UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: FOOD HYGIENE I
Code: 58320
Type: CORE COURSE
ECTS credits: 6
Degree: 383 - UNDERGRADUATE DEGREE PROGRAMME IN FOOD SCIENCE AND TECHNOLOGY
Academic year: 2022-23
Center: 1 - FACULTY OF SCIENCE AND CHEMICAL TECHNOLOGY
Group(s): 22
Year: 3
Duration: First semester
Main language: Spanish
Second language:
Use of additional languages:
English Friendly: Y
Web site:
Bilingual: N

Lecturer: **MARIA AREVALO VILLENA** - Group(s): **22**

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Lecturer: **MARIA CONSUELO DIAZ-MAROTO HIDALGO** - Group(s): **22**

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2. Pre-Requisites

It is recommended to have previously studied General Microbiology

3. Justification in the curriculum, relation to other subjects and to the profession

Food Hygiene is essential for a graduate in Food Science and Technology. Knowing the possible altering microbiota in the different products and technological processes and the associated risks, it is fundamental to ensure to the consumers the necessary quality of products in the food chain . On the other hand, microbiological controls through appropriate methods, as well as their validations, are tools that the graduate must know and manage throughout his professional life.

4. Degree competences achieved in this course

Course competences

Code	Description
CB02	Apply their knowledge to their job or vocation in a professional manner and show that they have the competences to construct and justify arguments and solve problems within their subject area.
CB03	Be able to gather and process relevant information (usually within their subject area) to give opinions, including reflections on relevant social, scientific or ethical issues.
CB04	Transmit information, ideas, problems and solutions for both specialist and non-specialist audiences.
E06	To know and be able to handle the techniques and procedures of food analysis
E14	To know knowledge on microbiology and parasitology and food toxicology
E15	To analyse and evaluate food risks and hazards. To manage food safety.
E16	To know and manage behaviour guidelines on personal hygiene, food handling and hygienic control of food processing
E17	To know abiotic contaminants that affect foods, evaluation methods and prevention guidelines.
E19	To know the fundamentals of quality and traceability systems and be able to perform their deploy, as well as to evaluate and control the food quality
E22	To perform formation of staff in the food sector
G03	To develop habits of excellence and quality in the professional exercise applying the fundamental human rights, the principles of equality of opportunities and the values of a culture of peace and democratic. Acquiring an ethical commitment and acting according to the professional business ethics and the respect to the environment.
G07	To possess ability of organization and planning, initiative, entrepreneurship and aptitude to be employed in teamworks. To possess capacity of resolution of specific problems of the professional area and to develop the critical reasoning and decision making.
G09	To develop the motivation for quality, the capacity to adapt to new situations and the creativity.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

To develop in the student the aptitude to manage the hygiene and food safety in the different areas of the food sector.

To develop his capacity to search information and its synthesis both individually and in a teamwork.

To manage to promote his aptitudes of leadership and management of teamwork.

To know the principal abiotic contaminants as well as his origin and prevention.

To be capable of transmitting knowledge in particular in the personnel training in topics of hygiene and food manipulation.

To have basic knowledge of food toxicology and methods of toxicological analysis.
To know how to apply a program of hygiene in the food processing industry, markets and restaurants.
To learn the management of the basic and advanced technologies and procedeures in the microbiological laboratory and toxicological analysis of food, as well as and to be able to interpret the obtained results.
To acquire the necessary knowledge to guarantee the food safety of the food and the fulfillment of the procedure of food hygiene in the industry, markets and catering.
To know the origin and prevention of the microbial alterations of the food products.
To know and to be able to apply the System of Analysis of Risks and Control of Critical Points in the Food processing industry.
To know and to be able to apply the technologies of microbiological analysis of the food.
To know the food infection and toxicity produced by bacteria, virus and parasites, as well as its origin, symptoms and prevention.
To manage to promote his aptitudes of leadership and management of teamwork.
To acquire the necessary knowledge to guarantee the food safety of the food and the fulfillment of the procedure of food hygiene in the industry, markets and catering.

6. Units / Contents

Unit 1: MICROBIAL GROWTH
- **Unit 1.1** Food as substrates of microorganisms

Unit 2: TAXONOMY, MICROORGANISMS OF INTEREST IN FOOD HYGIENE
- **Unit 2.1** Bacteria
- **Unit 2.2** Molds
- **Unit 2.3** Yeasts

Unit 3: METHODS OF ANALYSIS OF MICROORGANISMS IN FOOD
- **Unit 3.1** Conventional methods
- **Unit 3.2** Quick methods
- **Unit 3.3** Molecular Biology methods

Unit 4: MICROBIAL SPOILAGE OF FOOD
- **Unit 4.1** Microbial alterations in food: meat, fish, milk, eggs, fruits and vegetables

Unit 5: QUALITY CONTROL AND FOOD SAFETY
- **Unit 5.1** Sampling plans
- **Unit 5.2** Cleaning and disinfection
- **Unit 5.3** Indicator microorganisms. Predictive microbiology

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures		1.2	30	Y	N	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities		0.8	20	Y	Y	
Final test [ON-SITE]			0.08	2	Y	Y	
Project or Topic Presentations [ON-SITE]	Individual presentation of projects and reports		0.12	3	Y	N	
Workshops or seminars [ON-SITE]	Workshops and Seminars		0.14	3.5	Y	N	
Problem solving and/or case studies [ON-SITE]			0.06	1.5	Y	N	
Study and Exam Preparation [OFF-SITE]			0.72	18	Y	N	
Writing of reports or projects [OFF-SITE]			2.88	72	Y	N	
		Total:	**6**	**150**			
		Total credits of in-class work: 2.4					**Total class time hours: 60**
		Total credits of out of class work: 3.6					**Total hours of out of class work: 90**

As: Assessable training activity
Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Test	70.00%	70.00%	The student must demonstrate the acquired knowledge of the entire subject (purely theoretical parts, applied parts, problem solving and exercises, practical assumptions, etc.)
Projects	15.00%	0.00%	Preparation and presentation of a work that addresses issues related to some area of Food Safety and Biotechnology in a transversal manner. Other works may be proposed depending on the development of the course.
Practical exam	15.00%	0.00%	Evaluation of the laboratory practices.
Portfolio assessment	0.00%	30.00%	The portfolio will be made up of the activities carried out throughout the course, which will be clearly explained on the Moodle virtual platform

Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

To be able to average all the evaluable parts, a minimum of 4 must be obtained in each of them.
The course will only be passed if, once that average has been made, the resulting grade is at least 5.
The information related to each of the evaluable activities will be available in the moodle computer application.

Non-continuous evaluation:

To be able to average all the evaluable parts, a minimum of 4 must be obtained in each of them.
The course will only be passed if, once that average has been made, the resulting grade is at least 5.
The information related to the activities that make up the portfolio will be available in the moodle computer application.
The portfolio can be delivered until the day before the official announcement date through the virtual moodle platform.

Specifications for the resit/retake exam:

They do not exist

Specifications for the second resit / retake exam:

They do not exist

9. Assignments, course calendar and important dates

Not related to the syllabus/contents	
Hours	**hours**

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Adams, M. R.	Microbiología de los alimentos	Acribia		84-200-0830-3	1997	
Allaert Vandevenne, Corrie	Métodos de análisis microbiológicos de los alimentos	Díaz de Santos		84-7978-524-1	2002	
Jay, James M.	Modern food microbiology	Springer		9780387231808	2005	
Pascual Anderson, María del Rosario	Microbiología alimentaria : metodología analítica para alim	Díaz de Santos		84-7978-424-5	1999	
	Microbiología de los alimentos normas UNE	AENOR		978-84-8143-698-3	2010	