Information about the subject

Degree: Bachelor of Degree in Marine Sciences

Faculty: Faculty of Veterinary Medicine and Experimental Sciences

Code: 270230 **Name:** Food Hygiene and Safety

Credits: 6,00 **ECTS Year:** The course is not offered this academic year **Semester:** 1

Module: Optional Itinerary: Marine Biotechnology

Subject Matter: Food Hygiene and Safety **Type:** Elective

Department: Animal Production and Public Health

Type of learning: Classroom-based learning

Languages in which it is taught:

Lecturer/-s:

Module organization

Optional Itinerary: Marine Biotechnology

Subject Matter	ECTS	Subject	ECTS	Year/semester
Marine Biotechnology	6,00	Marine Biotechnology	6,00	2, 3, 4/1
Instrumental Techniques	6,00	Instrumental techniques	6,00	This elective is not offered in the academic year 25/26
Sea Food Technology	6,00	Sea Food Technology	6,00	2, 3, 4/1
Genetic Engineering	6,00	Gene Techniques	6,00	This elective is not offered in the academic year 25/26
Food Technology	6,00	Food Technology II	6,00	4/1
Food Hygiene and Safety	6,00	Food Hygiene and Safety	6,00	This elective is not offered in the academic year 25/26

Recommended knowledge

It is recommended to have studied the subject of technology seafood

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 The student understands the relevant concepts of food hygiene, inspection and control.

R2 The student uses food safety and quality management tools.

R3 The student applies risk assessment mechanisms in food handling.

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 are able to apply knowledge to their work in a professional way and have the competences enabling them to state and defend views and opinions as well as perform problem-solving tasks in their field of study.				x
CB3	Students are able to collect and interpret relevant data (generally in their field of study) and give opinions that involve reflection on relevant social, scientific or ethical issues.				x
CB5	Students develop the necessary learning skills to undertake further studies with a high level of autonomy.				x

GENERAL		Weighting			
		1	2	3	4
CG1	Capacity to analyze and synthesize				x
CG2	Capacity to organize and plan				x
CG3	Mastering Spanish oral and written communication				x
CG5	Knowing and applying Basic ITC skills related to marine science			x	
CG6	Capacity to manage information (capacity to look for and analyze information coming from different types of sources)				x
CG7	Decision making				x
CG8	Capacity to work in interdisciplinary and multidisciplinary team				x
CG10	Critical and self-critical capacity				x

CG11	Capacity to learn				x
CG12	Capacity to adapt to new situations				x
CG16	Capacity to apply theoretical knowledge				x
CG17	Research skills			x	
CG18	Sensibility to environmental issues.		x		

SPECIFIC		Weighting			
		1	2	3	4
CE8	Identifying and analyzing new problems and proposing solution strategies				x
CE9	Knowing how to carry out experiments and measurements both in the laboratory and during sample collection			x	
CE10	Knowing how to use planning, designing and implementing research tools while surveying and assessing results		x		
CE11	Knowing how to do fieldwork and laboratory experiments in a safe and responsible way, promoting teamwork				x
CE13	Looking for and assessing different kinds of marine resources		x		
CE19	Deeply understanding operating systems of maritime orientated companies, identifying their problems and proposing solutions				x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3	50,00%	Written test with theoretical and practical questions
R1, R2, R3	30,00%	Delivery of guided assignments, whose objectives and contents will be proposed by the teacher
R1, R2, R3	20,00%	Oral presentation

Observations

This course is not eligible for single evaluation. According to the general evaluation and qualification regulations, the preferred evaluation system will be continuous evaluation. In particular: In the case of the exhibition of works, a continuous evaluation of the team will be carried out regarding meetings carried out, advance in the contents. Valueing the content of the work, attitude and participation of each one of the members with respect to the rest, exhibition orally jointly and individually. The written part of the work will also be valued.
The written test with theoretical and practical questions will consist of a multi-choice multiple choice test, of which only one is true (the poorly answered answers will be subtracted) and short questions that will include aspects seen in class as well as those seen in practices or in seminars. This part will also include questions to assess the knowledge acquired in the laboratory. Attendance at practical sessions is mandatory.
The delivery of directed works, whose objectives and contents will be proposed by the teacher will consist of a series of activities of group or individual work and rapid classroom tests. Students who for justified reason can not attend class, not participating in the activities that may arise during the classroom sessions, must communicate before the day in question to find an alternative to these works. In the case of absence is not justified there will be no possibility of recovery.
The tasks and activities proposed throughout the course will be corrected and evaluated, and there is no possibility of recovering them.
The use of artificial intelligence (AI)-based tools is subject to the discretion of the teacher, who may establish specific limits or conditions depending on the training or assessment activity.

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 9 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	Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge.
M2	Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity.
M3	Activities carried out in spaces with specialized equipment.
M4	Supervised monographic sessions with shared participation.
M5	Application of multidisciplinary knowledge.
M6	Personalized and small group attention. Period of instruction and/or guidance carried out by a tutor to review and discuss materials and topics presented in classes, seminars, readings, papers, etc.
M8	Set of oral and/or written tests used in initial, formative or additive assessment of the student.
M9	Group preparation of readings, essays, problem-solving, seminars, papers, reports, etc. to be presented or submitted in theoretical , practical and/or small-group tutoring sessions. Work done on the university e-learning platform (www.plataforma.ucv.es)

M10 Student's study: Individual preparation of readings, essays, problem-solving, seminars, papers, reports, etc. to be presented or submitted in theoretical, practical and/or small-group tutoring sessions. Work done on the university e-learning platform (www.plataforma.ucv.es).

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS M1	R1, R2, R3	35,00	1,40
PRACTICAL CLASSES M2	R1, R2, R3	6,00	0,24
LABORATORY M3	R1, R2, R3	8,00	0,32
SEMINAR M4	R1	2,00	0,08
GROUP PRESENTATION OF ASSIGNMENTS M5	R2, R3	4,00	0,16
TUTORIAL M6	R1	3,00	0,12
ASSESSMENT M8	R3	2,00	0,08
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK M9	R1, R2, R3	30,00	1,20
INDEPENDENT WORK M10	R1, R2, R3	60,00	2,40
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
UD1 INTRODUCTION	Lesson 1.1. Introduction to hygiene and food safety. hygienic and sanitary inspection. Lesson 1.2. Definitions and basic concepts of hygiene and food safety
UD2 FOOD SYSTEM. ORGANIZATION AND LEGISLATION	Lesson 2.1. Public health in the food sector Lesson 2.2. Agencies and legislation related to the food industry on risk management and food safety: EFSA, AECOSAN, White Paper on Food Safety, Codex Alimentarius, CAE ...
UD 3 TOILET HEALTH QUALITY PRODUCTS. FISHERY PRODUCTS, AQUACULTURE AND DERIVATIVES	Lesson 3.1. Protection of the consumer. food alerts Lesson 3.2. health, nutritional and organoleptic quality of the products and in particular those of marine origin. Product quality certification: IGP, DOP, organic product. Lesson 3.3. Abiotic contamination of food: pesticides, hydrocarbons, heavy metals, drugs, food additives and processing aids, packaging food contact Lesson 3.4. Biotic contamination: bacteria, viruses, fungi and parasites. Lesson 3.5. Foodborne diseases. toxiinfecciones Lesson 3.6. Product labeling. GMO, irradiated foods, functional foods Lesson 3.7. Food allergies and intolerances

UD 4 MANAGEMENT TOOLS FOOD SAFETY AND QUALITY	Lesson 4.1. sanitary inspections. Self-control in the food industry: fisheries and aquaculture. RGSEAA, official sampling. Lesson 4.2. Hygienic design of facilities of the food industry. Fishing industry Lesson 4.3. Good practices manipulated and hygiene in the fishing industry Lesson 4.4. General hygiene requirements and traceability. Lesson 4.5. Hazard analysis and critical control points. Risks evaluation Lesson 4.6. Quality standards

Organization of the practical activities:

	Content	Place	Hours
PR1.	Microbiological analysis	Laboratory	2,00
PR2.	Microbiological analysis	Laboratory	2,00
PR3.	Microbiological analysis	Laboratory	2,00
PR4.	Microbiological analysis	Laboratory	2,00

Temporary organization of learning:

Block of content	Number of sessions	Hours
UD1 INTRODUCTION	1,00	2,00
UD2 FOOD SYSTEM. ORGANIZATION AND LEGISLATION	3,00	6,00
UD 3 TOILET HEALTH QUALITY PRODUCTS. FISHERY PRODUCTS, AQUACULTURE AND DERIVATIVES	14,00	28,00
UD 4 MANAGEMENT TOOLS FOOD SAFETY AND QUALITY	12,00	24,00

References

BASIC:
BÁSICA:
Buncic, ES.(2009) Seguridad alimentaria integrada y salud pública veterinaria. Acribia

Calvo Carrillo, MC., Méndez Martínez (2012) Toxicología de los alimentos. Mc graw-hill

Codex alimentarius. Norma general del Códex para los aditivos alimentarios. CÓDEX STAN

Eduardo Montes, Irene LLoret y Miguel Ángel López. (2009). Diseño y gestión de cocinas. manual de higiene alimentaria y aplicada al sector de la restauración. Díaz de Santos

Elay, RA.(1994) Intoxicaciones alimentarias de etiología microbiana. Acribia

Hobbs, BC, Roberts DE. (1997) Higiene y toxicología de los alimentos. Acribia

Jay, JM., (2009) Microbiología moderna de los alimentos. Acribia
Madrid, A. (2021). Trazabilidad y seguridad alimentaria: con ejercicios prácticos resueltos. AMV
Morcillo, G., Cortés, E., García, J.L. (2013). Biotecnología y alimentación. UNED

Mortimore, S. HACCP. (2001) Enfoque práctico. Acribia

Watson, HD. (1995) Migración de sustancias químicas desde el envase al alimento. Acribia

Horst-Dieter T 2001. Fundamentos de la tecnología de los alimentos. ACRIBIA

Luten J.B. 2003. Quality of fish from catch to consumer. WANENINGEN.

Luten J.B. 2006. Seafood research from fish to dish. WANENINGEN.

Marquez A. 2013. Recepción, almacenaje, y expedición de productos de la pesca. IC.

Nollet L. 2010. Handbook of seafood and seafood product analysis. CRC PRESS

VV.AA. 2006. APPCC aplicado a la comercialización de la pesca. IDEAS PROPIAS.

COMPLEMENTARIA:

ICMSF. (2004) Microorganismos de los alimentos. 7, análisis microbiológico en la gestión de la seguridad alimentaria. Zaragoza: Acribia

I.C.M.S.F. (2016). Microorganismos de los alimentos: 8. Uso de datos para evaluar el control del proceso y la aceptación del producto. Acribia.

Couto, I. (2008) Auditoría del Sistema APPCC. Como verificar los sistemas de gestión de inocuidad alimentaria HACCP. Díaz de Santos

URLs OF INTEREST:

OMS: http://www.who.int/fsf

Codex Alimentarius: http://www.codexalimentarius.net

Autoridad Europea de Seguridad Alimentaria: http://www.efsa.eu.int

Agencia Española de Consumo, Seguridad Alimentaria y Nutrición: http://www.aecosan.msssi.gob.es/AECOSAN/web/home/aecosan_inicio.htm

Dirección General de Salud Pública de Valencia: https://www.sp.san.gva.es/

European Comssion about Health and Food Safety: http://ec.europa.eu/dgs/health_food-safety/index_en.htm

Boletín Oficial del Estado: https://www.boe.es/diario_boe/

Diario Oficial de la Unión europea: http://eur-lex.europa.eu/oj/direct-access.html?locale=es

Federación de Asociaciones de celíacos de España (FACE): http://www.celiacos.org/

Asociación Española de Alérgicos a Alimentos y al Látex (AEPNAA): http://www.aepnaa.org/

MAPAMA: http://www.mapama.gob.es/es/ministerio/servicios/empleo-publico/