

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

Code	33978
Name	Statistics
Cycle	Grade
ECTS Credits	6.0
Academic year	2020 - 2021

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
MARTINEZ BENEITO, MIGUEL ÁNGEL	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 knowledge acquired both in theory and practical sessions will be evaluated together, by means of an exam which may require the interpretation of results presented in the standard statistical software format used throughout the course. This evaluation will represent the 70% of the final grade. The remaining 30% of the final grade will come from work evaluated throughout the course (20%) and seminars (10%). To pass the course you must have at least a grade of 4/10 both in final grade and practical works



Practical work evaluated throughout the course is done in group and in the computer lab so it is not recoverable

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

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

1. Contents

The contents initially included in the teaching guide are maintained.

2. Work volume and teaching schedule

The workload for the student is maintained, but the activities methodology changes with respect to the conventional teaching guide, due to the current situation that makes it necessary to adopt a hybrid teaching model.

3. Teaching methodology

- Theoretical teaching: It will be carried out through face-to-face and synchronous sessions (synchronized videoconferences on BBC, or other technology indicated by the Center). The distribution of the students will be done by groups, so that 50% will be in the Faculty classroom while the other 50% will connect online, alternating their attendance by weeks. The class will always be held following the schedule (date and time) approved by the Center Board.
- Tutorials: They will all be face-to-face according to the dates set by the course calendar.
- Coordinated or non-coordinated seminars: They will all be face-to-face according to the dates set by the course calendar.
- Practical classes: If the pandemic situation allows it, they will be blended, in which 50% of the students will attend in person. Practice groups will be formed in pairs (one student face-to-face and another online). The online student will connect with his/her fellow assistant to the face-to-face session by using the BBC group tool. In this way, one of the group members will be in permanent contact with the teacher, being able to ask the questions that arise from the practice and her partner will simply collaborate with him/her remotely.



If a state of total confinement were to occur, all face-to-face teaching would be carried out online.

4. Evaluation

If the evolution of the current pandemic allows it, it will be face-to-face and as indicated in the teaching guide. Only if this is not possible, the evaluation will be carried out online by carrying out a non-face-to-face test and/or on certain occasions by means of an oral exam via videoconference.

The relative weight of theory, practices and seminars is maintained as indicated in the teaching guide.