



## Information about the subject

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

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

**Code:** 1310207 **Name:** Food Technology

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

**Module:** Food Science Module

**Subject Matter:** Food Technology **Type:** Compulsory

**Field of knowledge:** Health Sciences

**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 and assimilates the concepts included in the course content.
- R2      Shows ability to solve problems related to these contents using different resources.
- R3      Demonstrates ability to work in a laboratory by correctly performing basic operations and observing the corresponding safety regulations. As well as a correct understanding of the planning, development and purpose of the experience.
- R4      Understands and proper 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
CB2	Students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.				X

GENERAL		Weighting			
		1	2	3	4
CG09	Students know the basic processes in the elaboration, transformation and conservation of foods of animal and vegetable origin.				X
CG27	Students intervene in the quality and food safety of products, facilities and processes.				X

SPECIFIC		Weighting			
		1	2	3	4
CE12	To know the production systems and the basic processes in the elaboration, transformation and conservation of the main foods.				X
CE16	To know the culinary techniques to optimize the organoleptic and nutritional characteristics of the food, with respect to the traditional gastronomy.				X



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

Assessed learning outcomes	Granted percentage	Assessment method
R1, R4, R5	10,00%	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, R4, 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, R3, R4	15,00%	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

\*It is essential to obtain a minimum score of 5 to pass the subject.\* A minimum grade of 5 to averaging is needed both in individual written theory and laboratory exam to make average with the



rest of the notes

Attendance at Lab is mandatory.

## 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.
- M6 Application and sharing of multidisciplinary knowledge This is the resolution of a problem that in its subsequent professional practice would require the application of skills acquired through the development of the modules and that would produce synergies in the assimilation of transversal and specific skills. Group work competences will be specifically 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, M2	R1, R2, R4, R5	39,00	1,56
Laboratory M3	R3, R4, R5	15,00	0,60
Seminar M6	R5	2,00	0,08
Office Hours M3	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 1: GENERAL FOOD TECHNOLOGY CONCEPTS	<p>Topic 1.1. Food composition and biochemistry</p> <p>Topic 1.2. General structure of the main components of food.</p> <p>Topic 1.3. Sensory properties.</p> <p>Topic 1.4. Nutritional properties. Adding nutrients in technological processes</p> <p>Topic 1.5. Functional properties: applied to Food industry</p>
UNIT 2: FOOD PRESERVATION TECHNIQUES	<p>Topic 2.1. Alteration and shelf life of food</p> <p>Topic 2.2. Causal agents of the alteration of fresh and processed foods.</p> <p>Topic 2.3. Heat preservation.</p> <p>Topic 2.4. Cooling and Freezing preservation.</p> <p>Topic 2.5. Reduction of water activity in food preservation.</p> <p>Topic 2.6. Chemical preservation of food</p> <p>Topic 2.7. Other preservation methods (modified atmosphere, ionizing radiation)</p> <p>Topic 2.8. Food packaging</p>
UNIT 3: PROCESSES OF FOOD TRANSFORMATION	<p>Topic 3.1. Milk and dairy products technology</p> <p>Topic 3.2. Egg technology and derivatives</p> <p>Topic 3.3. Meat product technology</p> <p>Topic 3.4. Fish technology and derived products</p> <p>Topic 3.5. Honey technology</p>
UNIT 4: LABORATORY PRACTICES	<p>There will be four practices linked to the knowledge area.</p>





## Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT 1: GENERAL FOOD TECHNOLOGY CONCEPTS	6,00	12,00
UNIT 2: FOOD PRESERVATION TECHNIQUES	10,00	20,00
UNIT 3: PROCESSES OF FOOD TRANSFORMATION	7,00	14,00
UNIT 4: LABORATORY PRACTICES	7,00	14,00



## References

### BASIC:

- Delgado Adánez, J; Martín Vertedor, D; Ramírez Bernabé, MR; Rocha Pimienta, J. (2019). Food Technology. Ed Síntesis. Madrid ISBN: 9788491712961
- Ordóñez Pereda, J. A. (2014). Food technology. Components of food and processes (1 ed.) Volume I and II. Madrid. ED. Síntesis. ISBN: 978-84-995-8144-6.
- Fellows, p. (2007). The food processing technology. Principles and practices. Ed. Acribia, S.A. Zaragoza. ISBN: 978-84-200-1093-9.

### COMPLEMENTARY:

- Alos, J.S.; Lorenzo, J.; Navarrete, I. & Pascual, x. (2006). The white paper's packaging. Ed. International packaging show, Hispack - Fira de Barcelona, Barcelona. ISBN: 84-934050-3-5.
- Armendariz Sanz, J.L. (2011). pre-cooking and food preservation. Ediciones Paraninfo, 2011. ISBN: 84-9730-818-01.
- White sources, C.A.; Gómez Pallarés, M.; Round Balbás, f. and bald gentleman, P.A. (2006). Advanced techniques of processing and storage of food. Ed. Secretariat of publications and Publishing Exchange, Universidad de Valladolid, Valladolid. ISBN: 84-8448-363-0.
- Brennan, J.G. (2008). Handbook of food processing. Ed. Acribia, S.A. Zaragoza. ISBN: 978-84-200-1099-1.
- CASP Vanaclocha, a. and April Requena, j. (2003). Processes of conservation of foods, 2nd ed. corr., Ed. A. Madrid Vicente, Madrid. ISBN: 84-89922-96-9; 84-8476-169-x.
- CASP Vanaclocha, a. (2014). Technology of foodstuffs of plant origin. Vol I and II. Ed. synthesis, Madrid. ISBN: 978-84-9958-834-6.
- Cubero, N.; Monferrer, a. & Villalta, j. (2002). Food additives, Ed. A. Madrid Vicente, Madrid. ISBN: 84-8476-088-X; 84-89922-78-0.
- Jeantet, r. et to the. (2010). food science. Volume 2. Ed. Acribia. Zaragoza. ISBN: 978-84-200-1149-3.
- Beaming Morata, a. (2009). New technologies for the conservation of food, Ed. AMV Ediciones, Madrid. ISBN: 978-84-96709-201.



## 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: