VNIVERSITAT DE VALÈNCIA

Course Guide
35913 Instruments and operations for financial markets

COURSE DATA

Data Subject	
Code	35913
Name	Instruments and operations for financial markets
Cycle	Grade
ECTS Credits	6.0
Academic year	2019 - 2020

Study (s)

Degree	Center	Acad. year	Period
1314 - Grado de Negocios Internacionales/ International Business	Faculty of Economics	3	Second term

Subject-matter

Degree	Subject-matter	Character
1314 - Grado de Negocios Internacionales/ International Business	28 - Financial instruments and risk management	Optional

Coordination

Name	Department
GONZALEZ BAIXAULI, EUSEBIO CRISTOBAL	113 - Financial and Actuarial Economics

SUMMARY

Financial Market Instruments is an optional course taught during the second semester of the third year in the International Business degree. This course belongs to the subject *Financial Instruments and Risk Management*, which is included in the *Advanced Finance* module. Even though its optional feature, it has a compulsory character for those students taking the Finance and Accounting pathway.

The aim of the course is to provide knowledge for understanding modern finance together with practice in financial instruments. The course could be considered as a first step to get into financial markets. At the end of the course it is expected the students being able to use different tools in order to make financial decisions in different environments. The units will cover basically fixed income securities and derivatives valuation.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

No prior knowledge is required. Nevertheless, it is advisable for the student to have passed the subjects Financial Mathematics (code 35883) in the first year of this degree and Financial Management (code 35893) during the second year of this degree.

Please note that Finance is a quantitative subject that can only be understood by solving concrete problems, even though mostly elementary mathematics is used. Students are expected to have basic skills in the use of the Excel © Worksheet.

OUTCOMES

1314 - Grado de Negocios Internacionales/ International Business

- Be able to work in multidisciplinary and intercultural teams.
- Know how to use the statistical methods and software to manage the company's operations.
- Know the basic elements of the legislation regulating international economic, financial and fiscal operations.
- Know how international financial markets work.
- Be able to generate ideas and detect business opportunities in international markets.
- Entender como interactúan las variables que determinan la negociación y formación de precios de los activos financieros.
- Utilizar técnicas cuantitativas para valorar activos financieros de renta fija y variable.
- Conocer las técnicas de operación y negociación en los principales mercados bursátiles y de renta fija.
- Aprender los principales activos financieros derivados empleados en la gestión del riesgo de interés.

LEARNING OUTCOMES

Upon successful completion of the course, students are expected to be able to:

Understand financial concepts in order to analyze the current financial markets. Perform a simple analysis of any financial data.

Basic understanding of the international financial markets.

Obtain the price of fixed income securities.

Use non-arbitrage concepts in valuation models.

To have an insight into the Black-Scholes formula for European call options.

Give a basic understanding of the purpose of different kinds of derivatives

How to draw option payoff diagrams and design simple option strategies.

Price basic derivatives.

DESCRIPTION OF CONTENTS

1. Financial Markets. Fixed income securities.

Unit 1. Pricing and yield of bonds

1.1. Introduction to the bond market
1.2. Types of bonds. Risks associated with bonds
1.3. Review of time value of money
1.4. Pricing of bonds
1.5. Measuring yield. The price-yield relationship

Unit 2. Bond price volatility. Interest rate risk

2.1. Duration of a bond
2.2. Convexity of a bond
2.3. Duration and Immunization against interest rate risk

Unit 3. The Term Structure of Interest Rates (TSIR)

3.1. Term Structure and Yield Curve
3.2. Bond pricing using spot interest rates
3.3. Forward rates
3.4. Theories about the Term Structure of Interest Rates

2. Derivatives

Unit 4: Forwards and Futures

4.1. Distinctions between forwards and futures contracts.
4.2. Spot-futures price parity relation.
4.3. Hedging strategies using futures.
4.4. Forward price for an investment asset.
4.5. Futures contracts valuation.

Unit 5: Options (I)

5.1. Option contracts.
5.2. Option-payoff diagrams and simple option strategies.
5.3. Basic components of the option price. The put-call parity relation.

Unit 6: Options (II)

6.1. Volatility and option prices.
6.2. Upper and lower bounds for option prices.
6.3. Two-state option pricing. The binomial model.
6.4. The Black-Scholes model.

WORKLOAD

ACTIVITAT	Hours	% To be attended
Theory classes	30.00	100
Classroom practices	30.00	100
Development of group work	10.00	0
Development of individual work	10.00	0
Study and independent work	30.00	0
Readings supplementary material	20.00	0
Preparing lectures	10.00	0
Resolution of case studies	10.00	0
TOTAL	**150.00**	

TEACHING METHODOLOGY

There will be **a two-hour lecture plus a two-hour practice session per week**, thus totalling four classroom hours per week. Students in the class will be split into two sub-classes (sub-groups) for practice sessions.

Practice sessions will consist of solving exercises, working on case studies, developing workshops, presentations and discussions, etc. Lecture slides and practice sessions guidelines and relevant materials will be uploaded onto the course's **virtual classroom** (www.aulavirtual.uv.es).

Students are encouraged to participate actively in all classes, including lectures. Students are also expected to arrive to lectures on time, and mobile phones must be switched off at all times, and texting is not allowed - it is disruptive and disrespectful to the lecturer and to fellow classmates.

Should the students have any course-related queries, questions or feedback, or should they need any guidance or advice on practice assignments, they are encouraged to take advantage of the (voluntary) office tutorials during the lecturer's office hours.

Methodology in this subject is both self-study and working-in-groups oriented in lectures and, especially, in practice sessions (example classes). Specifically, the methodology to be used is as follows:

For the lectures, students should previously read the notes available in the course's **virtual classroom** (www.aulavirtual.uv.es) and the required text included in the bibliography. After the reading, students should write down the main doubts/questions arisen in the interpretation of the material. The lecturer will combine during the lecture his explanations with the active participation of the students (they should raise their doubts, try to help their classmates, and participate in discussions in group about the most controversial concepts). The objective is to improve the autonomous capacity of the students (individual work at home previous to the lecture) as well as their ability to work in groups, to argue and defend ideas (debate groups), and their oral and written communication skills.

Example classes, in turn, will be carried out combining two different strategies. On the one hand, the lecturer will solve standard problems in the classroom in order for students to learn to identify the key aspects of the corresponding approach in each unit. On the other hand, students will have to solve analogous problems, sometimes in the classroom, and usually as a part of their homework. Occasionally some solved problems will have to be handed in, and this will be part of the continuous assessment.

Moreover, there will be some working group tasks. Students will spend time in group discussion of papers previously handed out by the lecturer and solving exercises more complex than the standard ones. Groups created for both kinds of tasks will be different with the aim of facilitating the interrelation among classmates. These tasks will enable the students to develop their organisational skills, creativity, teamwork and the ability to apply their learning in new and challenging contexts. Together with the above mentioned individual exercises, they will constitute the students' continuous assessment.

EVALUATION

The course grade will be given by the sum of:

1) The final examination marks (70% of the final grade). The final exam will be administered according to the official schedule and it will include questions and problems regarding both theory and practice (exercises).

2) The remaining 30% can be obtained through activities developed by the student during the term, such as: problem solving, periodic assessment tests, and any other type of continuous assessment tasks.

The final grade will be given by the sum of the previous concepts. Nonetheless, in order to get a passing grade at the end of the term, **the student must pass the final exam** (answer at least 50% of the exam questions correctly), **which is compulsory.** In case of failing the exam, the maximum grade that the student can obtain as the sum of all the items will be 4.5 marks.

Exams will be regulated by Article 13 on examination fraud of the “Reglament d’avaluació i qualificació de la Universitat de València per a títols de grau i máster, ACGUV 108/2017. Additionally, all the assessment tasks and homework will be subject to the regulation on plagiarism detailed in Article 15.2 of the above-mentioned “Reglament”.

For the second examination call, the same criteria of evaluation and weighting as for the first call will be used. Those students who are evaluated on the second call will maintain the grade obtained in section 2 above, and they will not be allowed to complete any tasks or homework that had not been previously considered for the first call.

Any possible change of the date and/or hour of a final exam will be administered under the terms and conditions established by the article 9.2 of the above-mentioned "Reglament".

Cheating on an exam or plagiarizing the written work of others is considered a very serious offense and will not be tolerated in this course. If a student is suspected of or caught cheating on any test or assignment, he/she will receive a grade of zero on that test or assignment. It is very important to avoid putting yourself in the position of even being suspected of cheating (e.g., looking at another student's exam or copying homework) or plagiarism (i.e., using another's words as your own written words), as the serious consequences may result.

REFERENCES

Basic

- Hull, J. (2011): Fundamentals of Futures and Options Markets. Seventh edition. Pearson.
- Bodie, Z.; Kane,A.,and Marcus, A. (2011): Investments, 9th Ed. Mc Graw Hill.
- Dalton, B. (2008): Financial products: an introduction using mathematics and Excel, Cambridge University Press.
- Fabozzi, F. (1997): Fixed income mathematics. Analytical and Statistical Techniques. 3rd ed. Mc-Graw Hill

Additional

- Bossu, S. and P. Henrotte (2012): An Introduction to Equity Derivatives: Theory and Practice, 2nd Edition. Wiley.
- Hull, J. (2012): Options, Futures and Other Derivatives, 8th Edition. Prentice Hall.
- Wilmott, P. (2007): Paul Wilmott introduces Quantitative Finance. Second Edition. Wiley.
- Fabozzi, F.; Modigliani, F. and Ferri, M. (1994): Foundations of Financial Markets and Institutions. Prentice Hall.
- Bodie, Z. and Merton, R. (1998): Finance. Prentice Hall.
- Howells, P. and Bain, K. (1994): Financial Markets and Institutions. Second edition. Longman publishing.
- Neftci, S. (1996): An introduction to the Mathematics of Financial Derivatives. Academic Press.
- Berk, J. and P. DeMarzo (2011): Corporate Finance. Ed. Pearson.
- Fabozzi, F. and Fong, G. (1994): Advanced Fixed Income Portfolio Management. Probus Publishing.