INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Biostatistics I			Field of study	Statistics		
Bachelor in	Pharmacy			School	School of Health		
Academic Year	2022/2023	Year of study	1	Level	1-1	ECTS credits	5.0
Type	Semestral	Semester	1	Code	9549-644-1102-00-22		

Workload (hours)	135	Contact hours	T -	TP 60	PL -	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): Luísa Maria Lopes Pires Genésio

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. do a correct sampling .
2. characterize data
3. apply statistic methods
4. interpret the results

Prerequisites

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

Course contents

Review of the techniques of integration Descriptive statistics Probability theory Random variables Probability Distribution Functions Statistics Estimation (one Sample) Simple Regression analysis

Course contents (extended version)

1. Integral calculus review
2. Descriptive Statistics
   - Introduction
   - Statistics objectives
   - Types of data and measurement uncertainties
   - Population and sampling
   - Statistics and central tendency measures
   - Dispersion measures
   - Graphical presentation of the frequency table
   - Other statistics
3. Probability Theory
   - Basic notions
   - Probability
   - Frequency distributios
   - Random variables
4. Probability Distribution
   - Introduction
   - Discrete distributions
   - Hypergeometric Distribution
   - Binomial distribution
   - Poisson distribution
   - Random variables
   - Continuous distributions
   - Gauss distribution
5. Significance tests
   - Statistical hypothesis
   - Null hypothesis
   - Significance level
6. Sampling distribution
   - Distribution of sample mean
   - Central limit theorem
7. Non-parametris and parametric tests (one sample)
8. Simple linear regression

Recommended reading

1. Guimarães, R. , & Cabral, J. (2010). Estatística. Lisboa: McGraw-Hill.
2. Spiegel, M. , Srinivasan, R. , & Schiller, J. (2013). Probabilidade e Estatística. Rio de Janeiro: Bookman.
3. Pagano, M. , & Gauvreau, K. (2004). Princípios de Bioestatística, São Paulo: Pioneira Thomson Learning.
4. Petrie, A. , & Sabin, C. (2001). Compêndio de estatística Médica, Lisboa: Instituto Piaget. .
5. Reis, E. , Andrade, R. , calapez, T. & Melo, P. (2015). Estatística Aplicada, Vol. 1. Lisboa: Edições Sílabo.

Teaching and learning methods

Expository Method. Demonstrative Method. Intercative Method.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final)
   - Intermediate Written Test - 50%
   - Final Written Exam - 50%
2. Alternativa 2 - (Student Worker) (Final)
   - Final Written Exam - 100%
3. Alternative 3 - (Regular, Student Worker) (Supplementary, Special)

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Assessment methods

- Final Written Exam - 100%

Language of instruction

Portuguese

Electronic validation

Luísa Maria Lopes Pires Genésio	Olívia Rodrigues Pereira	Ana Maria Nunes Português Galvão	Adília Maria Pires da Silva Fernandes
16-11-2022	18-11-2022	19-11-2022	20-11-2022

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