Euncet Business School

centro adscrito a:

UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

TEACHING GUIDE
FINANCE AND FINANCIAL SYSTEM
2025-26

GENERAL DATA

Number:	Finance and Financial System
Code:	
Course:	2025-26
Titration:	Master's Degree in Financial Innovation and Fintech
Number of credits (ECTS):	5
Location in the curriculum:	1st Course, 1st Semester
Department:	
Head of department:	
Date of last revision:	March 2025
Teaching staff:	Prof. Alexandre Gisbert

1. OVERVIEW

The Finance *and Financial System* subject is an introduction to the fundamental concepts and fundamental structures of the financial system, with a special focus on the interconnection between traditional elements and the new digital trends that are transforming the financial sector. This subject offers a comprehensive overview of the basic aspects of financial theory and practice, and prepares the student for a global understanding of the contents covered in the other, more specific subjects of the master's degree, such as derivative products, asset management, risk analysis, blockchain, global financial markets and the use of technologies such as artificial intelligence and blockchain in the financial sector.

2. OBJECTIVES

- To know the structure and functioning of the financial system, and its interrelations with other economic sectors.
- Identify current technology trends impacting the financial sector.
- Understand the relevance of digital transformation and its application in modern finance.
- Integrate the concepts of the other subjects of the master's degree into a global and coherent vision.

3. LEARNING OUTCOMES

At the end of the course, the student will be able to:

K1.1: Recognize the different technologies that are transforming the financial sector, such as blockchain, cryptoassets or tokenomics and the business opportunities they can generate.

K1.2: Describe the main technological trends that are redefining the financial sector.

S1.1: Communicate effectively orally, in writing and graphically with other people about learning, thinking and decision-making, and participate in debates, making use of interpersonal skills, such as active listening and empathy, which favour teamwork.

S2.1: Develop the ability to contribute to innovation in new or existing business institutions and organizations, through participation in creative projects and have the ability to apply skills and knowledge on technology-based entrepreneurship, organization and business development.

S3.1: Understand advanced digital technologies, so that they can be applied with a critical perspective, in diverse contexts, in academic, professional, social or personal situations.

S4.1: Fundamentally differentiate the different types of technology that are being applied to the financial sector based on disintermediation.

S4.2: Fundamentally differentiate the different types of products and services based on blockchain technology.

C1.1: Integrate the values of sustainability, understanding the complexity of systems, in order to undertake or promote actions that restore and maintain the health of ecosystems and improve justice, thus generating visions for sustainable futures.

C2.1:Identify and analyze problems that require autonomous, informed, and reasoned decision-making, in order to act with social responsibility, following ethical values and principles.

C3.1: Develop the capacity to assess inequalities based on sex and gender, in order to design solutions.

C4.1: Apply financial decentralisation technologies in applications or business models that make it possible to reduce costs and improve profitability, taking into account the current ethical and legal framework.

C4.2: Apply digital transformation technologies in banking in applications or use cases that reduce costs and improve profitability, taking into account the current ethical and legal framework.

We can highlight:

- Understand the role of financial markets in the global economy.
- Understand the characteristics of the main financial products.
- To present the main axes of current financial management.
- Identify the implications of disruptive technologies in the financial sector.

4. CONTENTS

TOPIC 1: Introduction to the Financial System

Specific learning outcomes:

1. Understand the structure and functions of the financial system in the global economy.
2. Identify the different types of financial intermediaries and their role in the market.
3. Analyze the impact of emerging technologies and the principles of ethics and sustainability on the financial system.

Contents:

1.1 Structure and functions of the financial system.

- Components of the financial system: markets, instruments and agents.
- Economic functions of the financial system: intermediation, liquidity, risk transfer and investment efficiency.
- Relationship between the financial system and economic development.

1.2 Traditional and emerging financial intermediaries.

- Banks and credit institutions: functions, regulation and evolution.

- Insurance companies and investment funds.
- Impact of fintechs and digital platforms on financial intermediation.

1.3 Impact of emerging technologies on the financial system.

- Digitalization of banking services.
- Artificial intelligence, machine learning and big data in finance.
- New technology-based business models (open banking, neobanks, robo-advisors).

1.4 Ethics and sustainability in the financial system.

- Corporate social responsibility in finance.
- Transparency and good financial practices.
- Sustainable finance and impact on the environment and society.

TOPIC 2: Technological Innovation in Finance

Specific learning outcomes:

1. Understand how blockchain works and its application in finance.
2. Analyze the new trends of tokenization and DeFi in the financial system.
3. Assess the evolution of digital payment systems and their implications.

Contents:

2.1 Blockchain and smart contracts.

- Basic principles of blockchain technology.
- Financial applications: smart contracts and transaction security.
- Impact of decentralization on financial services.

2.2 Asset tokenization.

- Definition and benefits of tokenization.
- Types of digital assets: security, utility and stablecoins.
- Legal and regulatory aspects of tokenization.

2.3 Decentralized finance (DeFi) platforms.

- Definition and characteristics of DeFi.
- Comparison between traditional and decentralized systems.
- Use cases: P2P lending, swaps, and yield farming.

2.4 Innovations in digital payment systems.

- Evolution of electronic transactions.
- Cryptocurrencies, digital wallets and central bank digital currencies.
- Security and privacy in new payment methods.

TOPIC 3: Financial Products and their Evaluation

Specific learning outcomes:

1. Distinguish the main traditional financial products and their functionality.
2. Identify new forms of technology-based financial products.
3. Assess the risks associated with innovative financial products.

Contents:

3.1 Main traditional financial products.

- Fixed income and variable income instruments: bonds, shares and derivatives.
- Investment and diversification strategies.
- Valuation and profitability analysis.

3.2 New forms of financial products.

- Cryptoassets: characteristics and regulation.
- Stablecoins and their utility in volatile markets.
- Non-Fungible Tokens (NFTs) and their financial applications.

3.3 Assessment of risks associated with innovative products.

- Risks of volatility and speculation.
- Legal and regulatory considerations.
- Strategies to mitigate risks in emerging investments.

TOPIC 4: Financial Risk Management

Specific learning outcomes:

1. Identify and classify the different types of financial risk.
2. Apply risk mitigation strategies in dynamic financial environments.
3. Evaluate the impact of technologies on financial risk management.

Contents:

4.1 Identification and classification of financial risks.

- Market, credit, liquidity and operational risks.
- New risks derived from digitalisation and cybersecurity.

4.2 Risk mitigation strategies.

- Portfolio diversification and asset management.
- Financial hedging instruments.
- Risk assessment and analysis in adverse scenarios.

4.3 Impact of technologies on risk management.

- Artificial intelligence and big data in risk prediction.
- RegTech and automatic compliance.
- Success stories in the implementation of risk management technologies.

TOPIC 5: Ethics and Sustainability in Finance

Specific learning outcomes:

1. Apply ethical principles in financial decision-making.
2. Understand the importance of sustainability and green finance.
3. Identify the impact of the SDGs on the financial system.

Contents

5.1 Ethical principles in finance.

- Ethical dilemmas in investment and financial management.
- Transparency and good practices.

5.2 Sustainability and green finance.

- Green bonds and responsible investments.
- ESG criteria in financial decision-making.

5.3 Integration of the SDGs.

- Financial inclusion and social impact.
- Promotion of sustainable investments.

5. METHODOLOGY

The methodology is based on participatory lectures complemented by the previous reading of the different topics of the material that have been previously published on the virtual campus. With the practices in class and the work at home, it is expected to strengthen the concepts and procedures that have been presented in class.

The subject combines theoretical sessions with analysis of practical cases/current activities.

6. EVALUATION

In accordance with the Bologna Plan, the model rewards the constant and continuous effort of students.

60% of the grade is obtained from the continuous evaluation of the directed activities and the remaining 40% from the final face-to-face exam. The final exam has two sittings.

Distribution of continuous assessment (60%):

- Group project to create an investment portfolio: 45%
- Class Participation: 15%

Final exam (40%):

The exam will evaluate all units with the following approximate weighting:

- Topic 1: 20%
- Topic 2: 20%
- Item 3: 20%
- Item 4: 20%
- Item 5: 20%

7. BIBLIOGRAPHY

Basic:

- Bodie, Z., Kane, A., & Marcus, A. J. (2022). *Investments*. McGraw-Hill.
- Fabozzi, F. J. (2021). *Bond markets, analysis and strategies*. MIT Press.
- Howells, P., and Bain, K., (2008), The Economics of Money, Banking and Finance: a European Text, Financial Times/ Prentice Hall.
- Rey, M. R. (2023). *The Forex market: structure, instruments and strategy*. Oxford University Press.
- Mishkin, F. S., & Eakins, S. G. (2023). *Markets and* Financial Institutions. Pearson.
- Pilbeam, K., (2018), Finance and Financial Markets, Palgrave.
- Ritter, L.S., Silber, W.L., Udell, G.F., (2009), Principles of Money, Banking, and Financial Markets, Pearson.

Complementary:

- BIS (annual update). Triennial Central Bank Survey on Foreign Exchange and OTC Derivatives Markets.
- Chambers, D., & Dimson, E. (2021). History of financial markets: reflections on the past for today's investors. Research Foundation of the CFA Institute.
- Hanna, D., & Parameswaran, S. (2022). FinTech: The technology that drives disruption in the financial services industry. CRC Press.
- Casco, J. C. (2022). Risk Management and Financial Institutions. Wiley.
- Narayanan, A. et al. (2016). Bitcoin and cryptocurrency technologies. Princeton University Press.

Digital Resources:

- Bank for International Settlements (www.bis.org)
- Bloomberg Terminal (institutional access)
- ECB Statistical Data Warehouse (sdw.ecb.europa.eu)
- FRED Economic Data (fred.stlouisfed.org)
- International Monetary Fund (www.imf.org)
- El Financial Times (www.ft.com)
- World Economic Forum - Financial and Monetary Systems (www.weforum.org)