

**Food Hygiene**

Code: 101009  
ECTS Credits: 6

Degree	Type	Year	Semester
2500502 Microbiology	OT	4	2

## Contact

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## Teaching groups languages

You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

## Teachers

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## Prerequisites

Although there are no official prerequisites, it is convenient for the student to review the knowledge acquired in the subjects of first, second and third courses:

- Microbiology
- Microbe ecology
- Food Microbiology
- Epidemiology of infectious diseases

## Objectives and Contextualisation

Food hygiene is a subject that integrates different matters. The aim is that students can develop a quality system that allows the food industry to implement and manage rationally the measures and conditions necessary to ensure the suitability of a product for human consumption.

General objective:

To identify and analyze the significant hazards that may appear in every one of the stages of production and commercialization of foods. Moreover, to identify the different factors that can affect the hygienic quality of food by applying the appropriate control measures and managing all activities to ensure the suitability of a product for human consumption.

Specific objectives:

- Identify, analyze and evaluate the most significant biological, chemical and physical hazards.
- Identify the factors that affect the presence of hazards in food to establish critical limits and monitoring systems as well as shelf-life
- Identify the preventive measures to control the presence or development of hazards in food processing
- Development and management of the system of Hazard Analysis and Critical Control Points
- Development and management of the operational conditions necessary to produce safe food.
- Audit the HACCP and the prerequisites

## Competences

- Apply suitable methodologies to isolate, analyse, observe, cultivate, identify and conserve microorganisms.
- Identify and solve problems.
- Obtain, select and manage information.
- Use bibliography or internet tools, specific to microbiology or other related disciplines, both in English and in the first language.

## Learning Outcomes

1. Identify and solve problems.
2. Identify food hazards, assess their risk, manage it and communicate it.
3. Know and interpret legislation on microorganisms in different types of industries.
4. Know the hygiene requirements demanded of the food industries.
5. Obtain, select and manage information.
6. Understand the system of Analysis of Hazards and Critical Control Points.
7. Use bibliography or internet tools, specific to microbiology or other related disciplines, both in English and in the first language.

## Content

Unit 1.- Concepts: Food Hygiene. Current trends in hygiene and food safety. The Hazard Analysis and Critical Control Points system and the Prerequisites.

Unit 2.- Legal aspects in food hygiene. Application of European, national, regional and local regulations. Codex recommendations in relation to food hygiene.

Unit 3.- Identification of the biological, chemical and physical hazards and the factors that affect their presence.

Unit 4.- The Hazard Analysis and Critical Point Control (HACCP) system. Technical barriers in its implementation. Key stages in the development of the HACCP system. Study and development of the HACCP system. Team training, product description. Elaboration of the flowchart and its verification. Analysis of hazards and selection of the most significant. Identification of preventive and / or control measures. Identification of the Critical Control Points, establishment of the critical limits, monitoring of PCC and corrective measures. Verification of HACCP. Documents, registries, and validation of the Plan.

Unit 5.- Program of control of suppliers. Definition Development of the program. Factors to consider: suppliers and product specifications. Description and registration of activities. Importance of supplier control. Documents and registers.

Unit 6.- Traceability program. Definition Legal Bases. Benefits and requirements for its implementation. Importance and aspects to be considered in the development of the traceability plan. Documents and registers.

Unit 7.- Design and maintenance of facilities and equipment. Location of the industries. General characteristics in the design of the installations. Characteristics of materials. Description, monitoring, and registration of maintenance activities.

Unit 8.- Clean and disinfecting program. Definition. Key aspects to be considered in the design of the plan: level of risk, evaluation of dirt, selection of detergents and disinfectants. Factors that affect the effectiveness of disinfectants. Monitoring, corrective measures and control of the plan. Documents and registers.

Unit 9.- Control Plan of pests and other undesirable animals. Definition. The integrated control Pest Plan. Devices used to control pests. Monitoring, corrective measures and control of the plan. Documents and registers.

Unit 10.- Water control plan. Definition of potability. Health criteria of water for human consumption. Characteristics of the facilities. Monitoring, corrective measures and control of the plan. Documents and registers.

Unit 11.- Control plan for allergens and substances that cause intolerance. Information required in the control of suppliers and the labeling of the elaborated product. Measures to avoid cross contamination: Warehouses, processing and cleaning. Monitoring, corrective measures and control of the plan. Documents and registers.

Unit 12.- Plan of control of by-products and waste. Definition of Hygienic aspects in the elimination of waste. Classification, separation, storage, and withdrawal. Characterization of by-products and waste. Monitoring, corrective measures and control of the plan. Documents and registers.

Unit 13.- Temperature control plan: Description of the equipment used. Monitoring and calibration activity. Food, equipment, and environment temperature records. Corrective measures and control of the plan.

Unit 14. Training plan for the Handling and Training Staff. Previous staffing skills. Purpose of the plan. Phases to consider in its development, implementation, and evaluation. General and specific knowledge. Monitoring, corrective measures and control of the plan.

## **Methodology**

The course development is based on the following activities:

- 1) Classroom theoretical sessions: consist of lectures supported by ICTs, in explaining the fundamental concepts of the basic themes of the subject.
- 2) Classroom practices for group self-learning activities: sessions will be held at the end of the semester. Each group will have to present, with visual support, the most important aspects of the work done.
- 3) Tutorials: tutorials will be done throughout the course to monitor self-learning work, and other aspects related to the subject. The tutorials will be directed primarily to guide and resolve the doubts of students. Tutorials can be done individually or in groups, depending on the objectives, in person or by TEAMS, by appointment.

### **Non-contact activities**

- 1) Self-learning activities individual or groups: This is a task applied to a prerequisite in which the student will have to do the search for information along with the one provided by the professor. The task will be presented in writing form.
- 2) Group Self-learning activities (HACCP): students will have to do a task on a topic posed by the professor, following formal guidelines and contents common to all groups. The task must be submitted in writing at the end of the semester.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Classroom practice session	6	0.24	6, 4, 3, 2, 1, 5, 7
Classroom theoretical sessions	39	1.56	6, 4, 3, 2
Type: Supervised			
Tutorials	4	0.16	6, 4, 3, 2
Type: Autonomous			
Individual or group Self-learning activities	40	1.6	6, 4, 3, 2, 1, 5, 7
Shelf-study	57	2.28	6, 4, 3, 2, 1, 5, 7

## Assessment

The skills of this subject will be evaluated by:

- First Control: from unit 1 to unit 4, and activities related to individual self-learning carried out in this period with a weight of 25% of the final mark
- Second Control: from unit 5 to unit 14, and activities related to individual self-learning carried out during this period, plus the material treated in the seminars, with a weight of 35% of the final mark
- Individual or group-based self-learning activity (prerequisite): It will have a 10% weight of the final mark.
- Group-based self-learning activities (HACCP case). Both written work and oral presentation will be valued. HACCP activity will have a weight in the final mark of 30% (document 25% and oral presentation 5%).

To be eligible for the retake process, the student should have been previously evaluated in a set of activities equaling at least two-thirds of the final score of the course or module. Thus, the student will be graded as "Not Evaluable" if the weighting of all conducted evaluation activities is less than 67% of the final score.

To pass the course is required:

1. A minimum of 5 points (over 10) in each of the two controls; If this mark is not reached, the student must present to the recovery exam
2. A minimum of 5 points (out of 10) in the group self-learning activity (HACCP). If this mark is not reached, the group will have one week for doing the appropriate modifications to improve this activity.

To average the marks of the self-learning activities, the mark of the controls must be at least 5 points (out of 10).

Single evaluation

- 1) A single examination in which the contents of the entire subject's program will be evaluated. The grade achieved in this synthesis test will correspond to 60% of the final grade for the course, as a 5 (out of 10) is required to pass the course.
- 2) A self-study activity related to a prerequisite with a weight of 10% of the final grade.

3) A self-learning activity related to a HACCP case, weighing 25% written document and 5% oral presentation. A 5 out of 10 is necessary to pass the course. If this mark is not reached, the written document with the appropriate modifications will be delivered on the recovery day.

The single examination will take place on the same day, time, and place as the second control of the continuous evaluation. The delivery of the self-study activities and the oral presentation will be conducted on the same day as the synthesis test. The recovery examination for the single evaluation will take place on the same day, time, and location as the recovery examination for continuous evaluation.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
First control	25	2	0.08	6, 3, 2, 1
Group-based self-learning activities (HACCP case)	30	0	0	6, 4, 3, 2, 1, 5, 7
Individual or group-based self-learning activity (prerequisite)	10	0	0	4, 3, 1
Second control	35	2	0.08	4, 3, 2, 1, 5, 7

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Most relevant bibliography

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