

FINANCIAL ECONOMICS & ACCOUNTING

IE University

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Degree course: SECOND

Semester: 1º

Category: COMPULSORY

Number of credits: 6.0

Language: English

PREREQUISITES

SUBJECT DESCRIPTION

The course is an introduction to the main **Financial Markets**, how they work and how they contribute to the proper functioning of the Global Economy. Many players participate in them: **Companies** use them to manage their liquidity needs, increase their debt or go public with their capital placed among **Final Investors** who consequently use these markets to diversify and allocate their savings, **Asset Management Companies** that offer investment services through mutual or pension funds, **Monetary Policy Makers** who intervene to control or modify interest rates or exchange rates between currencies, and many others who contribute to the transparency and liquidity of these markets such as **Brokers**, and why not, **Speculators**, who take market risks to profit from "trading opportunities", providing market depth and liquidity. Students will begin by studying the main conventions of the **Money Markets**, developing a set of tools based on the **NPV methodology** (estimation of Discount Factors, financial criteria) and apply them to the design of standard or "tailor-made" financing structures, and then pricing and understanding the dynamics of the main cash products in the markets: **Bonds and Shares**. How these products are placed in **Primary Markets** and then widely traded in **Secondary Markets, OTC or Exchange-traded**. We will continue with the subsequent generation of products such as **Securizations and Derivatives**, the latter used for the control and "hedging" of risk. How the **LIBOR scandal** is changing some standards in money markets. Concluding the subject, the concept of **Market Risk** will be addressed, studying the benefits of **diversification** in the investor's portfolio. The **Beta** parameter will be introduced as a measure of the **systematic risk** of a stock, and how it is used to forecast the return of an asset through the **Capital Asset Pricing Model (CAPM)**, which will be used to determine the cost of capital when valuing companies or projects. During the course, current topics will be discussed, such as how **ESG factors** affect the financial stability of companies or how **FINTECH** processes are breaking into financial industries.

OBJECTIVES AND SKILLS

At the end of the subject, the student should be able to:

- Understand and apply how to use the simple and compound interest formulas.
- Estimate the corresponding Discount Factors and how to use them to obtain the NPV of series of Cash Flows
- Learn how to amortize a loan with constant amortization methods and with constant payment

methods

- Understand the concept of a Perpetuity or a Growing Perpetuity
- Develop and apply key terminology such as EAR or APY.
- Understand the different financing alternatives for corporations: banks, debt and equity markets.
- Understand basic concepts of the financial market such as: exchange-traded and over-the-counter market. Primary and secondary markets. Money market funds, interbank markets or repo markets
- Bond Markets: Bond Pricing and analysis of factors affecting Bond Prices. Understand master concepts such as yield to maturity (YTM) and bond duration.
- Understand the behavior of the Temporary Structure of Interest Rates, its forecasting power and its association with the economic cycle.
- Stock Markets: Stock valuation using simple models based on the Discount Cash Flow (DCF) and Gordon Growth Model (GGM) methodologies.
- Evaluate recent financial innovations in debt markets, such as securitization.
- Derivatives Markets: Learn about the main instruments and how they can be used to hedge market risks.
- Understand key topics in sustainable finance: green bonds, ESG investing, and climate risk products.
- Master fundamental financial techniques (eg, time value of money, IRR, Payback), frameworks (eg, discounted cash flow models), and apply them in making business decisions.
- Develop the analytical skills that form the basis for making financial decisions.
- Understand the concept of Market Risk: systemic and idiosyncratic. Use of BETA as a measure of Systemic Risk
- Explain the capital asset pricing model and the concepts of beta and alpha
- Understand how ESG factors are affecting the financial industry and investor preferences
- Learn how FINTECH innovations are revolutionizing and changing financial markets
- Develop critical thinking and problem solving skills related to current affairs in the financial press.

METHODOLOGY

It is recommended that the student read or view the reading materials BEFORE each session. The teacher will communicate these materials to the students. The course includes qualitative and quantitative topics. As software we will use Excel.

Each building block of the subject will have a set of suggested problems (self-assessment for each session) that the student must review, since they contain exercises that summarize the key points of the current topic. The Quizzes and the Final Test will be inspired by these suggested self-assessments. Solutions will also be provided. The teacher will offer additional support with office hours to be announced in advance.

The estimated allocation for the course is presented below:

Teaching methodology	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	40.0 %	60 hours
Discussions	10.0 %	15 hours

Exercises	20.0 %	30 hours
Group work	13.33 %	20 hours
Other individual studying	16.67 %	25 hours
TOTAL	100.0 %	150 hours

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Calculating Interest Rates I

- Simple Interest Formulas and Day Count Conventions on an adjusted or unadjusted Basis
- Estimated Financial Schedule for a "Bullet" Loan.

SESSION 2 (LIVE IN-PERSON)

Calculating Interest Rates II

- Compound interest: understand the concept and to know how to calculate interest and Discount Factors with a "compound interest" standard.
- Learn to amortize a loan with with constant capital payments.
- "French System": constant amortization methods. Estimate the constant payment and construct the amortization table.

SESSION 3 (LIVE IN-PERSON)

Calculating Interest Rates III

- PV of a Perpetuity and a PV of a Growing Perpetuity
- Understand the formulas for Annual Percentage Yield APY and Effective Annual Rate EAR. Learn the concepts behind the math.
- Concept of TAE (Tasa activa Efectiva) in Spain and Europe

SESSION 4 (LIVE IN-PERSON)

Financing Alternatives for Corporations: Banks, Debt vs Equity Markets

- Tradeoffs of the different options: Internal vs external financing. Banks vs Debt markets. Debt vs Equity.
- How do corporations issue securities.

SESSION 5 (LIVE IN-PERSON)

What do financial markets do?

- Functions
- Main Markets by product
- Over the Counter Markets (OTC): the Counterparty Credit Risk
- Exchange-Traded Market: The concept of a Central Clearing Counterparty.
- ISDA Contract and collateral Agreements

SESSION 6 (LIVE IN-PERSON)

Primary Markets

- How to place Debt to Final Investors:
 - Underwriting
 - MTN Programs
 - Public Debt: Dutch Auction
- How to place Stocks to Final Investors:
 - Underwriting
 - Direct Listing
 - Dutch Auction
 - SPAC

SESSION 7 (LIVE IN-PERSON)

Secondary Markets

- Order Markets and Market Depth
- The role of the Market Maker
- Mechanics in Secondary Markets:
 - Limit order
 - Market order
 - Stop Loss, Take Profit orders

SESSION 8 (LIVE IN-PERSON)

Monetary Markets

- Unsecured Lending
 - Main Instruments negotiated
 - The Euribor
- Secured Lending
 - Repo Markets
- The LIBOR scandal
- Short term rates: The new standard for monetary markets ESTR, SOFR, SONIA and others

SESSION 9 (LIVE IN-PERSON)

The NPV methodology

- Valuing multiple cash flows & discounted cash flow methods (DCF)

SESSION 10 (LIVE IN-PERSON)

Alternative Financial Criteria to NPV

- Payback and Discounted Payback period
- IRR
- Profitability Index

SESSION 11 (LIVE IN-PERSON)

Bond Markets I

- Definition of a Bond
- Bond pricing using NPV criteria
- Dirty Price, Clean Price and Accrued Coupon
- Relation between YTM and Price

SESSION 12 (LIVE ONLINE)

Bond Markets II

- Sources of Income in a Bond Strategy
- Income Return, Price Return and Total Return.
- Bond Sensitivities:
 - Duration
 - Convexity

SESSION 13 (LIVE IN-PERSON)

Bond Markets III

- A portfolio of Bonds:
 - Duration
 - Duration and Sensitivity
- Other types of Bonds
 - Zero Coupon Bonds
 - STRIPS in Government Debt
 - Floating Rate Notes (FRN)

SESSION 14 (LIVE IN-PERSON)

Bond Markets IV

- The Corporate Bonds and Credit Risk
- Credit Rating Agencies and Solvency Risk
- Probability of Default, Recovery Value and Credit Margin
- Seniority of a Bond

SESSION 15 (LIVE IN-PERSON)

The Term Structure of Interest Rates

- The yield curve
- Shape of the yield curve and its association with the economic cycle
- Implicit Rates: the forecasting power of the yield curve

SESSION 16 (LIVE IN-PERSON)

Securitization

- What is Securitization?
- Mortgage-Backed Securities (MBS), Asset-Backed Securities (ABS)
- The redistribution of Credit Risk: "tranching" in securitization
- The "Prepayment Risk"
- A step forward: Corporate Debt Obligations (CDO) and the "waterfall" effect.

SESSION 17 (LIVE IN-PERSON)

Stock Markets I

- Common Shares
 - Definition
 - Dividends: ordinary dividends and other types
- Preferred Stock
 - Definition
 - Sources of return and associated risks
- Pricing a Stock Based on DCF/NPV methodology

SESSION 18 (LIVE IN-PERSON)

Stock Markets II

- The Gordon Growth Model (GGM) pricing methodology for a stock
- Applying GGM in multiple stages.

SESSION 19 (LIVE IN-PERSON)

Stock Markets III

- Sources of income when trading Stocks
- Income Return, Price Return and Total Return
- Short Selling and Securities Lending

SESSION 20 (LIVE IN-PERSON)

Stock Markets IV

- Main "Equity characteristics" in a company: P/E, P/B, Dividend Yield, EPS and others
- Value Companies: definition and main characteristics
- Growth Companies: definition and main characteristics
- Market Segmentation according to investment strategies and size.

SESSION 21 (LIVE IN-PERSON)

Derivatives Markets I

- Impact of Market Risk on the economic results of the company: FX Risk and Interest Rate Risk
- Use of Derivatives as a "hedging" tool for Market Risk
- Main types of Derivatives
- Delta 1 Derivatives: Futures, Forwards and Swaps
 - The "Cost of Carry" Model

SESSION 22 (LIVE IN-PERSON)

Derivatives Markets II

- Derivatives with Optionality: CALL and PUT Options

SESSION 23 (LIVE IN-PERSON)

Derivatives Markets III

- Standard Hedging Strategies with derivatives:
 - Dynamic Hedging with options
 - Risk Reversals and FX Tunnels
 - Caps, Floors and Collars

SESSION 24 (LIVE IN-PERSON)

Measurement of Risk

- Absolute Risk of an Asset: the Standard Deviation
- The joint variability of two assets: The Covariance
- Measurement of Beta. The Systemic risk
- Benefits of Diversification: The Idiosyncratic risk

SESSION 25 (LIVE IN-PERSON)

The Capital Asset Pricing Model, CAPM

- The Capital Asset Pricing Model (CAPM). Understand what the CAPM measures and how to run a CAPM regression.
- CAPM as an indicator of Cost of Capital of the company
- Unlevered Beta: a tool for the valuation of companies
- What is Alpha? The Jensen's Alpha ratio

SESSION 26 (LIVE ONLINE)

Sustainable Finance

- The Principles for Responsible Investment (PRI)
- ESG factors and Risk:
 - Environmental
 - Social
 - Governance
- ESG Investment: new criteria and classification standards
- Main Climate Risk Products

SESSION 27 (LIVE IN-PERSON)

Group Presentations

SESSION 28 (LIVE IN-PERSON)

Group Presentations

SESSION 29 (LIVE IN-PERSON)

Summary and Mock Exam

SESSION 30 (LIVE IN-PERSON)

Final Exam

BIBLIOGRAPHY

Recommended

- Brealey, R., Myers, S., and Allen, F.. (2019). *Principles of Corporate Finance*. Thirteenth edition. McGraw-Hill Education. ISBN 9781260565553 (Digital)

- Mishkin F., & S. Eakins. (2018). *Financial Markets and Institutions*. 9th.. Pearson. ISBN 9781292215037 (Digital)

EVALUATION CRITERIA

Your final grade in the course will be based on both individual and group work of different characteristics that will be weighted in the following way:

Criteria	Percentage	Comments
Class Participation	10 %	
Workgroups	25 %	
Group Presentation	15 %	
Intermediate Tests	25 %	
Final Exam	25 %	

CLASS PARTICIPATION (10% of the overall grade)

The teacher will assign a score based on the student's participation in class. The quality of the students' comments and how they have contributed to clarify and understand the concepts discussed during the class will determine a better score. Students may be cold called by the teacher, so they should be prepared if they have been asked to do some pre-reading or to answer any questions about the topics covered during the session.

WORKGROUPS (25% of the overall grade)

The Workgroups are sets of problems or case studies (or a mixture of both) that the teacher will assign during the course. The objective is that, when doing them, the students reaffirm and practice the concepts developed in class. Most of them will require the use of EXCEL spreadsheets that must be developed and delivered to validate the work. The case studies can be solved using the contents covered in class. Late assignments will not be graded unless they have been discussed with the teacher and have their approval.

GROUP PRESENTATION (15% of the overall grade)

The Professor will propose up to 5 different Financial Topics that will be chosen by the groups and will be presented in the final sessions of the course. Clarity in presentation and ability to convey key points will be especially appreciated.

INTERMEDIATE TESTS (25% of the overall grade)

There will be 3 intermediate level tests, to be solved using Blackboard, each one will consist of 10 multiple choice questions with a duration of 30 minutes. It will be presented at the beginning of the session chosen by the teacher.

FINAL EXAM (25% of the overall grade)

With the duration of a complete session, 25 or 30 Multiple Choice questions, presented randomly, which will include all the key topics covered in the subject. It will be Open Book.

GENERAL OBSERVATIONS

Each student has four attempts over two consecutive academic years to pass this course. Students whose final average grade is below 5 do not pass the class. As well students whose final exam grade is below 5 will not pass the class (Unplugged and elective classes exempt from this rule). In these cases, students will be required to take the extraordinary retake exam. The retake exam will be scheduled in and the date/time is not subject to change. The exam should be comprehensive (cover the entire course), and the passing grade is 5/10 with a max grade of 8/10.

Students must attend at least 70% of the sessions. Students who do not comply with the 70% attendance rule will receive a 0.0 on their first and second attempts and go directly to the third one (they will need to enroll in this course again the following academic year).

Students who are in the third or fourth attempt should contact the professor during the first two weeks of the course.

ATTENDANCE

Attendance is mandatory at IE University, as it is an essential factor of IE's learning methodology. Each student may miss up to 30% of the sessions within a given course and still maintain the possibility of passing that given course. This 30% "buffer" is to be used for any absences, such as: illnesses, personal emergencies, commitments, official/governmental matters, business and/or medical appointments, family situations, etc. Students should manage their various needs, and situations that may arise, within that 30% buffer. If a student is absent to more than the allowed 30% of the sessions (regardless of the reason), s/he will obtain a 0.0 grade for that course in both the ordinary and extraordinary calls of the current academic year, and s/he will have to retake the course during the following academic year. Having established the rule, we strongly discourage to use this buffer as granted, we highly recommend to attend 100% of the classes as it will improve your learning outcomes, it will increase the class performance, and improve your participation grade. Extreme cases involving emergencies such as: extended hospitalizations, accidents, serious illnesses and other contexts involving force majeure, are to be consulted with the Program Management team for assessment of the situation and corresponding documentation, so that Program Management can support and guide each student optimally.

PLAGIARISM / ACADEMIC HONESTY

Plagiarism is the dishonest act of presenting another person's ideas, texts or words as your own. This includes in order of seriousness of the offense:

- providing faulty sources;
- copy-pasting material from your own past assignments (self-plagiarism) without the instructor's permission;
- copy-pasting material from external sources even while citing them;
- using verbatim translations from sources in other languages without citing them; •copy-pasting material from external sources without citing them;
- and buying or commissioning essays from other parties.
- receiving excessive and/or unreported help from personal tutors.

IEU students must contact the professor if they don't know whether the use of a document constitutes plagiarism. The professor will advise the student on how to present said material. All written assignments have to be submitted through Turnitin, which produces a similarity report and detects cases of plagiarism. Professors are required to check each student's academic work in order to guarantee its originality. Students using external tutorial support should report it to the professor and the BIE Program from the moment they began receiving this support.

If the originality of the academic work is not clear, the professor will contact the student in order to clarify any doubts. In the event that the meeting with the student fails to clarify the originality of the academic work, the professor will inform the Director of the Bachelor Program about the case, who will then decide whether to bring the case forward to the BIE Academic Review Panel. Very high similarity scores will be automatically flagged and forwarded to the Academic Review Panel. Plagiarism constitutes a very serious offense and may carry penalties ranging from getting a zero for the assignment to expulsion from the university depending on the severity of the case and the number of times the student has committed plagiarism in the past.

PROFESSOR BIO

Academy

- Ingeniero Superior de Telecomunicaciones, Ministerio de Educación y Ciencia, Universidad Simón Bolívar.
- MBA, Instituto de Estudios Superiores de Administración (IESA)
- DEA, Universidad Autónoma de Madrid

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Working Experience

I work on Financial Markets since 1989. Starting as a Market-Maker in FX Markets, I have been a Dealer and Market-Maker in Fixed-income, Equity and Derivatives desks. Most of my professional experience was developed in Banco Santander where finally I became Director of Secondary Markets, providing liquidity to diverse financial products issued by the bank, including Structured Bonds, OTC Derivatives, COCOs, Options and Futures on standardized markets, Warrants and Exotic Warrants and ETFs. Since 2016 I work for my own and have founded a consultancy and financial formation company, Métricas Financieras SL.

OTHER INFORMATION

1. Be on time: Students arriving more than 5 minutes late will be marked as "Absent". Only students that notify in advance in writing that they will be late for a specific session may be granted an exception (at the discretion of the professor).
2. If applicable, bring your name card and strictly follow the seating chart. It helps faculty members and fellow students learn your names.
3. If connecting remotely, leave video feed on at all times.
4. Do not leave the room during the lecture: Students are not allowed to leave the room during lectures. If a student leaves the room during lectures, he/she will not be allowed to re enter and, therefore, will be marked as "Absent". Only students that notify that they have a special reason to leave the session early will be granted an exception (at the discretion of the professor).

5. Do not engage in side conversation. As a sign of respect toward the person presenting the lecture (the teacher as well as fellow students), side conversations are not allowed. If you have a question, raise your hand and ask it. If you do not want to ask it during the lecture, feel free to approach your teacher after class. If a student is disrupting the flow of the lecture, he/she will be asked to leave the classroom and, consequently, will be marked as "Absent".

6. Use your laptop for course-related purposes only. The use of laptops during lectures must be authorized by the professor. The use of Social Media or accessing any type of content not related to the lecture is penalized. The student will be asked to leave the room and, consequently, will be marked as "Absent".

7. No cellular phones: IE University implements a "Phone-free Classroom" policy and, therefore, the use of phones, tablets, etc. is forbidden inside the classroom. Failing to abide by this rule entails expulsion from the room and will be counted as one absence.

8. Escalation Policy: the first time you are asked to leave the classroom it will be counted as an absence. If it happens a second time, it will be counted as 3 absences, and an Academic Review Panel will be consulted to discuss other possible sanctions, up to an including possible failing of course and in extreme cases expulsion from program.

Office hours: to be announced during the course.

