Syllabus
2026 - 2027

TECHNICAL SHEET OF THE SUBJECT

Data of the subject	
Subject name	Quantitative Methods Applied to Companies
Subject code	E000011605
Involved programs	Máster Universitario en Administración de Empresas (MBA) [First year]
Level	Posgrado Oficial Master
Credits	2,0 ECTS
Type	Optativa
Department	Departamento de Métodos Cuantitativos
Coordinator	Mercedes Barrachina Fernández (mlmbarrachina@icade.comillas.edu)
Course overview	Admitted candidates from academic backgrounds other than Economics, Business Administration and Management, or Engineering, are compeled to follwo a Preparatory Training Module. This module will include complementary subjects that the student must take and pass before starting the program. The course Quantitative Methods Applied to Business will cover: Data description. Variables: types and data representation. Index numbers. Sampling and distributions.

Teacher Information	
Teacher	
Name	María de las Mercedes Barrachina Fernández
Department	Departamento de Métodos Cuantitativos
EMail	mlmbarrachina@icade.comillas.edu

SPECIFIC DATA OF THE SUBJECT

Contextualization of the subject

Contribution to the professional profile of the degree

The course "Quantitative Methods applied to the company" intends to provide the MBA student with a reinforcement in statistical and probability concepts to be able to successfully face the rest of the courses of the program.

Concepts associated with univariate analysis, bivariate analysis, index numbers and basic concepts of probability will be reviewed.

Competencies - Objectives

Competences

The main competences that will be acquired in this complement will be:

CFCE5 - Knows, differentiates and uses statistical concepts for the analysis of information: Identification of variables, coding and systematic presentation of data

Learning outcomes
RA1: Deduce relevant statistical information from a set of data RA2: Correctly analyzes and interprets the relationships between different variables

THEMATIC BLOCKS AND CONTENTS

Contents - Thematic Blocks
Block 1
Theme 1: Introduction
Block 2
Theme 2: Univariate Analysis - Qualitative variables
Theme 3: Univariate Analysis - Quantitative Variables
Theme 4: Univariate Analysis - Quantitative Variables- Graphics
Theme 5: Univariate Analysis - Concentration measures
Block 3
Theme 6: Bivariate Analysis - Measures
Theme 7: Bivariate Analysis - Graphics
Block 4
Theme 8: Index numbers
Theme 9: Probability Basics (I)
Theme 10: Probability Basics (II)

TEACHING METHODOLOGY

General methodological aspects of the subject
In-class Methodology: Activities
Master class sessions in which the concepts associated with each topic will be presented through a theoretical presentation and practical exercises. Presentation of group/individual student work
Non-Presential Methodology: Activities
Preparation of group/individual work where the fundamental concepts seen in the different sessions are incorporated

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SUMMARY STUDENT WORKING HOURS

In-class sessions: 20 hours

Non-presential sessions: 30 hours

Total working hours: 50 hours

EVALUATION AND CRITERIA

The evaluation activities will be the following:

1.- Test at the end of each session (20% of the final grade).
2.- Work and presentation (individual or group) to apply the concepts seen in class through the application to a real case (80% of the final grade).

Ratings

To pass this course, the student must attend at least 80% of the sessions and pass the work with a minimum grade of 5.

Students who do not successfully pass this preparatory course will be required to revise and resubmit their assignment in accordance with the requirements specified, taking into account the concepts covered during the sessions.

BIBLIOGRAPHY AND RESOURCES

Basic Bibliography

Moodle materials and presentations