

Course Unit	Data Analysis			Field of study	Mathematics		
Master in	Management - Health Services Management			School	School of Technology and Management		
Academic Year	2019/2020	Year of study	1	Level	2-1	ECTS credits 6.0	
Туре	Semestral	Semester	1	Code	5009-517-1105-00-19		
Workload (hours)	162	Contact hours	T - TP	42 PL - T	C - 8 3	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							
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Name(s) of lecturer(s) Paula Odete Fernandes

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

- At the end of the course unit the learner is expected to be able to:

 1. Apply research methods for data collection, ability to prepare and analyse quantitative and qualitative information;

 2. Develop and to understand the rules of the questionnaire design;

 3. Apply the appropriate statistical techniques to the information collected;

 4. Analyze and to interpret the results of the application of statistical methods, using the statistical software;

 5. Interpret, to formalize and to solve organizational problems with support of statistical tools and data analysis;

 6. Develop logical, critical and analytic reasoning in a creative way.

Prerequisites

Before the course unit the learner is expected to be able to:

- Apply concepts of real analysis and statistics;
 Use computational tools and browsers;
- 3. Be fluent in both oral and written English

Course contents

Data collection methods. Constructing the questionnaire. Building the database supported by statistical software. The data analysis: Applying the statistical methods.

Course contents (extended version)

- 1. Data collection methods
 - The research proposal
 - Types of research

- Types of research
 Sources of information
 Tools and methods for data collection
 Sampling methods. Sample size
 2. Constructing the questionnaire
 Preliminary study
 Questionnaire design
 The questions: scales of measurement
 The questions: types and problems
 Building the questionnaire for measure the latent variables
 Prepare the final questionnaire

 3. Building the database
- Building the database
 General vision of statistical sofware
- General vision of statistical sorware
 Editing and manipulating files
 Data handling and presentation
 Transforming variables
 Additional exercises using the statistical software
 4. The data analysis: Applying the statistical methods
 Univariate and bivariate analysis

 Multipuriot and propagates

 Multipuriot and propagates

 Multipuriot and propagates

 Edition of the statistical methods
 Univariate and propagates
 Multipuriot and propagates
 Edition of the statistical methods
 Univariate and Divariate analysis

 - Multivariate analysis

Recommended reading

- Bacon-Shone, J. (2015). Introduction to Quantitative Research Methods. Graduate School, The University of Hong Kong.
 Lisboa, J., Augusto, M., & Ferreira, P. (2012). Estatística aplicada à Gestão. Vida Económica.
 Machado, I., Costa, J., & Rodrigues, A. (2013). O essencial do questionário: preparação, recolha e tratamento de dados em SPSS (1. ª Ed.). Porto: IPAM.
 Maroco, J. (2018). Análise Estatística com o SPSS Statistics. ReportNumber, Lisboa.
 Smith, S., & Albaum, G. (2013). Basic Marketing Research. Qualtrics Labs, Inc.

Teaching and learning methods

Theoretical-practical classes with audiovisual resources. This course is based on "learning by doing", involving active participation of the student via interventions, individual and team work and problem solving. Real-life case studies are incorporated into lectures to provide opportunities for students to apply theory into practice in a real-life context.

Assessment methods

- Alternative A (Regular, Student Worker) (Final, Supplementary)
 Practical Work 50%
 Final Written Exam 50%
- Alternative B (Regular, Student Worker) (Special)
 Final Written Exam 100%

Language of instruction

- 1. Portuguese
- 2. English

Electronic validation			
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22-10-2019	11-11-2019	12-11-2019	