of a total of 6 credits.

The objective of the course is to provide the student with a simple, though rigorous and up-to-date, analysis of financial operations and the fixed-income markets and their derivative markets.

The syllabus of the course is divided into three parts:



- First part: Introduction. This part contains only lesson 1: Negotiation of financial operations. In this topic, a review is made of the concepts already seen in *Financial Mathematics* from the second year, such as the concept of financial operations and market value of assets. The different ways of transacting are also presented, either through simple or double purchase transactions.
- Second part: Assets and markets. This part contains lessons 2, 3 and 4. In this part, short-term debt is analysed in detail, both treasury bills and company promissory notes, medium and long-term debt, including the analysis of sovereign bonds and obligations and corporate debt and, finally, a descriptive analysis of the markets for negotiable fixed-income securities is carried out.
- Third part: Interest Risk Management. This part contains lessons 5 and 6. Lesson 5 presents the temporary structure of interest rates, the concept of interest rate risk, its measurement and the financial immunisation theorem of a fixed income portfolio. Subsequently, lesson 6 presents financial derivatives in OTC markets as well as their use in the management and coverage of interest risk.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

The subject Fixed-income markets and assets aims to deepen and complete the knowledge acquired by the student in the compulsory subject Financial Mathematics in the second year of the Degree.

The knowledge acquired in this subject is complemented with that obtained in Analysis and Management Banking , dedicated to the study of the financial operations of the banking market, and Stock markets and securities, which delves into the equity markets and their derivative assets. Both subjects are taught in this

## OUTCOMES

### 1315 - Degree in Finance and Accounting

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- Conocer los mercados de renta fija y de renta variable, así como los diferentes títulos y contratos que se negocian en los mismos.
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## LEARNING OUTCOMES



- Obtain the basic knowledge for the identification and use of the specific mathematical techniques of financial valuation.
- Know the different securities and fixed income markets that exist in the Spanish financial market.
- Analyse the different forms of negotiation of fixed income securities.
- Learn how to apply analytical techniques of valuation to fixed income instruments and quantify their exposure to changes in interest rates.
- Identify and value the interest rate risk of assets.

## DESCRIPTION OF CONTENTS

### 1. THE NEGOTIATION OF FINANCIAL OPERATIONS

In this lesson, the objective is first, to remind the student key concepts related to financial operations and the financial asset pricing already studied in other subjects and, secondly, to present the different ways of operating that exist in the Spanish market.

1. Financial operations
  - 1.1. Concept
  - 1.2. Loan operation
  - 1.3. Internal and external liquidity
  - 1.4. Mathematical reserve and market value
  - 1.5. Effective interest rates and commercial characteristics
2. Investment in public and private debt
3. The rating agencies
4. The ways of transacting
  - 4.1. Classification of the operation
  - 4.2. Simple purchase transactions
    - 4.2.1. In cash
    - 4.2.2. Forward
  - 4.3. Double sales transactions
    - 4.3.1. Transactions with repurchase agreement
    - 4.3.2. Simultaneous transactions

### 2. SHORT-TERM DEBT

In this lesson, there is a detailed discussion of the concepts, characteristics and valuation of the most important short-term fixed-income financial assets, such as Treasury Bills and Corporate Bonds.

1. Introduction
2. Treasury bills
  - 2.1. Characteristics
  - 2.2. Issuance by auction
  - 2.3. Interest rates
  - 2.4. Negotiation modalities
  - 2.5. Effective interest rates
3. Corporate Bonds



- 3.1. Characteristics
- 3.2. Issuance and negotiation
- 3.3. Interest rates
- 3.4. Effective interest rates

### **3. MIDDLE AND LONG TERM DEBT**

This lesson addresses the study of the characteristics and valuation of public and private debt assets in the medium and long term. Special emphasis is placed on the issuance by auction of bonds and state obligations and their subsequent negotiation, as well as on the wide variety of corporate bonds traded on the SEND market.

- 1. Debt loans
  - 1.1. Concept and notation
  - 1.2. Classification and modalities of issuance
- 2. Sovereign Bonds and obligations
  - 2.1. Characteristics
  - 2.2. Issuance by auction
  - 2.3. Interest rates
  - 2.4. Negotiation modalities
  - 2.5. Effective interest rates
  - 2.6. Bonds and strippable obligations.
- 3. Corporate debt
  - 3.1. Obligations with option
  - 3.2. Other private fixed income assets

### **4. FIXED INCOME MARKETS**

This lesson explains the basic characteristics of the primary and secondary fixed income markets in the current Spanish financial system.

- 1. The state debt market
  - 1.1. Introduction
  - 1.2. Institutional structure of the public debt market of the state
  - 1.3. The primary market of state debt
  - 1.4. The secondary market of state debt
- 2. The non-state fixed-income market
  - 2.1. Introduction
  - 2.2. The primary market
  - 2.3. The secondary market
    - 2.3.1. The AIAF market
    - 2.3.2. The stock exchanges
    - 2.3.3. SEND
    - 2.3.4 Book-entry debt market



## **5. INTEREST RATE RISK**

This lesson is intended for the analysis of interest risk. Bearing in mind that there is the possibility of unanticipated changes in interest rates, the objective is to analyse the consequences that this entails in the management of fixed-income portfolios.

1. The valuation of financial operations and interest rates
2. The price risk
  - 2.1. Concept
  - 2.2. Duration and convexity
3. The risk of reinvestment and financial immunisation
4. The temporary structure of interest rates
  - 4.1. Definition
  - 4.2. Cash and forward types of interest
  - 4.3. Applications and limitations

## **6. INTEREST RATES DERIVATIVES IN OTC MARKETS**

This lesson provides a detailed explanation of the main characteristics, the use and the settlement of derivative contracts on interest rates that are traded in OTC markets.

1. Contracts of forward interest rates or forward rate agreement (FRA)
  - 1.1. Coverage and speculation
  - 1.2. Concept and characteristics
  - 1.3. Contract settlement
  - 1.4. Arbitration operations
  - 1.5. Valuation
2. Swap contracts (SWAP)
  - 2.1. Coverage and speculation
  - 2.2. Description and settlement
  - 2.3. Assessment
3. OTC options with interest rates
  - 3.4. CAP options.
  - 3.5. FLOOR options.
  - 3.6. COLLAR options.



**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Computer classroom practice	30,00	100
Attendance at events and external activities	6,00	0
Development of group work	2,00	0
Study and independent work	40,00	0
Readings supplementary material	1,00	0
Preparation of evaluation activities	17,00	0
Preparing lectures	7,00	0
Preparation of practical classes and problem	7,00	0
Resolution of case studies	10,00	0
<b>TOTAL</b>	<b>150,00</b>	

**TEACHING METHODOLOGY**

The theoretical classes will consist of the presentation by the professor of the lessons of the subject. The participation of the student in terms of their ability to think critically and discuss the materials will be highly valued. The practical classes will consist of the resolution of case studies on the part of the professor and/or the student, both in the theoretical and the IT classroom. For the development of these classes, the student will be provided with a series of case studies, one part of which will be assigned as personal work. In addition, individual or group practical exercises will be required, which must be handed in to the professor or presented in class.

**EVALUATION**

The evaluation procedure for the subject will consist of:

A written exam, which may consist of theoretical questions as well as problems and real cases. This exam will represent 70% of the final grade. A minimum grade (5 points out of 10) must be achieved in this written test so that it can be added to the rest of the grade.

1. The *continuous evaluation* will be based on class attendance, the rest of the in-person training activities and participation and involvement in the teaching-learning process. In this section, a series of *practical activities* will be evaluated, such as the preparation of projects, oral presentations, problem solving activities and individual work exercises. Special consideration will be given to the evaluation of written tests or checks. This section will represent 30% of the grade of the subject. This part of the mark will be recoverable in the written final exam.



## REFERENCES

### Basic

- Calvo, A., Parejo, J. A., Rodríguez, L., & Cuervo, A. (2016). Manual del sistema financiero español. Ariel, Barcelona.
- Hull, J. C. (1996, 2002 ó 2009), Introducción a los mercados de futuros y opciones, Prentice Hall.
- Knop, R. (2005): Manual de Instrumentos Derivados, Biblioteca de Economía y Finanzas, 13, Ediciones Empresa Global, Madrid.
- Losada, R. (2009), Agencias de rating: hacia una nueva regulación. Monografía de la CNMV.
- Meneu, V.; M.P. Jordá y M.T. Barreira (1994): Operaciones Financieras en el mercado español, Editorial Ariel Economía, Barcelona.
- Meneu, V.; E. Navarro y M.T. Barreira (1992): Análisis y Gestión del riesgo de interés, Editorial Ariel Economía, Barcelona.
- Navarro, E. (2019): Matemáticas de las operaciones financieras, Pirámide.

### Additional

- Banco de España: [www.bde.es](http://www.bde.es)
- Bolsas y Mercados Españoles (BME): <http://www.bolsasymercados.es/>
- BME Renta Fija: <http://www.aiaf.es/esp/asp/Portadas/HomeAIAF.aspx>
- BME Market Data. Boletín de Operaciones de Deuda Pública  
<http://www.bmemarketdata.es>
- CNMV: [www.cnmv.es](http://www.cnmv.es)
- Tesoro Público: [www.tesoro.es](http://www.tesoro.es)

## ADDENDUM COVID-19

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

### 1. Content

The content initially included in the teaching guide is maintained.

### 2. Workload and scheduling of teaching



The subject is taught in 2 hours of theory per week and 2 hours of practical sessions per week (as shown in the teaching guide).

The theoretical sessions will be non-presential and will be held via videoconference with the platform Blackboard Collaborate, with the same schedule and duration as the presential sessions.

The practical sessions will be held in the physical classroom as scheduled in the timetable.

### **3. Teaching methodology**

Substitution of the theoretical classes with synchronous videoconferencing by means of Blackboard Collaborate on the day and time of the class. The recordings of the classes will be uploaded to the Virtual Classroom so that students can view them later.

Uploading of the theoretical topics to the Virtual Classroom the week before the class.

Uploading of the solved problems to the Virtual Classroom so that students can try to solve them before class and raise questions and concerns in the virtual session of the weekly class.

Tutorials are maintained at the same scheduled time and with a synchronous videoconference session through Blackboard Collaborate.

### **4. Evaluation**

There is an increase in the weight of the continuous assessment, which is set at 30% in the teaching guide. This is increased to 40%. The activities from the original teaching guide that can be continuously evaluated are maintained: problem solving and case studies.

Reduction of the weight of the final exam from 70% to 60%.

As shown in the guide, all those students who have not taken the continuous assessment or have not obtained a satisfactory mark may take the final assessment test valued at 10 points in the two sessions.