Information about the subject

Degree: Bachelor of Science Degree in Human Nutrition and Dietetics

Faculty: Faculty of Medicine and Health Sciences

Code: 1311103 **Name:** Biostatistics

Credits: 6,00 **ECTS Year:** 1 **Semester:** 1

Module: Basic Science Module

Subject Matter: Statistics **Type:** Basic Formation

Field of knowledge: Health Sciences

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

131A	Marcelino Perez Bermejo **(Responsible Lecturer)**	marcelino.perez@ucv.es

Module organization

Basic Science Module

Subject Matter	ECTS	Subject	ECTS	Year/semester
Biology	6,00	Biology and Genetics	6,00	1/1
Biochemistry	6,00	Biochemistry	6,00	1/2
Chemistry	12,00	Basic Fundamentals of Chemistry	6,00	1/1
		Organic Chemistry	6,00	1/2
Physiology	12,00	Physiology	6,00	1/2
		Physiology II	6,00	2/1
Statistics	6,00	Biostatistics	6,00	1/1
Human Anatomy	6,00	Human Anatomy	6,00	1/1
Psychology	6,00	Psychology	6,00	2/1
Anthropology	12,00	Anthropology	6,00	1/1
		Food and Culture	6,00	4/1

Recommended knowledge

This subject does not have any prerequisites.

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1   Understands and assimilates he concepts included in the content of the course.

R2   Shows ability to solve problems related to these contents using different resources.

R3   Understands and adequate uses of language, as well as a correct writing and presentation of data.

R4   Collaborates with the teacher and classmates throughout the learning process: Attendance to theoretical, practical or tutoring sessions; teamwork; Respect in the treatment; Compliance with the rules of organization of the subject for the benefit of all.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC			Weighting			
			1	2	3	4
CB1	Students demonstrate knowledge and understanding in an area of study that is at the core of general secondary education, and is often at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.				x	

GENERAL			Weighting			
			1	2	3	4
CG03	Students recognise the need to maintain and update professional competence, with particular emphasis on autonomous and continuous learning of new knowledge, products and techniques in nutrition and food, as well as motivation for quality.				x	

SPECIFIC			Weighting			
			1	2	3	4
CE03	Students know the statistics applied to Health Sciences. To know the psychological bases and the bio-psycho-social factors that affect human behaviour.					x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
	5,00%	Evaluation of the use of the practical classes in the classroom, of problems or computers, seminars and tutorials. Through attendance, and participation in the different activities proposed.
	65,00%	Written evaluation of the knowledge and skills obtained. The test may consist of a series of open-ended or multiple-choice questions on the theoretical content of the subject and/or practical exercises (problem solving).
	30,00%	Evaluation of individual or group practices or activities, in which information related to each of the subjects must be sought and structured, and cases or problems resolved. This is done through a system of continuous evaluation throughout the course, which involves the delivery and / or exposure of work, whose objectives and content will be proposed by the teacher.

Observations

A minimum grade of 5 to averaging is needed.

MENTION OF DISTINCTION:
According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 ("Sobresaliente"). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1	Exposition of contents by the teacher, analysis of competencies, explanation and demonstration of capacities, skills and knowledge in the classroom. The blackboard, the computer and the cannon will be used to display texts, graphics, etc.
M2	Resolution of practical exercises and case studies, analysis of evaluation procedures and procedural intervention. All this with the support of the teacher. This aspect can be controlled through attendance and active participation in the practical sessions.
M3	Resolution of practical exercises and case studies, analysis of evaluation procedures and procedural intervention. All this with the support of the teacher. This aspect can be controlled through attendance and active participation in the practical sessions.
M5	Student study: individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. for discussion or delivery in electronic format.
M7	Personalised attention and in small groups. Period of instruction and/or orientation carried out by a tutor with the aim of reviewing and discussing the materials and topics presented in the classes, seminars, readings, completion of assignments, etc. The attendance of the student and his/her level of gradual development in the knowledge of the subjects will be evaluated.
M8	A set of tests, written or oral, used in the evaluation of the student.

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons M1	R1, R2, R3, R4	31,00	1,24
Practice lessons M2	R1, R2, R3, R4	25,00	1,00
Office Hours M7	R4	2,00	0,08
Evaluation M8	R1, R2, R3, R4	2,00	0,08
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M3, M5	R1, R2, R3, R4	70,00	2,80
Group work M3, M7	R1, R2, R3, R4	20,00	0,80
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Descriptive statistics	Description of samples and populations. Types of variables. Frequency distribution. Location and dispersion measurements. Description of a population: population parameters
Introduction to probability	Introduction to probability. Independent and dependent events. Bayes formula. Random sampling: types and features. Probability, discrete and continuous distributions.
Sampling distribution Confidence intervals	The sampling distribution: mean, variance, proportions. The difference in average sample sampling distribution. Confidence intervals for different population parameters. Determination of the sample size.
Hypothesis contrasts	Hypothesis contrasts: stages. Types of errors in contrast. T and Chi-square test. Concept of p-value: calculation.
ANOVA	randomized. Fundamental relations of ANOVA: test F. course for applying ANOVA. Multiple comparison procedures. Logistics and linear regressions

Temporary organization of learning:

Block of content	Number of sessions	Hours
Descriptive statistics	5,00	10,00
Introduction to probability	6,00	12,00
Sampling distribution Confidence intervals	5,00	10,00
Hypothesis contrasts	6,00	12,00
ANOVA	8,00	16,00

References

BASIC

Miguel Ángel Martínez-González, Almudena Sánchez-Villegas, Estefanía A. Toledo Atucha, Javier Faulin Fajardo. Bioestadística Amigable. Barcelona: Ed. Elsevier, 2020

Martín González, Germán. Introducción a la estadística. Editorial UCV. Valencia 2009

Daniel, Wayne W. Bioestadística: base para el análisis de las ciencias de la salud. México: Limusa-Wiley, 2002

Pagano, Marcelo, Gauvreau, Kimberlee. Fundamentos de bioestadística. Editorial Thomson Editores, S.A. De C.V. México, 2000

García Pérez, Alfonso. Estadística aplicada: conceptos básicos. Editorial UNED. Madrid, 2005

Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

| X | Microsoft Teams |

| X | Kaltura |

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

| X | Microsoft Teams |

| X | Kaltura |

Explanation about the practical sessions:

Para las sesiones prácticas se utilizará el software fStats programado en Excel, por lo que se necesitará que los alumnos que no la tengan, se la descarguen (gratuita) de Microsoft 365 para poder trabajar en casa. El profesor dará instrucciones en su caso para que lo puedan hacer.

2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

| X | The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus. |

| | The following changes will be made to adapt the subject's assessment to the online teaching. |

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System: