



## 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:** Nutrition

**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.\*It will be an essential requirement to obtain a 5 in the written test corresponding to the theoretical knowledge of the



subject in order to be able to average with the rest of the marks.

In the item: Evaluation of the use of practical classes in the classroom, problems or computers, seminars and tutorials, written tests and/or activities planned through the teaching platform will be carried out as a continuous assessment instrument.

In group work, as an instrument of continuous assessment, the student will provide minutes or some relevant information on the progress of his/her work on previously established dates.

Attendance at Lab is mandatory.

### MENTION OF DISTINCTION:

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

## 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<br>M1, M2 | R1, R2, R4, R5    | 39,00        | 1,56        |
| Laboratory<br>M3              | R3, R4, R5        | 15,00        | 0,60        |
| Seminar<br>M6                 | R5                | 2,00         | 0,08        |
| Office Hours<br>M3            | R1, R5            | 2,00         | 0,08        |
| Evaluation<br>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<br>M5 | R1, R2, R3, R4, R5 | 80,00        | 3,20        |
| Group work<br>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 | Topic 1.1. Chemical Composition of Food.<br>Topic 1.2. Sensory properties.<br>Topic 1.3. Nutritional properties. Adding nutrients in technological processes<br>Topic 1.4. Functional properties: applied to Food industry  |
| UNIT 2: FOOD PRESERVATION TECHNIQUES     | Topic 2.1. Fresh food.<br>Topic 2.2. Heat preservation.<br>Topic 2.3. Cooling and Freezing preservation.<br>Topic 2.4. Reduction of water activity in food preservation.<br>Topic 2.5. Chemical preservation of food.<br>Topic 2.6. Fermentation.<br>Topic 2.7. Other preservation methods (modified atmosphere, ionizing radiation).<br>Topic 2.8. Food packaging. |
| UNIT 3: PROCESSES OF FOOD TRANSFORMATION | Topic 3.1. Milk and dairy products technology<br>Topic 3.2. Egg technology and derivatives<br>Topic 3.3. Meat product technology<br>Topic 3.4. Fish technology and derived products<br>Topic 3.5. Honey technology  |
| UNIT 4: LABORATORY PRACTICES             | There will be four practices linked to the knowledge area.  |





## 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

- Ordóñez-Gonzalo García de Fernando JA, Selgas MD, García ML, Cambero MI-Fernández L, Fernández M, Hierro E. Tecnologías alimentarias. Volumen 1. Editorial Síntesis, 2019. ISBN: 9788491713623.
- Ordóñez-Gonzalo García de Fernando JA, Selgas MD, García ML, Cambero MI, Fernández L, Fernández M, Hierro E. Tecnologías alimentarias. Volumen 2. Editorial Síntesis, 2019. ISBN: 9788491712978.
- Ordóñez-Gonzalo García de Fernando JA, Selgas MD, García ML, Cambero MI, Fernández L, Fernández M, Hierro, E. Tecnologías alimentarias. Volumen 3. Editorial Síntesis, 2019. ISBN: 978-84-9171-298-5
- Garrido M, Rocha Pimienta J, Delgado J, Martillanes S. Procesos tecnológicos en la industria alimentaria. Editorial Síntesis, 2020. ISBN: 9788413570105.
- Delgado Adánez, J; Martín Vertedor, D; Ramírez Bernabé, MR; Rocha Pimienta, J. Ed Síntesis. Madrid, 2019. ISBN: 9788491712961
- Ordóñez Pereda, J. A. Tecnología de los alimentos T.I: componentes de los alimentos y procesos. Ed. Síntesis, 1999. ISBN: 9788477385752
- Ordóñez Pereda, J. A. Tecnología de los alimentos. Vol. II: Alimentos de origen animal. Madrid: Ed. Síntesis, 1999. ISBN: 9788477385769
- Fellows, P. Tecnología del procesado de los alimentos. Principios y prácticas. Tercera edición. Ed. Acribia, 2019. ISBN: 978-84-200-1185-1



## 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: