

**COMILLAS**

UNIVERSIDAD PONTIFICIA

ICAI

ICADE

CIHS

Syllabus
2025 - 2026**TECHNICAL SHEET OF THE SUBJECT**

Data of the subject	
Subject name	Retailing and data science
Subject code	E000012998
Main program	Grado en Análisis de Negocios/Business Analytics
Involved programs	Grado en Administración y Dirección de Empresas y Grado en Análisis de Negocios/Business Analytics [Fifth year]
Credits	3,0 ECTS
Type	Optativa (Grado)
Department	Departamento de Marketing
Coordinator	Victoria Labajo
Schedule	TBC
Office hours	to be agreed by email with the teacher of the course
Course overview	In a consumer market characterized by multi-channel, multiplying points of contact with the consumer and hyper-competition, the analysis of the massive data generated (big data) becomes a key tool in the hands of Retail to interpret the insights and respond to preferences and demands of the shopper for both physical and E-Commerce. Applications for big data analysis from which companies in the sector can extract the greatest competitive advantages include: retention and acquisition of new customers; localization and clustering of stores based on customer habits/profile or performance; analysis of customer behavior and shopping baskets; modeling of the marketing mix and estimation of the impact of strategies and tactics, including optimization of prices, promotions, inventory, sales force, etc.

Teacher Information	
Teacher	
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SPECIFIC DATA OF THE SUBJECT

Contextualization of the subject

Contribution to the professional profile of the degree

The course is presented as a deepening of the marketing knowledge acquired in the compulsory subjects within the discipline and, in particular, with that of Analytical Marketing, and in relation to other electives in the area such as Innovation and Marketing in the digital era, or Social Media Marketing

Prerequisites

Marketing Fundamental and Marketing Analytics/Digital Marketing

Competencies - Objectives

Competences

GENERALES

CG03	Resolución de problemas y toma de decisiones en un entorno de datos masivos tanto cuantitativos como cualitativos	
	RA1	Identificar y definir adecuadamente y proactivamente el problema y sus posibles causas
	RA2	Plantear posibles soluciones pertinentes y diseñar un plan de acción para su aplicación.
	RA3	Reconocer y buscar alternativas a las dificultades de aprendizaje teórico y práctico.
CG04	Capacidad para elaborar proyectos e informes de manera oral y escrita, difundiendo estas ideas a través de canales digitales	
	RA1	Aplicar los conocimientos de la disciplina en la producción de informes, memorias, proyectos y todo tipo de literatura en el ámbito académico
	RA2	Distinguir la naturaleza persuasiva de los productos de comunicación y concibe textos y exposiciones como agentes proactivos en la realidad diaria empresarial
CG08	Capacidad crítica y autocrítica en la sociedad de la información	
	RA1	Identificar, definir y explorar problemáticas de manera lógica y coherente dentro de un marco analítico adecuado
	RA2	Ser capaz de evaluar el trabajo propio y el de los demás.
	RA3	Ser capaz de desglosar en partes los problemas complejos, estableciendo relaciones causa efecto

ESPECÍFICAS

CEO42	Conocer y comprender las principales aplicaciones que pueden derivarse del big data para el retail físico o virtual.	
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RA01	Es capaz de entender los fundamentos y aplicaciones del análisis de datos masivos en el contexto del retail
RA02	Es capaz de extraer conclusiones y tomar decisiones ante los problemas de negocio más habituales relacionados con el uso de datos por las empresas del retail.

THEMATIC BLOCKS AND CONTENTS

Contents - Thematic Blocks

UNIT 1. CONTEXT AND CHALLENGES

Topic 1. Current retail challenges and the importance of data

Topic 2. Retail analytics: scope, types and sources of data. Main KPIs for physical and virtual retail

UNIT 2. APPLICATIONS

Topic 3. Segmentation, personalization and shopping experience

Topic 4. Optimization of the marketing mix: point of sale, product/assortment, pricing, promotional policy and people

Topic 5. Demand forecasting, inventory and supply chain

TEACHING METHODOLOGY

General methodological aspects of the subject

The objective of the work methodology is that the student knows and is able to correctly apply the theories and tools involved in the subject. theories and tools involved in the subject. To achieve this, a sequential methodology will be applied to control the student's learning in the different phases. different phases. The teacher will provide students with outlines of the topics, the basic and complementary bibliography and will present the key concepts in the lectures. key concepts in the master classes. The student must be able to manage different sources of information to design his own work materials. work materials. The practical activities in the classroom will reinforce the acquisition of concepts and, on the other hand, the tutorials and the self-evaluation activities will control the and self-evaluation activities will control the design of the materials and the understanding of concepts. Out-of-classroom work, both individual and The work outside the classroom, both individual and collective, will allow the student to apply the theoretical concepts in practice. The written tests will evaluate the degree of fixation of concepts

SUMMARY STUDENT WORKING HOURS

CLASSROOM HOURS			
Lecciones de Carácter expositivo	Ejercicios y resolución de casos y de problemas	Exposición pública de temas o trabajos	Sesiones tutoriales
16.00	10.00	4.00	3.00
NON-PRESENTIAL HOURS			
Estudios individual y/o en grupo, y lectura organizada	Trabajos monográficos y de investigación, individuales o colectivos		
20.00	22.00		



EVALUATION AND CRITERIA

The use of AI to produce full assignments or substantial parts thereof, without proper citation of the source or tool used, or without explicit permission in the assignment instructions, will be considered plagiarism and therefore subject to the University's General Regulations.

Evaluation activities	Evaluation criteria	Weight
Case-based exam	- Assimilation of key concepts of the course - Comprehension and relational skills, argumentative skills.	50
Cases, seminars and group continuous evaluation activities	Problem-solving and decision-making	40
Attendance and active participation in the course	- Contribution to the development of class dynamics - Ability to listen, argue and debate - Critical and self-critical capacity	10

Ratings

In order to pass the course, it is necessary to obtain a minimum grade of 5 points in the written exam and in the remaining elements of continuous evaluation, and to attend class regularly. Otherwise, the grades cannot be compensated and only the lower of the two will be recorded in the grade report. For those students who do not manage to pass the subject and have a part passed, the grade of the part passed will be kept for the extraordinary exam and they will only have to take the part they have failed. If the failed part is the exam, they will have a new opportunity in the extraordinary call/resit of June to take an exam of all the contents of the program. If the failed part is the continuous evaluation, they will have to carry out some individual practical exercises, being the student's responsibility to ask the teacher for the assigned exercises and the special work plan before June 1st. If they have failed both parts, they will take both parts under the conditions described above.

In the case of those students in third or subsequent calls, or exchange ICADE OUT students who have not validated the course, 100% of the grade of the same will be made up by the exam grade.

The improper use of ChatGPT or other IAG will be considered a serious offense, according to the General Regulations of the University, art. 168.2.e: "carrying out actions aimed at falsifying or defrauding the evaluation systems of academic performance". The consequences of this will be "temporary expulsion for up to three months or the prohibition to take an exam in the following call/resit to the imposition of the sanction, in one or more courses in which the student is enrolled, [...] apart from the grade of failure (0) in the respective course, [...] [and] the prohibition to take the exam in the following call".

In this regard, the use of ChatGPT or other IAG in the framework of the resolution of cases and development of deliverables of the course will be considered inappropriate (and therefore, prohibited), since its use would seriously compromise the ability of these evaluation



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systems to assess the acquisition by the student of the competences of the course. This is without prejudice to the lecturer's faculty to give express indications proposing the use of these tool(s) in the context of a particular activity.

BIBLIOGRAPHY AND RESOURCES

Basic Bibliography

- Okunev, R. (2022) Analytics for Retail. A Step-by-Step Guide to the Statistics Behind a Successful Retail Business. Apress.
- Fisher, M., & Raman, A. (2010). The new science of retailing: how analytics are transforming the supply chain and improving performance. Harvard Business Review Press.
- Cox, E. (2011). Retail Analytics: The Secret Weapon. John Wiley & Sons.
- Lewis, R., & Dart, M. (2014). The new rules of retail: competing in the world's toughest marketplace. St. Martin's Press.
- Underhill, P. (2009). Why we buy: The science of shopping--updated and revised for the Internet, the global consumer, and beyond. Simon and Schuster.
- Fisher, M., & Raman, A. (2018). Using data and big data in retailing. Production and Operations Management, 27(9), 1665-1669.

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