Course Unit	Health Data Analysis			Field of study	Health		
Master in	Applied Health Sciences - Biotechnology			School	School of Health		
Academic Year	2023/2024	Year of study	1	Level	2-1	ECTS credits	3.5
Type	Semestral	Semester	1	Code	5055-669-1101-00-23		

Workload (hours)	94,5	Contact hours	T	TP	PL	TC	S	E	OT	O
			-	-	-	-	-	-	-	43

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): Maria Cristina Martins Teixeira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Recognize the generic indicators in the descriptive analysis according to the nature of the variables.
2. At the end of the subject, the student should be able to use the PSPP software to perform treatment and analysis of statistical data.
3. Elaborate and edit graphs through Excel and PSPP.
4. Perform inferential and predictive analysis in the context of health research.

Prerequisites

Before the course unit the learner is expected to be able to:
1. Familiarity in using Windows and MS OFFICE tools.
2. Proficiency in English.

Course contents

Calculation of measures of central tendency, dispersion, location, asymmetry and kurtosis. Analysis of normality distribution. Parametric tests vs non-parametric tests. Econometric forecasting methods adapted to health research. Treatment and analysis of statistical data using PSPP software

Course contents (extended version)

1. Measures of central tendency and dispersion.
2. Measurement Scales: Nominal, ordinal and scale
3. Summarize data in tables, and graphs.
4. Population and sample - sampling techniques, Inference and generalization
5. Parametric tests: independent samples and paired samples: t-Student and 1. -way ANOVA.
6. Non-parametric testes: Mann-Whitney, Wilcoxon and Kruskal-Wallis
7. Proportion tests - Chi-square, Fisher, McNemar, Odds Ratio and Relative Risk.
8. Correlation analysis - Pearson and Spearman coefficients
9. Linear Regression Analysis

Recommended reading

1. Maroco, J. (2010). Análise Estatística com o PASW Statistics. Pêro Pinheiro: Report Number.
2. Cunha, G. , Eiras, M. & Teixeira, N. (2011) Bioestatística e Qualidade na Saúde. Lisboa: LIDEL
3. Guimarães, R. C. & Cabral, J. A. S. (1997) Estatística. Lisboa: McGraw-Hill
4. Reis, E. (2008) Estatística Descritiva. Lisboa: Silabo
5. Pestana, H. & Gageiro, J. (1998). Análise de dados para Ciências Sociais: A complementaridade do SPSS. Lisboa: Silabo

Teaching and learning methods

Theoretical-practical sessions, laboratory practices and tutorial orientations. Adequacy of methodological strategies focused on the processes of data analysis in the context of health research. Methodology - Expositive, Interactive. Face-to-face lessons and videoconference lessons Teaching in collaboration with the Instituto Politécnico da Guarda

Assessment methods

1. Final Written Exam - 100% - (Regular, Student Worker) (Final)
2. Final Written Exam - 100% - (Regular, Student Worker) (Supplementary, Special)

Language of instruction

Portuguese

Electronic validation

Maria Cristina Martins Teixeira	Ana Maria Geraldes Rodrigues Pereira	Ana Maria Nunes Português Galvão	Adília Maria Pires da Silva Fernandes
06-12-2023	22-12-2023	22-12-2023	03-01-2024