



## Information about the subject

**Degree:** Bachelor of Science Degree in Human Nutrition and Dietetics

**Faculty:** Faculty of Medicine and Health Sciences

**Code:** 1310101 **Name:** Microbiology and Parasitology

**Credits:** 6,00 **ECTS Year:** 1 **Semester:** 2

**Module:** Food Science Module

**Subject Matter:** Microbiology **Type:** Compulsory

**Field of knowledge:** Health Science

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**

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## Module organization

### Food Science Module

Subject Matter	ECTS	Subject	ECTS	Year/semester
Bromatology	6,00	Bromatology	6,00	2/1
Food Technology	6,00	Food Technology	6,00	2/1
Culinary Technology	6,00	Culinary Technology	6,00	3/1
Microbiology	6,00	Microbiology and Parasitology	6,00	1/2
Toxicology	6,00	Food Toxicology	6,00	2/2

## Recommended knowledge

Not established.



## 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 the course content.
- R2       Shows ability to solve problems related to these contents using different resources.
- R3       Shows ability to work in a laboratory performing correctly the basic operations and observing the corresponding security rules. As well as a correct understanding of the planning, development and purpose of the experience.
- R4       Understands and adequate uses language, as well as correct writing and presentation of data.
- R5       Collaborates with the teacher and colleagues 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
CG11 Students know the microbiology, parasitology and toxicology of food.				X

SPECIFIC	Weighting			
	1	2	3	4
CE15 Students know the microbiology, parasitology and toxicology of food.				X



## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R5	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.
R1, R4	60,00%	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).
R2, R5	15,00%	Assessment of practical laboratory work, or laboratory culinary techniques workshop, through which the competencies acquired must be demonstrated and that they are capable of being used to solve the different situations and problems that arise in a laboratory; this assessment may be carried out by one of the following methods, or a combination of several of them: an individual written test, the individual or group performance of a laboratory experience, the submission of an individual or group report on the work carried out in the laboratory
R2, R4	20,00%	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

In the individual written test a minimum grade of 4.5 out of 10 is needed to make the average with



the rest of the qualifying items.

In the practice exam, a minimum grade of 4,5 out of 10 is needed to make the average with the practice notewook

Attendance at laboratory practices is mandatory. The course cannot be passed without having passed the practices.

## 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.
- 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.
- M4 Monographic sessions throughout the course, oriented towards current aspects and applications of the subject.
- 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.



M9 Group preparation of readings, essays, problem solving, seminars, papers, reports, etc... for discussion or delivery.

## IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons M1	R1, R2, R4, R5	39,00	1,56
Practice lessons M3	R3, R4, R5	15,00	0,60
Seminar M5	R4, R5	2,00	0,08
Office Hours M7	R1, R5	2,00	0,08
Evaluation M8	R1, R2, R4	2,00	0,08
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>

## LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M5	R1, R2, R3, R4, R5	80,00	3,20
Group work M9	R3, R5	10,00	0,40
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>



## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

Content block	Contents
UNIT I: GENERAL MICROBIOLOGY	Unit 1. Introduction to Microbiology. Unit 2. Areas of study of Microbiology. Unit 3. Taxonomy: Nomenclature and Classification of Microorganisms. Unit 4. Study methods and Identification of Microorganisms.
UNIT II: BACTERIA	Unit 5. Structure and function of the prokaryotic cell. Unit 6. Nutrition, metabolism and microbial development. Unit 7. Microbial growth. Unit 8. Microbial genetics. Unit 9. Sterilization and disinfection. Unit 10. Antimicrobials. Unit 11. Mechanisms of microbial infectivity. Unit 12. Bacteria of health interest not related to food. Unit 13. Gram-positive bacteria transmitted by food. Unit 14. Gram-negative bacteria transmitted by food.
UNIT III: VIRUS	Unit 15: Classification, structure and replication of virus. Unit 16. Food-borne virus
UNIT IV: FUNGUS	Unit 17: Classification, structure and replication of fungi.
UNIT V: PARASITES	Unit 18. Classification, structure and replication of parasites. Unit 19. Human parasites transmitted by food.





## Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT I: GENERAL MICROBIOLOGY	6,00	12,00
UNIT II: BACTERIA	16,00	32,00
UNIT III: VIRUS	3,00	6,00
UNIT IV: FUNGUS	2,00	4,00
UNIT V: PARASITES	3,00	6,00

## References

### BASIC:

- Gerard J. Tortora, Berdell R. Funke, Christine L. Case  
Introduction to Microbiology 12th edition (2017). Pan American.
- MURRAY PR, ROSENTHAL KS, PFALLER MA.  
Medical Microbiology. 8th edition (2017). Elsevier.

### COMPLEMENTARY:

- Scientific documents SEIMC <https://www.seimc.org/documentos/protocolos/microbiologia>



## 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:

☒ Microsoft Teams

☒ 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:

☒ Microsoft Teams

☐ Kaltura

Explanation about the practical sessions:



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

### ONSITE WORK

#### Regarding the Assessment Tools:

☒

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:

The students of previous courses who did not pass the theoretical exam maintain the qualifications of "Laboratory Practices", "Collaborative Work (seminary)". However, these students have the option of improving these grades by presenting work or exercises that did not present the past course or in which they did not obtain a good grade



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# Course guide

Year 2023/2024

1310101 - Microbiology and Parasitology

