GUÍA DOCENTE
2025 - 2026

FICHA TÉCNICA DE LA ASIGNATURA

Datos de la asignatura	
Nombre completo	Tecnología e Innovación en los Mercados Financieros/Fintech & Financial Market Innovation
Código	E000014037
Créditos	3,0 ECTS
Carácter	Obligatoria (Grado)
Departamento / Área	Departamento de Gestión Financiera

Datos del profesorado	
Profesor	
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Departamento / Área	Departamento de Gestión Financiera
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Profesor	
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DATOS ESPECÍFICOS DE LA ASIGNATURA

Contextualización de la asignatura

Aportación al perfil profesional de la titulación

Fintech & Financial Market Innovation contributes to the professional profile of the *Bachelor's Degree in Business Analytics* by providing students with a solid understanding of how technological innovation is transforming financial markets, financial services and investment processes. The course equips students with the conceptual and analytical foundations required to interpret, evaluate and anticipate the impact of digital technologies on the financial industry.

This subject enables students to understand the structure and functioning of modern financial markets in a context characterized by digital transformation, platform-based business models and data-driven decision-making. Special emphasis is placed on the role of FinTech solutions, blockchain and tokenization, new trading technologies, digital payment systems and emerging forms of financial intermediation, allowing students to connect technological developments with changes in market efficiency, risk management and investment behavior.

Overall, this course enhances the employability of Business Analytics graduates by preparing them to operate in technologically advanced financial environments, collaborate with multidisciplinary teams, and contribute to innovation processes in financial institutions, FinTech firms, consulting companies and data-driven financial roles.

Prerrequisitos

There are no formal prerequisites for enrolling in this course. However, it is recommended that students have previously acquired basic knowledge of financial markets, corporate finance and quantitative methods, as well as an introductory understanding of data analysis and statistical tools applied to business and finance.

Competencias - Objetivos

BLOQUES TEMÁTICOS Y CONTENIDOS

Contenidos – Bloques Temáticos

Block 1. Disruption and Innovation in Financial Services

1. Digital transformation of the financial industry, emergence and definition of the FinTech ecosystem.
2. Main segments of activity (payments, alternative financing, investment management) and emerging business models.
3. Factors driving technological innovation and their impact on traditional intermediation

Block 2. Blockchain, Tokenization and stablecoins

1. Technical and conceptual fundamentals of blockchain, distributed ledger and smart contracts.
2. Tokenization of financial and non-financial assets and main use cases in banking, markets and insurance industry.
3. Typology and characteristics of cryptoassets (cryptocurrencies, stablecoins, tokens).

Block 3. Capital Markets and New Trading Technologies

1. Technological innovations in trading: dark pools, electronic trading and algorithmic trading.
2. Market Infrastructure: Custody, Exchange, Trading, Brokerage
3. Evolution of digital payment systems, wallets and open banking.

Block 4. Emerging Trends, Regulation and Ethical Challenges

1. Regulatory, supervisory aspects and ethical challenges associated with new technologies (e.g. Artificial Intelligence, robo-advisors, etc.)
2. New investor profiles, digital investment culture and socio-cultural changes.
3. Innovation opportunities, ethical challenges and sustainability considerations.

METODOLOGÍA DOCENTE

Aspectos metodológicos generales de la asignatura

Teahing methods for the Financial Market course

This course requires the students attend the class sessions. There are regular teaching sessions, case study discussions and practical problems and questions. Active student participation is important. They are expected to read the assigned materials prior to the class, in addition to preparing the problems and case studies when appropriate.

Teaching methods and activities when the student attends a class session	Competences
Regular teaching sessions where the teacher will define and explain the technical terms and analysis, giving examples and pointing at the issues that arise debate in the reality of the financial markets. The student should listen attentively, trying to understand the rational and ideas being explained. He is expected to take notes of the main contents to complement class material. Classroom discussion is encouraged, and students can interrupt the professor asking questions or requesting further clarification. Preparation prior to the class is essential to take the most of the teaching session. In addition to this, there are classes with a more active involvement from students. They will carry out activities and problems, supervised by the teacher, trying to apply in practice the theoretical content explained in class. During these workshops, problems are solved, case studies are discussed and news or reading material related to the topic are debated. Sometimes the work will be done individually, and sometimes the students will work as a team. A few sessions may be spent in talks or presentations from guests who are professionals from different areas related to Financial Markets.	**Cognitive skills** **Interpersonal skills** **Attitude skills**
Teaching methods and activities outside the classroom sessions	**Competences**
Besides taking part in class work and supervised workshops, the student needs to spend time revising individually the course material. Outside of the classroom, the student must read the materials assigned by the teachers, he also must work and solve problems and questions and look for additional information when needed.	**Systemic skills** **Practical and procedure skills** **Instrumental skills**

RESUMEN HORAS DE TRABAJO DEL ALUMNO

- Hours in classroom
  - Lessons 15
  - Case study and problem solving sessions 10
  - Assessment 5
- Hours outside the classroom
  - Work on theoretical knowledge 25
  - Work on practical knowledge 25

ECTS CREDITS: 3

EVALUACIÓN Y CRITERIOS DE CALIFICACIÓN

Activities assessed	Weight
Classroom participation and discussions	10%
Practice cases, exercises, discussions and pitch presentations	20%
Other activities to evaluate the students' understanding and application of course material: Mid-term tests, Quizzes, Case Studies, Projects, Simulations and Trading Games, Research Papers, Homework Assignments, etc	20%
Final exam	50%

Calificaciones

The final exam will have two parts: a theoretical part and a practical one. You must pass it with a score of, at least, 5.0 points to get the weighted grade and pass the course.

The students that have a formal exemption to attend class (including those who are studying abroad), the course grade will be 100% of the final exam grade.

In case a student fails, in the second or subsequent attempts, the grade will be 100% the final exam mark.

In order to be able to take the final exam, it is a requirement not to have unjustifiably missed more than a third of the classes. Failure to comply with this requirement, the student may lose the right of examination, as established by the faculty (Article 93.1 of the General Regulations).

BIBLIOGRAFÍA Y RECURSOS

Bibliografía Básica

The teacher will provide the material to follow the course through Moodlerooms. Additionally, a variety of complementary material will be provided in class or through the course's website.

Bibliografía Complementaria

Arslanian, H. (2022). *The book of crypto: The complete guide to understanding Bitcoin, cryptocurrencies and digital assets*. Springer Nature.

Basel Committee on Banking Supervision. (2022, diciembre). Prudential treatment of cryptoasset exposures. Bank for International Settlements.

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Bashir, I. (2023). Mastering blockchain: A technical reference guide to the inner workings of blockchain, from cryptography to DeFi and NFTs (4th ed.). Packt Publishing. https://www.packtpub.com/en-us/product/mastering-blockchain-fourth-edition-9781803241067Borri, N. (2025). *Corporate Finance in the Age of Fintech: Scenarios and Challenges*. arXiv. org.

Cao, L., Yang, Q., & Yu, P. S. (2021). Data science and AI in FinTech: An overview. *International Journal of Data Science and Analytics*, *12*(2), 81-99.

Citi Global Insights. (2023). Money, tokens and games: Blockchain's next billion users and trillion dollars of value (Stablecoins: 2030 — From Web3 to Wall Street). Citigroup. https://www.citivelocity.com/citigps/stablecoins-2030/

De Filippi, P., & Wright, A. (2018). *Blockchain and the law: The rule of code*. Harvard University Press.

Draghi, M. (2024, septiembre). The future of European competitiveness. European Commission. https://commission.europa.eu/publications/future-european-competitiveness_en

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Kou, G., Li, Y., Zhang, Z., Zhao, J. L., & Zhuo, Z. (2025). Blockchain, Crypto Assets, and Financial Innovation: A Decade of Insights and Advances.

Kreutzer, R. T., & Sirrenberg, M. (2020). Understanding artificial intelligence: Fundamentals, use cases and methods for a corporate AI journey. Springer. https://doi.org/10.1007/978-3-030-25271-7

Perez, C. (2002). Technological revolutions and financial capital: The dynamics of bubbles and golden ages. In *Technological revolutions and financial capital*. Edward Elgar Publishing.

Pérez-Cruz, F., Prenio, J., Restoy, F., & Yong, J. (2025, septiembre). Managing explanations: How regulators can address AI explainability (FSI Occasional Paper No. 24). Bank for International Settlements. https://www.bis.org/fsi/fsipapers24.pdf

Pompella, M., & Matousek, R. (Eds.). (2021). *The Palgrave handbook of FinTech and blockchain*. Cham: Palgrave Macmillan.

Rahman, A., Shi, V., Ding, M., & Choi, E. (2022). *Systematization of Knowledge: Synthetic Assets, Derivatives, and On-Chain Portfolio Management*. arXiv. org.

Reglamento (UE) 2023/1114 del Parlamento Europeo y del Consejo, de 31 de mayo de 2023, relativo a los mercados de criptoactivos (MiCA). Diario Oficial de la Unión Europea, L 150 (9 de junio de 2023). https://eur-lex.europa.eu/eli/reg/2023/1114/oj

Reglamento (UE) 2024/1689 del Parlamento Europeo y del Consejo, de 13 de junio de 2024, por el que se establecen normas armonizadas en materia de inteligencia artificial (Reglamento de Inteligencia Artificial) (Texto pertinente a efectos del EEE). Diario Oficial de la Unión Europea, L, 2024/1689 (12 de julio de 2024). https://eur-lex.europa.eu/eli/reg/2024/1689/oj

Wong, J. (2025, febrero). Fundamentals of decentralized AI. Binance Research. https://public.bnbstatic.com/static/files/research/fundamentals-of-decentralized-ai.pdf

Wu, H., Yao, Q., Liu, Z., Huang, B., Zhuang, Y., Tang, H., & Liu, E. (2024). Blockchain for finance: A survey. *IET blockchain*, *4*(2), 101-123.