INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Quantitative Methods Applied to Management			Field of study	Business Administration	
Bachelor in	Hospitality Management			School	School of Hospitality and Wellbeing	
Academic Year	2023/2024	Year of study	1	Level	1-1	ECTS credits 6.0
Type	Semestral	Semester	2	Code	9076-806-1205-00-23	

Workload (hours)	162	Contact hours	T	-	TP	60	PL	-	TC	-	S	-	E	-	OT	-	O	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Alcina Maria Almeida Rodrigues Nunes

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Understand the importance of quantitative methods in the areas of hotel management, restoration and tourism
2. Identify, evaluate and select relevant information by applying the leading techniques and concepts of quantitative methods
3. Apply quantitative methods in the analysis and comprehension of real situations in hotel management, restaurants and tourism
4. Formulate and solve mathematically and statistically simple day-to-day problems in the area of hotel management, restaurants and tourism, producing information that can support decision-making
5. Express orally and in writing reasoning, procedures and conclusions using the language of quantitative methods
6. Use reasoning and problem-solving techniques, as well as memory, accuracy and critical thinking
7. Use computer tools to apply the techniques and concepts of quantitative methods

Prerequisites

Before the course unit the learner is expected to be able to:
Not applicable

Course contents

Introduction to techniques and procedures of elementary mathematics. Real functions of a real variable. Solving equations and systems of equations. Elementary probability theory. Basic concepts of data analysis.

Course contents (extended version)

1. Introduction to techniques and procedures of elementary mathematics
    - Arithmetic operations
    - Ratios, proportions and percentages
    - Units of measurement
2. Real functions of a real variable
    - Concepts and definitions
    - Polynomial functions
    - Exponential and logarithmic functions
    - Application to hotel management and tourism
3. Solving equations and systems of equations
    - First and second-degree equations
    - Practical applications of functions to population and financial models
4. Elementary probability theory
    - Laws of probability
    - Probability Calculations - Binomial, Poisson and Normal distributions
5. Basic concepts of data analysis
    - Population and Sample
    - Sampling Techniques
    - Univariate samples characterisation
    - Bivariate samples characterisation
    - Presentation of data in tables and graphs
    - Sources and application of data in hospitality and tourism management

Recommended reading

1. Buglear, J., & Castell, A. (2019). Stats Means Business: Statistics and Business Analytics for Business, Hospitality and Tourism (3rd ed.). Routledge.
2. Carvalho, F., & Carvalho, S. (2021). Matemática Zero - Tudo o que tem de saber para enfrentar o ensino superior. Edições Sílabo.
3. Pires, C. (2011). Cálculo para Economia e Gestão. Escolar Editora.
4. Rocha, H., Pascoal, R., & Martins, R. (2021). Estatística Descritiva para as Ciências Sociais. Edições Sílabo.

Teaching and learning methods

Theoretical-practical classes are where the theoretical syllabus is presented, real data from the hotel and restaurant sector is analysed, proposed problems are proposed, and case studies are discussed. The theoretical presentation of the concepts is accompanied by a practical component to support data analysis using computer tools.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final)
    - Practical Work - 60%
    - Final Written Exam - 40%
2. Alternative 2 - (Regular, Student Worker) (Supplementary, Special)
    - Final Written Exam - 100%
3. Alternative 3 - (Student Worker) (Final, Supplementary, Special)
    - Final Written Exam - 100%

Language of instruction

1. Portuguese

Language of instruction

2. Portuguese, with additional English support for foreign students.

Electronic validation

Alcina Maria Almeida Rodrigues Nunes	Maria José Gonçalves Alves
18-03-2024	19-03-2024