Information about the subject

Degree: Bachelor of Science Degree in Veterinary Medicine

Faculty: Faculty of Veterinary Medicine and Experimental Sciences

Code: 1260501 **Name:** Food hygiene and safety I

Credits: 6,00 **ECTS Year:** 4 **Semester:** 2

Module: Module of Hygiene, Technology and Food Safety

Subject Matter: Food Security and Public Health **Type:** Compulsory

Department: Animal Production and Public Health

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

1264A	María Jesús Domínguez Gómez **(Responsible Lecturer)**	mj.dominguez@ucv.es
	Alba Rodriguez Mengod	alba.rodriguez@ucv.es
	Celia Almela Camañas	celia.almela@ucv.es
CAUR	María Jesús Domínguez Gómez **(Responsible Lecturer)**	mj.dominguez@ucv.es

Module organization

Module of Hygiene, Technology and Food Safety

Subject Matter	ECTS	Subject	ECTS	Year/semester
Food Technology	12,00	Food Technology I	6,00	4/1
		Food Technology II	6,00	4/2
Food Security and Public Health	12,00	Food hygiene and safety I	6,00	4/2
		Food hygiene and safety II	6,00	5/1

Recommended knowledge

Is recommended to have study Parasitology, Microbiology and Epidemiology previously.

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 has a global knowledge of the legislative organisation, has the tools to update it and is capable of making judgments based on legislation.

R2 The student understands the most important basic concepts of hygiene and food safety.

R3 The student understands the way an inspection is carried out and the role of the veterinary inspector in the self-monitoring system.

R4 The student has notions about the importance of allergen control and about preventing their presence.

R5 The student identifies the agents or situations that can lead to the appearance of hazards in the agri-food chain.

R6 The student understands the importance of the correct implementation and monitoring of the HACCP that must be carried out in the agri-food industry.

R7 The student is knowledgeable about the legislation affecting food, in particular food subject to veterinary inspection.

R8 The student is aware of the controls that must be carried out during the inspection of raw and auxiliary materials subject to veterinary inspection.

R9 The student is aware of the hygienic and sanitary particularities of the different raw materials or agents that are under the responsibility of the official veterinary control and that are necessary in order to ensure food safety.

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	Capacity to apply knowledge to work or occupation in a professional way and have the competences that are proved by preparing and arguing topics and problem-solving in their specific field of study.				x
CB3	Capacity to gather and interpret relevant data usually within their specific field of study and capacity to make judgments that include reflection on relevant social, scientific or ethical issues.				x
CB4	Capacity to communicate information, ideas, problems and solutions at specialist and non-specialist levels.				x
CB5	Capacity to develop those learning skills needed to undertake further studies with a high degree of autonomy.				x

GENERAL		Weighting			
		1	2	3	4
CG0	Capacity to speak well in public.				x
CG1	Knowing and applying hygiene control, inspection, technology for the production and processing of food for human use from primary production to consumer.				x
CG5	Understanding and applying laws, regulations and administrative provisions in all areas of the veterinary profession and public health, understanding the ethical implications of health in a changing global context.				x
CG6	Developing professional practice, acquiring skills related to teamwork, with an efficient use of resources and quality management.				x
CG7	Identifying emerging risks in all areas of the veterinary profession.				x

SPECIFIC		Weighting			
		1	2	3	4
E57	Knowing and applying food changes, alterations and adulterations.				x
E58	Knowing and applying health inspection criteria and regulations.				x
E60	Knowing and applying establishment and product inspection.				x
E61	Knowing and applying good hygienic practices and the hazard analysis critical control point system.				x
E62	Knowing and applying handling and treatment control.				x
E63	Knowing and applying food safety and public health rules.				x
E64	Knowing and applying food risk analysis: risk identification, management and communication.				x
E65	Knowing and applying research methods on outbreaks of food toxi-infections.				x
E66	Knowing and applying dynamics and demographics of infections and food poisonings.				x
E67	Knowing and applying epidemiology and diagnosis.			x	
E68	Knowing and applying monitoring and surveillance systems.				x

TRANSVERSAL		Weighting			
		1	2	3	4
T1	Capacity of analysis, synthesis, implementation of knowledge for problem-solving and decision-making.				x
T2	Understanding and applying the scientific method to professional practice including evidence-based medicine.				x
T3	Basic knowledge of the veterinary profession: legal, economic, administrative, planning and time management issues and the veterinarians' society together with the importance of monitoring quality, standardization and protocols of veterinary practice.				x

T4	Mastering fluency in oral and written mother tongue communication, listening and responding effectively using a language appropriate to audience and context.			x
T6	Using information technology to communicate, share, search for, collect, analyze and manage information, especially related to the veterinarian practice.			x
T7	Ability to adapt to new situations, self-critical ability, being aware of personal limitations and understanding when and where seeking and obtaining advice and professional help.			x
T8	Efficient and effective work, both independently and as a member of a multidisciplinary team or unit, showing respect, appreciation and sensitivity to the work of others.			x
T9	Keeping an ethical behaviour in the exercise of given responsibilities toward the profession and society.			x
T10	Ability to learn, to research, and to be aware of the need to keep knowledge updated, and attending training programs.			x
T11	Ability to work in an international context, appreciating diversity and multiculturalism, through the knowledge of foreign cultures and customs.			x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5, R6, R7, R9	50,00%	Written assessment of acquired knowledge and skills. The test may consist of a series of open-ended questions or multiple-choice questions about the theoretical contents of the module and/or practical exercises (problem-solving).
R1, R2, R3, R4, R5, R6, R7, R9	15,00%	Evaluation of the use of the practical lessons in the classroom, of problems or computer science, seminars and tutorials, by means of participation, computer-supported problem solving and the elaboration of the corresponding reports.
R2, R5, R7, R9	10,00%	Evaluation of the practical laboratory work, which must demonstrate the competences acquired by the student and his or her ability to use them to solve the different situations and problems that arise in a laboratory; this assessment may consist of 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 delivery of an individual or group report on the work carried out in the laboratory.
R1, R2, R3, R4, R5, R7, R9	15,00%	Evaluation of group work through a system of continuous assessment throughout the course based on the delivery of assignments the objectives and content of which will be proposed by the teacher.
R1, R2, R7, R9	10,00%	Evaluation of activities in which the student must do some research individually and structure information related to each of the topics through a system of continuous assessment throughout the course based on the delivery of papers, the objectives and contents of which will be proposed by the teacher.

Observations

Forms of evaluation:
The written test will consist of a multiple choice test, of which only one is true (wrong answers will subtract) and short questions.
The practical laboratory test will consist of a written or oral examination of the practices carried out in the laboratory. The last day of the practices an oral exam will be carried out in the laboratory, resolving any questions raised by the teacher about any of the aspects seen in the practices, it will be assessed with the corresponding rubric. If the student is suspended, he must present themselves for recovery in the second official examination session. The non-attendance without valid justification to the practices, will imply a discount of points in the final grade. Assess attitude and handling in the laboratory will be also evaluated.
Throughout the course, seminars, group case studies and a practice in the computer classroom will be held. That will be evaluated.
In order to carry out the evaluation of the individual work, during the course and at the end of some topic or block, questions will be asked or cases will be presented that must be solved individually.
In the case of group work, a theme will be proposed or it will be the students who propose it, about something related to the content seen in class. The evaluation will be carried out on the day of the oral presentation, valuing knowledge and presentation. It will be done both individually and collectively. In the event that a student cannot present the planned day, they must notify it well in advance to be able to change the day and always with a justified cause. The non-exposure with the rest of the group will mean a 0 in the evaluation of the student in question, both in the group and in the individual part.

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 On-site training activity aimed primarily at acquiring knowledge acquisition skills. It is characterised by the fact that students are spoken to. Also called master class or exposition, it refers to the oral presentation made by the teacher, (with the support of blackboard, a computer and a projector for the display of texts, graphs, etc.), in front of a group of students. They are expository, explanatory or demonstrative sessions of contents. The size of the group is determined by the limit or physical capacity of the classroom; therefore, it is a single group.

M2 On-site training activity aimed primarily at obtaining knowledge application and research skills. Knowledge is built through interaction and activities. The activity consists of supervised monographic sessions with shared participation (teachers, students, experts). The size of the group is variable, from one large group to various small groups, with a minimum of 6 students to ensure interaction. The evaluation will be based on follow-up records kept by the teacher. Participation and the development of the capacity to problematize should be taken into account.

M4 On-site training activity in groups that takes place in the classroom. It includes working with documents and formulating ideas without handling animals, organs, objects, products, or corpses (e.g., work with articles or documents, clinical case studies, diagnostic analyses, etc.). It would correspond to "Animal-free supervised practical work", type e1, from the European evaluation of EAEVE. The size of the group is variable, in a range of 10 to 20 students.

M5 On-site training activity in groups that takes place in the Computer Lab where the computer is used as support for learning. It includes work with computer models, specific software, Web queries, etc. It would correspond to "Animal-free supervised practical work", type e1, from the European evaluation of EAEVE. The size of the group is variable, in a range of 10 to 20 students.

M6 On-site training activity in groups carried out in the laboratory. It includes the sessions where the students develop laboratory experiments, make dissections or use the microscopes for the study of histological or histopathological samples actively and autonomously, under the supervision of the professor. It also includes work with healthy animals, objects, products, corpses (e.g., animal handling, bacteriological practices, physiology or biochemistry, meat inspection, etc.). It would correspond to the "Supervised practical non-clinical animal work" type e2 of the European evaluation of EAEVE. The size of the group is variable, in a range of 10 to 20 students.

M7 On-site training activity that is defined as the clinical practical work developed in the Veterinary Clinical Hospital or clinical centres ascribed to the University, as well as itinerant clinical practices, mainly with ruminants, equids, pigs, birds and aquatic animals. Also included are necropsies, surgical workshops and training in clinical examination techniques or diagnosis with healthy patients. In these practical sessions the student will always work with animals, which can be healthy (e.g. propaedeutic or obstetrics) or clinical cases (individual or collective), including a protocol or work scheme, being supervised by a teacher and assuming the provision of a service. This type of training corresponds to type e3 of the EAEVE European evaluation called "Clinical Training" (strickly hands-on)". The size of the group will be 5 students or fewer.

M8 A set of on-site training activities carried out by the teacher to provide personalised attention to the student or in small groups with the aim of reviewing and discussing the materials and topics presented in classes, seminars, readings, carrying out projects, etc. The aim is to ensure a truly comprehensive education of the student rather than a mere transfer of information. It is, therefore, a personalized assistance relationship in which the tutor assists, facilitates and guides one or more students in the learning process.

M9 Set of processes that attempt to evaluate the learning outcomes of students expressed in terms of acquired knowledge, capacities, skills or abilities developed and manifested attitudes. It covers a wide range of activities that can be developed for students to demonstrate their training (e.g. written, oral and practical tests, projects or assignments). It also includes the Official Calls.

M10 Autonomous training activity, including activities and coursework, bibliographic searches. The results obtained from unsupervised group and teamwork will be evaluated, with particular attention paid at the time of evaluation to the acquisition of specific knowledge development skills through group work.

M11 Autonomous training activities related to personal study, or the preparation of individual course assignments. The individual preparation of readings, essays, problem solving, papers, reports, etc. will be evaluated through presentations or submissions during theoretical classes, practical classes, seminars and/or tutorials. The evaluation of the submitted papers will consider the structure of the paper, the quality of the documentation, originality, spelling and presentation.

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons (TL) M1	R1, R2, R3, R4, R5, R6, R7, R8, R9	24,00	0,96
Seminars (S) M1	R3, R6	7,00	0,28
In-Classroom Practice (ICP) M4	R1, R2, R3, R6, R7	10,00	0,40
Computer Practice (CoP) M5	R1	2,00	0,08
Laboratory Practice (LP) M6	R3, R5, R8, R9	12,00	0,48
Tutorial M8	R1, R2, R3, R4, R5, R6, R7, R8, R9	3,00	0,12
Evaluation (Ev) M9	R1, R2, R3, R4, R5, R6, R7, R8, R9	2,00	0,08
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Group work M10	R1, R3, R4, R5, R7, R8, R9	40,00	1,60
Individual work M11	R1, R2, R3, R4, R5, R7, R8, R9	50,00	2,00
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. Functions of the veterinary inspector in food safety Lesson 1.2. Definitions and basic concepts of food hygiene and safety
UD2 FOOD SYSTEM. ORGANIZATION AND LEGISLATION	Lesson 2.1. Public health in the food scope Lesson 2.2. Food safety and risk management bodies and legislation: EFSA, AECOSAN, White Paper on Food Safety, Codex Alimentarius, CAE ...
UD 3 SANITARY HYGIENIC QUALITY OF THE PRODUCTS	Lesson 3.1. Protection of the consumer. Food alerts. Lesson 3.2. Sanitary, nutritional and organoleptic quality of the products. Differentiated quality of products: IGP, PDO, ecological product. Lesson 3.3. Abiotic contamination of the food: pesticides, hydrocarbons, heavy metals, drugs, food additives, containers in contact with food Lesson 3.4. Biotic contamination: bacteria, viruses, fungi and parasites. Food transmission diseases Lesson 3.5. Labeling of products. GMOs, irradiated foods, functional foods Lesson 3.6. Food allergies and intolerances
UD 4 MANAGMENT TOOLS OF SECURITY AND QUALITY FOOD.	Lesson 4.1. Sanitary inspections. Self-control in the agri-food industry. RGSEAA, official sampling. Lesson 4.2 Hygienic design of agri-food industry facilities Lesson 4.3. Good handling and hygiene practices Lesson 4.4. General hygiene requirements and traceability. Introduction to the guides to good hygiene practices 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.	Food analysis. Process verification and validation	Laboratory	10,00
PR2.	Food industry visits	Technical visit	3,00

Temporary organization of learning:

Block of content	Number of sessions	Hours
UD1 INTRODUCTION	1,00	2,00
UD2 FOOD SYSTEM. ORGANIZATION AND LEGISLATION	2,00	4,00
UD 3 SANITARY HYGIENIC QUALITY OF THE PRODUCTS	16,00	32,00
UD 4 MANAGMENT TOOLS OF SECURITY AND QUALITY FOOD.	11,00	22,00

References

Basic:

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 Vicente, A. (2021). Analisis de Peligros y Puntos Criticos de Control (APPCC) en las industrias agroalimentarias. Editor Antonio Madrid Vicente
Mortimore, S. HACCP. (2001) Enfoque práctico. Acribia
Watson, HD. (1995) Migración de sustancias químicas desde el envase al alimento. Acribia

Complementary:

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
European Food Safety Authority: http://www.efsa.eu.int
Spanish Agency of Consumption, Food Security and Nutrition: http://www.aecosan.msssi.gob.es/AECOSAN/web/home/aecosan_inicio.htm
General Directorate of Public Health of 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
Oficial Bulletin of de State: https://www.boe.es/diario_boe/
Official Journal of the European Union: http://eur-lex.europa.eu/oj/direct-access.html?locale=es
Federation of Celiac Associations of Spain (FACE): http://www.celiacos.org/
Spanish Association of Food Allergy and latex Látex (AEPNAA): http://www.aepnaa.org/
MAPA: https://www.mapa.gob.es/es/

Universidad Católica de Valencia San Vicente Mártir

Course guide

Year 2024/2025
1260501 - Food hygiene and safety I