

Course Unit	Health Data Treatment and Analysis		Field of study	-	
Bachelor in	Pharmacy		School	School of Health	
Academic Year	2023/2024	Year of study	3	Level	1-3
Type	Semestral	Semester	2	Code	9549-803-3207-00-23
Workload (hours)	135	Contact hours	T -	TP 30	PL 30
			TC -	S -	E -
			OT 7,5	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) António José Gonçalves Fernandes

### Learning outcomes and competences

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

1. delineate and to analyze data through the main methods and statistical techniques in the field of the natural and social sciences
2. collect data in an appropriate way
3. identify the appropriate statistical test, tends into attention the nature of data and the study's objectives
4. dominate the fundamental concepts of data analysis
5. interpret, correctly, the results
6. use statistical software to analyze data

### Prerequisites

Before the course unit the learner is expected to be able to:  
Don't have

### Course contents

- I - Non Parametric Tests
  - I. 1. Introduction
  - I. 2. Localization tests for two or more samples
  - I. 3. Association tests
- II - Parametric Tests
  - II. 1. T-Student test
  - II. 2. One Factor Variance Analysis

### Course contents (extended version)

1. Non Parametric Tests with statistical software
  - Introduction
  - Localization tests for two samples:
    - Sign
    - Wilcoxon
    - McNemar
    - Mann-Whitney-Wilcoxon
  - Localization tests for k samples:
    - Kruskal-Wallis
    - Friedman
    - Q-Cochran
  - Association tests:
    - Spearman Ordinal Correlation test
    - Pearson Chi-square test
2. Parametric Tests with statistical software
  - Introduction:
    - Kolmogorov-Sminnov test
    - Shapiro-Wilk test
    - Levene's test
  - Two samples:
    - T-Student test Two independent samples
    - T- Student Two related samples
  - k samples:
    - Fixed effects ANOVA
    - Random effects ANOVA - Random blocks ANOVA

### Recommended reading

1. Guimarães, R. , & Cabral, J. (2010). Estatística. Lisboa: McGraw-Hill.
2. Zar, J. (2010). Biostatistical Analysis. International edition. New-Jersey: Prentice-Hall.
3. Maroco, J. (2021). Análise Estatística com o SPSS statistics. Pero Pinheiro: ReportNumber.
4. Pestana, M. , & Gageiro, J. (2014). Análise de Dados para Ciências Sociais: A complementaridade do SPSS. Lisboa: Edições Sílabo.
5. Vieira, S. (2016). Introdução à Bioestatística. Editora Elsevier.

### Teaching and learning methods

Expository methodology; Interactive methodology Demonstrative methodology.

### Assessment methods

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

### Language of instruction

Portuguese

## Electronic validation

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25-03-2024	27-03-2024	29-03-2024	29-03-2024