



# COMILLAS

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

GUÍA DOCENTE

2025 - 2026

## FICHA TÉCNICA DE LA ASIGNATURA

### Datos de la asignatura

|                     |                                                                             |
|---------------------|-----------------------------------------------------------------------------|
| Nombre completo     | Fintech y Protección de Datos/Fintech and Data Protection                   |
| Código              | E000014142                                                                  |
| Impartido en        | Grado en Análisis de Negocios/Bachelor in Business Analytics [Tercer Curso] |
| Nivel               | Reglada Grado Europeo                                                       |
| Cuatrimestre        | Semestral                                                                   |
| Créditos            | 3,0 ECTS                                                                    |
| Carácter            | Obligatoria (Grado)                                                         |
| Departamento / Área | Área de Derecho Mercantil<br>Departamento de Derecho Económico y Social     |

### Datos del profesorado

## DATOS ESPECÍFICOS DE LA ASIGNATURA

### Contextualización de la asignatura

#### Aportación al perfil profesional de la titulación

The subject **Fintech and Data Protection** provides students with a critical and interdisciplinary understanding of how financial innovation and data regulation impact product design, customer experience, and competitive dynamics within the financial services sector. In a data-driven economy, fintech entities face the dual challenge of harnessing personal information to generate value while adhering to increasingly stringent regulatory frameworks concerning privacy, security, and transparency.

Through an examination of major legal instruments such as the **General Data Protection Regulation (GDPR)** in the European Union, the **Digital Personal Data Protection Act (DPDP)** in India, and the **California Consumer Privacy Act (CCPA)** in the United States, students will assess how regulatory regimes may either constrain or facilitate fintech growth. Real-world scenarios will be analysed to illustrate how principles such as privacy by design, explicit consent, pseudonymisation, and breach notification serve not only as legal requirements but also as strategic tools to build consumer trust and market differentiation.

A significant focus of the subject is the analysis of **open finance**, particularly as articulated under the **Financial Data Access Regulation (FIDA)**. These initiatives seek to establish secure, standardised, and consumer-consent-based financial data ecosystems. Students will explore how such frameworks are reshaping financial intermediation and redistributing roles among banks, fintech firms, and third-party providers, raising pertinent questions around interoperability, governance, and legal liability.

The subject further considers the expanding influence of **large digital platforms (Big Tech)** within financial markets. These players, often operating at global scale, are redefining competition through data-centric business models. Students will critically assess the associated risks, including market dominance, algorithmic opacity, and regulatory asymmetry, alongside the implications for consumer welfare and systemic stability.



Additionally, the subject incorporates **industry case studies and adoption scenarios** to provide applied insight into innovations such as blockchain-based identity systems, algorithmic credit scoring, robo-advisory services, instant payment infrastructures, and tokenisation platforms. These case studies will serve as the basis for evaluating technological feasibility, regulatory compliance, and long-term viability from both a strategic and legal standpoint.

The regulatory implications of the **Artificial Intelligence Act (AI Act)** will also be examined, with specific emphasis on its application to AI systems used within fintech operations. Core regulatory principles — including accountability, transparency, human oversight, and fairness — will be contextualised within real-world deployments involving personal data.

Finally, the subject will delve into the potential of **blockchain and distributed ledger technologies (DLTs)** to enhance transparency, resilience, and disintermediation in financial services, while also exploring the legal uncertainties they introduce regarding privacy, governance, and cross-jurisdictional enforcement.

In summary, this subject equips students of the **Bachelor in Business Analytics** with the interdisciplinary knowledge and critical reasoning skills required to operate at the intersection of data, technology, and regulation in the financial sector. It fosters a strategic mindset, legal awareness, and analytical proficiency — essential attributes for professionals navigating complex, innovation-driven, and ethically sensitive business environments.

## Competencias - Objetivos

### Resultados de Aprendizaje

#### Resultados de Aprendizaje

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CN5 | <b>Competencias generales.</b> Resultados del proceso de formación y de aprendizaje. CN5. Identifica la importancia que tiene el derecho para las empresas y la economía y conocer las principales instituciones que regulan y supervisan el mercado, especialmente en el entorno europeo, con un enfoque específico en los nuevos modelos de negocio de la economía digital y las implicaciones jurídicas de la tecnología en materia de competencia, finanzas, contratos, consumo, propiedad intelectual e industrial y privacidad. |
| HA5 | <b>Competencias transversales.</b> Resultados del proceso de formación y de aprendizaje. HA5. Conoce las distintas posibilidades que la aplicación de las normas ofrece y ejerce una conciencia crítica de las mismas. Entiende las necesidades legales de las empresas dentro de los entornos digitales y la importancia de desarrollar procedimientos de cumplimiento legal para el buen fin de sus operaciones.                                                                                                                    |
| CM6 | <b>Competencias transversales.</b> Resultados del proceso de formación y de aprendizaje. CM6. Tiene capacidad crítica y autocrítica en la sociedad de la información. Entiende las implicaciones legales de los nuevos servicios digitales basados en el tratamiento de datos masivos y los riesgos para sus usuarios en materia de derecho de consumo y privacidad.                                                                                                                                                                  |
| RA1 | <b>Competencias específicas.</b> Regulación de Mercados Digitales/Regulation and Digital Markets (6 ECTS). RA1. Saber identificar e interpretar qué parte del ordenamiento jurídico es de aplicación para cada sector empresarial y su problemática concreta en el marco de la                                                                                                                                                                                                                                                        |



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|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | economía digital.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RA2 | <b>Competencias específicas.</b> Regulación de Mercados Digitales/Regulation and Digital Markets (6 ECTS). RA2. Ser capaz de prevenir, anticipar riesgos y resolver posibles litigios de distinta naturaleza en relación con las actividades empresariales llevadas a cabo a través de Internet.                                                                                                                                                |
| RA3 | <b>Competencias específicas.</b> Derecho Mercantil/Commercial Law (6 ECTS) RA3. Conoce las instituciones básicas del Derecho del consumo y su aplicación en el entorno del Big Data                                                                                                                                                                                                                                                             |
| RA1 | <b>Competencias específicas.</b> Instituciones y Políticas de la Unión Europea/Institutions and Policies of the European Union (3 ECTS). RA1. Analiza y comprende la creación de una estructura institucional comunitaria garante del funcionamiento de la UE y de la consecución de sus objetivos.                                                                                                                                             |
| RA2 | <b>Competencias específicas.</b> Instituciones y Políticas de la Unión Europea/Institutions and Policies of the European Union (3 ECTS) RA2. Analiza el ordenamiento jurídico comunitario y sus implicaciones prácticas a la hora de garantizar la primacía y, en su caso, la eficacia directa de estas normas.                                                                                                                                 |
| RA3 | <b>Competencias específicas.</b> Instituciones y Políticas de la Unión Europea/Institutions and Policies of the European Union (3 ECTS). RA3. Conoce y comprende el funcionamiento de las libertades políticas de la UE desde una perspectiva práctica.                                                                                                                                                                                         |
| RA4 | <b>Competencias específicas.</b> Instituciones y Políticas de la Unión Europea/Institutions and Policies of the European Union (3 ECTS). RA4. Identifica los valores y principios sociales que subyacen a los procesos de configuración del Derecho de la Unión Europea; así como los criterios que, en cada momento inspiran o deberían inspirar la elaboración y aplicación de las normas jurídicas y el funcionamiento de las instituciones. |
| RA2 | <b>Competencias específicas.</b> Contratación empresarial/Commercial Contracts (6 ECTS). RA2. Conoce los aspectos fundamentales de la regulación jurídica del comercio electrónico.                                                                                                                                                                                                                                                             |
| RA1 | <b>Competencias específicas.</b> Tecnología Legal/Legal Tech (3 ECTS). RA1. Conoce las oportunidades de la interacción entre la tecnología y la ley cómo la tecnología digital puede utilizarse para resolver problemas jurídicos.                                                                                                                                                                                                              |
| RA2 | <b>Competencias específicas.</b> Tecnología Legal/Legal Tech (3 ECTS). RA2. Conoce cómo la digitalización puede ofrecer enfoques innovadores para reestructurar los servicios jurídicos a empresas y particulares y el acceso a la justicia.                                                                                                                                                                                                    |
| RA3 | <b>Competencias específicas.</b> Tecnología Legal/Legal Tech (3 ECTS). RA3. Es capaz de valorar con sentido crítico las oportunidades y los riesgos del uso de la tecnología y sus desafíos legales, como ocurre, entre otros con la inteligencia artificial o el análisis de datos.                                                                                                                                                            |

## BLOQUES TEMÁTICOS Y CONTENIDOS

### Contenidos – Bloques Temáticos

#### Theme 1. Foundations of the Fintech Ecosystem



- Overview of the digital transformation of financial services.
- The rise of Fintech: key verticals (payments, lending, investment, regtech).
- Fintech business models and the role of data-driven innovation.
- Structural trends: disintermediation, platformisation, embedded finance.
- Introduction to the regulatory challenges of the digital finance landscape.

## **Theme 2. The Data Economy and Open Finance**

- Data as an economic asset: value, risks, and ownership.
- From Open Banking to Open Finance: principles and architecture.
- The Financial Data Access Regulation (FIDA): objectives, scope, and implications.
- Interoperability, consent flows, and user-centric design.
- Business model impacts and competitive dynamics in data-sharing ecosystems.

## **Theme 3. Legal Foundations of Personal Data Protection**

- Fundamental rights, legal bases, and principles under the GDPR.
- Classification of personal data: ordinary, sensitive, pseudonymised, anonymised.
- Legal obligations of controllers and processors.
- Data subject rights and their operational implications.
- Transparency, accountability, and privacy governance.

## **Theme 4. Data Protection in the Fintech Sector**

- Specific challenges of data protection in financial services.
- Consent management, automated profiling, and credit scoring.
- Biometric and behavioural data in KYC and fraud detection.
- Privacy by design and by default in Fintech applications.
- Legal responsibilities in outsourcing and cloud services.

## **Theme 5. Regulatory Compliance and Organisational Risk Management**

- Designing and implementing a Data Protection Compliance Programme.
- Conducting a Data Protection Impact Assessment (DPIA).
- Roles and responsibilities: DPO, legal counsel, IT security.
- Vendor management and shared liability.
- Internal control structures and audit mechanisms.

## **Theme 6. Security, Resilience, and Incident Management**

- Data breaches: prevention, detection, response, and reporting obligations.
- Cybersecurity standards and financial sector guidelines.
- Operational resilience, incident classification, and regulatory coordination.
- Supervisory expectations (EBA, ECB, national DPAs).
- Communication strategies for regulatory authorities and customers.

## **Theme 7. Blockchain, Tokenisation, and Payment Innovation**

- Technical foundations: public vs. private blockchains, consensus models.



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- Tokenised assets, CBDCs, stablecoins, and programmable payments.
- Legal challenges: traceability, immutability, and the right to erasure.
- Smart contracts and their enforceability.
- Applications in cross-border payments and identity management.

### **Theme 8. Artificial Intelligence and the AI Act**

- AI use cases in finance: credit scoring, robo-advisory, fraud detection.
- The AI Act: risk tiers, governance obligations, and prohibited uses.
- Explainability, transparency, and human oversight requirements.
- Ethical challenges and regulatory trade-offs.
- Sandbox testing and innovation-friendly supervision.

### **Theme 9. Global Privacy and Data Governance Frameworks**

- Comparative analysis: GDPR, CCPA (California), and DPDP (India).
- Convergence and divergence in privacy principles and enforcement.
- Cross-border data transfers and localisation regimes.
- Extraterritoriality and its impact on Fintech compliance strategies.
- Future trends in international privacy standardisation.

### **Theme 10. Platform Regulation and the Digital Markets Act (DMA)**

- The role of Big Tech in financial services and their systemic impact.
- DMA obligations for gatekeepers and implications for Fintech.
- Access to data, interoperability, and self-preferencing issues.
- Risks of lock-in, algorithmic discrimination, and regulatory asymmetries.
- Coordination between competition, financial, and data authorities.

### **Theme 11. Case Studies and Industry Use Cases**

- Real-world analysis: enforcement actions, privacy litigation, and best practices.
- Regulatory success stories and strategic compliance decisions.
- Application of theory to complex legal-technological scenarios.
- Structured debates and problem-solving workshops.

### **Theme 12. Synthesis and Ethical Reflection**

- The balance between innovation, trust, and fundamental rights.
- Open questions and evolving regulatory frontiers.
- Building a culture of digital responsibility in Fintech.
- Final reflections and preparation for future challenges in digital compliance.

## **METODOLOGÍA DOCENTE**

### **Aspectos metodológicos generales de la asignatura**

**Contact hours methodology: activities**



Each session will begin with the presentation of a recent real-world case from the Fintech sector or the field of data protection. This approach is intended to capture students' attention from the outset and to contextualise the topic within a relevant and contemporary professional framework.

Following this initial case study, the session will be structured in three stages:

1. **Conceptual development:** The instructor will deliver a structured exposition of the applicable legal, economic, and technological frameworks, integrating comparative and interdisciplinary perspectives.
2. **Critical analysis and active participation:** Through group work or guided discussion, students will explore the case from multiple perspectives, assessing legal positions, regulatory risks and practical solutions. This phase will emphasise the development of legal reasoning, debate, and strategic thinking.
3. **Applied conclusions:** Each session will close with a synthesis of key takeaways, discussion of best practices, and reflection on how these insights apply to real-world decision-making within regulated digital environments.

The methodology will combine Socratic dialogue, scenario analysis, and problem-based learning, encouraging active participation, critical thinking, and the practical application of knowledge.

#### Independent study methodology: Activities

Independent work will be structured around applied, professionally oriented exercises. Throughout the semester, students will complete several individual assignments directly related to the course content. These exercises will be designed to simulate realistic scenarios within Fintech and data protection environments.

The instructor will provide supporting materials on a regular basis to facilitate this work, including legislation, decisions from supervisory authorities, technical reports, and practical documents such as contract clauses, impact assessment templates, and compliance frameworks.

Additionally, guidance will be provided on how to approach independent case study analysis and how to prepare structured legal arguments or oral presentations. This will aim to enhance students' legal communication skills and their ability to construct and defend reasoned positions.

This individual work will complement theoretical learning and contribute to continuous assessment throughout the course.

## RESUMEN HORAS DE TRABAJO DEL ALUMNO

| HORAS PRESENCIALES               |                                                                     |
|----------------------------------|---------------------------------------------------------------------|
| Lecciones de carácter expositivo | Ejercicios y resolución de casos y de problemas                     |
| 24.00                            | 7.00                                                                |
| HORAS NO PRESENCIALES            |                                                                     |
| Estudio y lectura organizada     | Trabajos monográficos y de investigación, individuales o colectivos |
| 27.5                             | 17.5                                                                |
| CRÉDITOS ECTS: 3,0 (76,00 horas) |                                                                     |



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## EVALUACIÓN Y CRITERIOS DE CALIFICACIÓN

| Actividades de evaluación               | Criterios de evaluación                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Peso |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Final Exam                              | <ul style="list-style-type: none"><li>- Demonstrates both theoretical and practical understanding of the subjects studied in class.</li><li>- Accurate knowledge of fundamental concepts and legal instruments.</li><li>- Proficient use of legal terminology and reasoning.</li><li>- Ability to synthesise, structure and argue legal issues clearly.</li><li>- Identification and resolution of legal issues in applied scenarios.</li></ul>                                                                                                                                                                                                                                                                                                   | 70%  |
| Case Studies and In-Class Presentations | <ul style="list-style-type: none"><li>- Satisfactory analysis and resolution of practical cases.</li><li>- Clear, structured and persuasive communication of legal reasoning.</li><li>- Proper use of legal tools, sources, and terminology.</li><li>- Coherent synthesis of arguments and ideas.</li><li>- Ability to identify the legal issues in the facts presented.</li><li>- Quality of oral presentation and engagement in classroom discussion.</li></ul> <p>*The use of AI to create complete works or relevant parts, without citing the source or the tool or without being expressly permitted in the description of the work, will be considered plagiarism and regulated according to the General Regulations of the University</p> | 30%  |

### Calificaciones

The final evaluation of the subject will be composed of several components to ensure both continuous assessment and final synthesis of the knowledge acquired.

- **Final written exam:** 70%



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This exam will consist of ten short questions, including theoretical content and one or two brief practical case studies. It will evaluate the student's comprehensive understanding of the entire subject, integrating legal reasoning and problem-solving skills.

- **Case studies and in-class participation/presentations:** 30%

This component reflects the student's engagement throughout the course. It includes the resolution of practical exercises, active participation in discussions, and oral presentations. Evaluation criteria will include clarity, legal accuracy, use of appropriate terminology, and quality of argumentation.

In the **regular extraordinary exam session (segunda convocatoria)**, the same weighting applies **if the student has submitted and participated in the continuous assessment activities**. Otherwise, the final grade will rely **100% on the written exam**.

For **third and subsequent extraordinary exam periods**, the final grade will be based solely on the written exam, which will account for **100% of the course grade**.

**Outgoing (exchange) students** will be evaluated **exclusively based on the written exam** in all periods, **except the first**, provided that the corresponding coursework (case studies and presentations) has been completed.

## BIBLIOGRAFÍA Y RECURSOS

### Bibliografía Complementaria

#### Specialty reading list by theme

##### *Strategic Technology & Digital Transformation*

- ***The Innovation Ultimatum: Six Strategic Technologies That Will Reshape Every Business in the 2020s*** (Brown, 2020)
- ***The Future is Faster Than You Think: How Converging Technologies Are Disrupting Business, Industries, and Our Lives*** (Diamandis & Kotler, 2020)

##### *FinTech & Banking Paradigm*

- ***Bank 4.0: Banking Everywhere, Never at a Bank*** (King, 2020)

##### *Payments & PayTech*

- ***The PayTech Book*** (Chishti, Craddock, Kommadi & Zachariadis, eds., 2021)
- ***The World of Digital Payments: Practical Course*** (Sidelov, 2022)

##### *Artificial Intelligence & Machine Learning*





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- ***Advances in Financial Machine Learning*** (Lopez de Prado, 2021)

#### ***Blockchain, Tokens & Crypto-assets***

- ***Financial Services Revolution: How Blockchain Is Transforming Money, Markets, and Banking*** (Tapscott, 2021)
- ***The STO Financial Revolution: How Security Tokens Change Businesses Forever*** (Nascimento, 2022)
- ***Token Economy: How the Web3 Reinvents the Internet (2nd ed.)*** (Voshmgir, 2021)

#### ***Founders' Perspectives & FinTech Entrepreneurship***

- ***FinTech Founders: Inspiring Tales from the Entrepreneurs That Are Changing Finance*** (Rubini, 2023)