

**COURSE DATA****Data Subject**

Code	33978
Name	Statistics
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. Period year
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	1 Second term

Subject-matter

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	6 - Statistics	Basic Training

Coordination

Name	Department
PEIRO RAMADA, JUAN JOSE	130 - Statistics and Operational Research

SUMMARY

This course aims to provide students with the tools and basic concepts of Statistics which are necessary to state statistical hypotheses, recognize simple probabilistic models, analyse data obtained by either direct observation of the environment or as a result of controlled experiments in laboratories and make decisions based on the conclusions drawn from this analysis. An additional purpose of this course is to motivate students in the study and application of Statistics, using the proper tools to solve real problems.

PREVIOUS KNOWLEDGE



Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

There are no recommendations as it is an introductory course.

OUTCOMES

1103 - Degree in Food Science and Technology

- Describe and synthesise the dataset observed in the experiment.
- Analyse the data observed using a statistical package.
- Interpret the results provided by statistical packages.
- Prepare and submit a report of the experimental study conducted.
- Be familiar with statistics applied to health sciences.

LEARNING OUTCOMES

- Properly describe and synthesize the data set obtained from experiments.
- Analyze the observed data using appropriate statistical software.
- Correctly interpret the results provided by the software used.
- Develop and submit a report of the study.

DESCRIPTION OF CONTENTS

1. Introduction to Statistics and Exploratory Data Analysis

Introduction to Statistics

Sample description.

Population description: Introduction to Probability

2. Unit 2: Statistical analysis of a variable

Inference on proportions

Inference on a population mean

**3. Unit 3: Statistical analysis of more than one variable**

Comparison of two population means

Comparison of more than two population means

Comparison of categorical variables

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	45,00	100
Seminars	10,00	100
Tutorials	2,00	100
Development of group work	10,00	0
Study and independent work	20,00	0
Preparation of evaluation activities	20,00	0
Preparing lectures	20,00	0
Preparation of practical classes and problem	20,00	0
TOTAL	147,00	

TEACHING METHODOLOGY

Theory classes will be devoted to develop the agenda and raise problems whose solution requires the methodology corresponding to each subject. We will introduce the appropriate statistical technique and apply it to solve proposed problems using statistical software. For the preparation of the course the student will have a collection of proposed problems, separated by subjects, which they will have to resolve on their own.

The practical sessions will take place in a computer room and will be synchronized with the theory; they will allow the student to solve problems by applying the statistical procedures

EVALUATION

The final grade for the course is calculated from the following three blocks:

- B1. Theoretical-practical exam, the resolution of which requires, among others, the interpretation of different outputs of the statistical software R used during the course: 70% of the final grade. The minimum grade required in this block to compensate with the other blocks is 5 out of 10.



- B2. Solution of practical cases in the computer sessions, which requires the use of the statistical software R and the interpretation of the results obtained: 20% of the final grade.

- B3. Qualification obtained by the student in the coordinated seminar during the course: 10% of the final grade.

The continuous evaluation, corresponding to blocks B2 and B3, is not recoverable. In the second call of the subject, only the theoretical-practical exam (block B1) will be repeated and the grades obtained in blocks B2 and B3 will be kept.

Copying or plagiarizing of any task that is part of the evaluation will mean the impossibility of passing the subject, subjecting themselves to the appropriate disciplinary procedures.

Keep in mind that, in accordance with article 13. d) of the University Student Statute (RD 1791/2010, of December 30), it is the duty of a student to refrain from the use or cooperation in fraudulent procedures in the evaluation tests, in the work carried out, or in official documents of the university.

REFERENCES

Basic

- Samuels, M.L., Witmer, J.A. y Schaffner, A. (2012). Fundamentos de Estadística para las Ciencias de la Vida (4a ed.) Pearson Educación S.A.

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Additional

- Bower, J.A. (2009). Statistical Methods for Food Science. Wiley-Blackwell