



# COMILLAS

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

GUÍA DOCENTE

2025 - 2026

## FICHA TÉCNICA DE LA ASIGNATURA

Datos de la asignatura	
Nombre completo	Optativa Complementaria. Venture Capital & Investment Banking
Código	DOI-OPT-627
Título	<a href="#">Máster Universitario en Ingeniería Industrial por la Universidad Pontificia Comillas</a>
Créditos	6,0 ECTS
Carácter	Optativa
Departamento / Área	Departamento de Organización Industrial
Responsable	Cristóbal Cantos Sánchez de Iburgüen

Datos del profesorado	
Profesor	
Nombre	Cristóbal Cantos Sánchez de Iburgüen
Departamento / Área	Departamento de Organización Industrial
Correo electrónico	ccantos@icai.comillas.edu

## DATOS ESPECÍFICOS DE LA ASIGNATURA

Contextualización de la asignatura
<b>Aportación al perfil profesional de la titulación</b>
<p>This course is about taking a leap within the financial knowledge of students who aspire to executive management, regardless of the technical specialty or the area of the company in which they decide to develop their activity. Venture Capital and Investment Banking will be useful for those professionals who, even without dedicating themselves to finance, want to specialize in how and why decisions are made from areas of responsibility such as the board of directors or the executive management of the company.</p> <p>As the engineer evolves in the company (either in the one he works for others, or in the one he has founded from the beginning) increasing his responsibility, he reaches a level from which the "language he uses becomes financial". At that point, engineers cease to be technicians, and become managers, directors and, ultimately, top leaders (CEOs, presidents, members of boards of directors, etc.). Their decisions cease to be merely functional and become strategic.</p> <p>At this level of responsibility, having to make decisions based on the company's finances is independent of the specific executive position you hold or aspire to. The financial mindset should be identical for a hiring manager, such as the chief investment officer, vice president of production, or marketing and merchandising manager.</p> <p>The objective of this subject is that the student learns to manage a company, from its birth, until, where appropriate, it becomes a multinational listed on stock markets. The subject will prepare to face that level of responsibility. For this reason, the entire spectrum of private equity financing will be covered (starting with seed capital, venture capital or venture capital, among others) and large corporate operations with investment banks will be reached.</p> <p>This course uses simulation techniques on what happens in companies, their real problems, and prepares to know how to react to challenges in order to manage them properly. Thus, complex calculation tools will be provided that will allow a series of variables to be</p>



taken into account when making decisions that affect the company. The impact of such decisions will be determined.

Last but not least, integrity will be given priority in decision-making and awareness will be raised about the responsibility of management when executing its decisions.

## Prerrequisitos

Basic financial training is required (provided in Financial Accounting and Cost Analysis in the first year of the Master). Students should be familiar with basic corporate finance concepts, such as Time Value of Money, Capital Budgeting (Present Value, NPV, Payback and IRR), Project Cash Flows, Analysis of Financial Statements and ratios, CAPM, WACC and Discounted Cash Flows.

## Competencias - Objetivos

### Competencias

#### GENERALES

<b>BA02</b>	Saber aplicar e integrar sus conocimientos, la comprensión de estos, su fundamentación científica y sus capacidades de resolución de problemas en entornos nuevos y definidos de forma imprecisa, incluyendo contextos de carácter multidisciplinar tanto investigadores como profesionales altamente especializados.
<b>CG01</b>	Tener conocimientos adecuados de los aspectos científicos y tecnológicos de: métodos matemáticos, analíticos y numéricos en la ingeniería, ingeniería eléctrica, ingeniería energética, ingeniería química, ingeniería mecánica, mecánica de medios continuos, electrónica industrial, automática, fabricación, materiales, métodos cuantitativos de gestión, informática industrial, urbanismo, infraestructuras, etc.

### Resultados de Aprendizaje

<b>RA1</b>	Aplicar e integrar conocimientos en un contexto multidisciplinar.
<b>RA2</b>	Analizar y resolver problemas nuevos y definidos de forma imprecisa en un contexto multidisciplinar.

## BLOQUES TEMÁTICOS Y CONTENIDOS

### Contenidos – Bloques Temáticos

<b>1 Management Control and Costs for Executives</b>
1. Introduction: Costs 2. Break-even point 3. ABC System
<b>2 Business modeling tools</b>
1. Modeling with Financing Feedback 2. Financial Statement Forecasting Tool 3. Management techniques of the investees of the investment fund
<b>3 The finances of the Start-up and the consolidated company</b>
1. Cash Flows 2. Operating and Financial Leverage 3. Modeling Entrepreneurship: Financial Considerations



4. The Structure of Capital

#### **4 Leveraged trades: LBO and MBO**

1. LBO: Leveraged buyout operations
2. MBO: The value of the fund management's involvement in the management of the company

#### **5 Private Equity and Venture Capital**

1. L/P Financing: Capital Raising
2. The profile of PE founders, entrepreneurs and investors
3. Operation of fund managers
4. Trading with PE investors

#### **6 The Business Plan and Due Diligence**

1. Due Diligence
2. The Business Plan
3. Lessons from founders
4. The profile of the company manager

#### **7 Liquidations, dissolutions, crisis and refloating**

1. Crisis situation
2. Distressed debt
3. Bankruptcy proceedings and liquidation
4. Search for value to save the company. Refloating techniques

#### **8 Investment Banking**

1. Operation of investment banking and scope of action
2. Dealers and brokers. Best Effort and Underwriters
3. Investment banking and the crisis
4. Public offers of sale and acquisition (IPO and OPA)

#### **9 Executive decisions**

1. Integrity in front of top management. David vs. Goliath
2. Assertiveness in executive decisions
3. How decisions affect financial models

#### **10 Capital Markets and Debt**

1. Stock markets. Operation
2. The capital market. Equity. The debt market. Bonuses. Fixed income.
3. Derivatives and futures, options and hedge funds

#### **11 Other financial disciplines**

1. Introduction to the effect of Macroeconomics on the company
2. Corporate Governance and Conclusions

## **METODOLOGÍA DOCENTE**

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

Since the objective of this subject is that students know and even master many of the possible realities that they will find, not only in the



financial department, but in any area of responsibility of the company, both an SME and a large multinational, numerous simulations of real cases will be carried out. With this type of simulations it is intended that the student is prepared to contribute to decision-making at these levels.

To do this, tools and spreadsheets made in class will be used, which will allow profitable decisions to be made with agility, and will be combined with multimedia content, as well as staging of real situations experienced in companies.

This will allow to break down, evaluate, analyze and decide on any situation or challenge that is in the workplace, from a rational and qualified financial point of view. Financial management, crisis and refloating of companies, bank negotiation, etc. are some of the scenarios for which the student will be prepared.

## RESUMEN HORAS DE TRABAJO DEL ALUMNO

HORAS PRESENCIALES

HORAS NO PRESENCIALES

CRÉDITOS ECTS: 6,0 (0 horas)

## EVALUACIÓN Y CRITERIOS DE CALIFICACIÓN

El uso de IA para crear trabajos completos o partes relevantes, sin citar la fuente o la herramienta o sin estar permitido expresamente en la descripción del trabajo, será considerado plagio y regulado conforme al Reglamento General de la Universidad.

Actividades de evaluación	Criterios de evaluación	Peso
Final examination	Troubleshooting Theoretical concepts	45 %
Final project, Tasks and cases	Applying the concepts to a real project Delivery before the indicated dates (prompt delivery score) Class participation	55 %

## Calificaciones

The final grade will be the result of weighting:

- 45% of the final exam
- 25% of the final project



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- 30% of case, assignment and class participation

Class attendance is compulsory according to article 93 of the General Regulations of the Universidad Pontificia Comillas and article 6 of the Academic Regulations of the ICAI School of Engineering. Failure to comply with this requirement may have the following consequences:

- Students who do not attend more than 15% of the classes may be denied the right to take the final exam during the ordinary evaluation period.

Students who commit an irregularity in a graded activity will receive a grade of zero in the activity and a disciplinary procedure will be followed (cf. article 168 of the General Regulations of the Universidad Pontificia de Comillas).

The use of AI to create complete works or relevant parts, without citing the source or tool or without being expressly allowed in the job description, will be considered plagiarism and regulated in accordance with the General Regulations of the University.

Rules for the Use of AI

Planning with AI

AI can be used for pre-task activities such as brainstorming, outline-building, and initial research. This level focuses on the effective use of AI for planning, synthesis, and idea generation, but assessments should emphasize the ability to develop and refine these ideas independently.

You can use AI to plan, develop ideas, and research. Your final submission should show how you've developed and refined these ideas.

## BIBLIOGRAFÍA Y RECURSOS

### Bibliografía Básica

- S. A. Ross, R. W. Westerfield, J. F. Jaffe and B. D. Jordan (2023) Essentials of Corporate Finance, 11th Edition - McGrawHill.
- Z. Bodie, A. Kane and A.J. Marcus (2024). Essential of Investments. International Student Edition - McGrawHill.

### Bibliografía Complementaria

- S. A. Ross, R. W. Westerfield, J. F. Jaffe and B. D. Jordan (2019) Corporate Finance, 12th Edition. International Student Edition - McGrawHill.
- Eugene F. Brigham and Michael C. Ehrhardt (2005) Financial Management - Theory and Practice (11th edition) (Thomson South-Western)Brealey, R., Myers, S. and Marcus, A. (2012) Fundamentals of Corporate Finance, 7th Edition. McGrawHill.
- Crundwell, F.K. (2008). Finance for Engineers. Evaluation and Funding of Capital Projects. Springer.
- Higgins, R.C. (2011) Analysis for Financial Management, 10th Edition. McGrawHill.
- Valdez, S. and Molyneux, P. (2010) An Introduction to Global Financial Markets, Palgrave MacMillan

En cumplimiento de la normativa vigente en materia de **protección de datos de carácter personal**, le informamos y recordamos que puede consultar los aspectos relativos a privacidad y protección de datos [que ha aceptado en su matrícula](#) entrando en esta web y pulsando "descargar"

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