

Course Unit	Informatic and statistics		Field of study	Mathematics and Statistics	
Bachelor in	Oenology		School	School of Agriculture	
Academic Year	2022/2023	Year of study	1	Level	1-1
Type	Semestral	Semester	1	ECTS credits	6.5
Workload (hours)		175,5	Contact hours	T 30 TP 45 PL - TC - S - E - OT 4 O -	
Code 9998-705-1102-00-22					

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) Sérgio Alípio Domingues Deusdado

Learning outcomes and competences

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

1. Explore the full potential of computer processing by providing it with knowledge and practice in some tools.
2. Integrate into the current context of information technology, among others, Internet, multimedia, intranet, extranet, e-learning, and remote databases.
3. Productive use of tools for data analysis and processing to ensure its autonomy in the organization, extraction, and validation of knowledge of the data arising from scientific research.
4. Use some reference tools to apply basic concepts of statistics in concrete situations.
5. Formalize and implement correctly problems involving the result of random experiences.
6. Do a correct sampling. Characterize data. Apply statistical methods. Interpret the results.

Prerequisites

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

Course contents

Computers basic learning; Operating systems; Internet; Computer software; Application for the analysis and statistical processing of data; Descriptive statistics; Probability theory; Probability Distribution Functions.

Course contents (extended version)

1. Computers basic Learning
 - Basic concepts; Definition of computer systems, computer architecture, and working.
 - Binary encoding.
2. Operating systems
 - OS constituents, Types, the OS functions;
 - File system maintenance, utilities, and communications.
3. The Internet
 - Historical notes; TCP/IP and DNS; Services (e-mail, www, FTP, chat and other services);
 - The search of Informatizo; Security, E-learning.
4. Computer software
 - Microsoft Excel; Formulas and functions; Databases; Drafting and editing graphics; Macros; Forms.
5. Application for the analysis and statistical processing of data
 - Data entry and definition of variables. Descriptive statistical analysis of data;
 - Correlations; generation and formatting of charts.
6. Descriptive Statistics
 - Introduction;
 - Statistics objectives;
 - Types of data and measurement uncertainties;
 - Population and sample;
 - Statistics and central tendency measures;
 - Dispersion measures;
 - Graphical presentation of the frequency table;
 - Others statistics.
7. Probability Theory
 - Basic notions;
 - Probability;
 - Frequency distributions;
 - Random variables.
8. Probability Distribution
 - Introduction;
 - Discrete distributions;
 - Hypergeometric distribution;
 - Binomial distribution;
 - Poisson distribution;
 - Continuous distributions;
 - Gauss distribution.

Recommended reading

1. Martins, A. (2019). Aprenda Excel com casos práticos. Edições Sílabo, Lda.
2. Sousa, M., & Sousa, S. (2010). Microsoft Office 2010 – Para Todos Nós. FCA - Editora Informática
3. Reis, E., Melo, P., Andrade, R., & Calapez, T. (2018). Estatística Aplicada. Edições Sílabo, Lda.
4. Maroco, J. (2010). Análise Estatística: Com utilização do SPSS (3.ª Ed.). Edições Sílabo, Lda.

Teaching and learning methods

Expositive, demonstrative, interactive, and project-based learning (PBL).

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final, Supplementary, Special)

Assessment methods

- Practical Work - 50% (Minimum classification of 10 values in each module.)
 - Intermediate Written Test - 50% (Minimum classification of 7 values in each module.)
2. Exam assessment - (Regular, Student Worker) (Final, Supplementary, Special)
- Final Written Exam - 50% (The grade obtained in the exam is the average with the grade obtained in the practical work.)

Language of instruction

Portuguese

Electronic validation

Sérgio Alípio Domingues Deusdado	Sérgio Alípio Domingues Deusdado	António Castro Ribeiro	Paula Sofia Alves do Cabo
07-12-2022	07-12-2022	19-12-2022	31-12-2022