



Universitat de Lleida

# DEGREE CURRICULUM **QUALITY MANAGEMENT AND FOOD SAFETY**

Coordination: SANCHIS ALMENAR, VICENTE

Academic year 2022-23

## Subject's general information

<b>Subject name</b>	QUALITY MANAGEMENT AND FOOD SAFETY			
<b>Code</b>	102245			
<b>Semester</b>	2nd Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	Degree	Course	Character	Modality
	Bachelor's Degree in Food Science and Technology	4	COMPULSORY	Attendance-based
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRALAB	PRAULA	TEORIA
	<b>Number of credits</b>	1	1	4
	<b>Number of groups</b>	2	1	1
<b>Coordination</b>	SANCHIS ALMENAR, VICENTE			
<b>Department</b>	FOOD TECHNOLOGY, ENGINEERING AND SCIENCE			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Spanish			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ARANTEGUI JIMENEZ, JAVIER	javier.arantegui@udl.cat	2,6	
SANCHIS ALMENAR, VICENTE	vicente.sanchis@udl.cat	4,4	

## Subject's extra information

### DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

Subject / Subject throughout the curriculum

The food quality and safety management systems area is one of the fastest developed worldwide since its impact in public health and public costs and international trade. For the student management of the quality and safety of products and processes is a necessary complement to the courses of engineering and food technology. Students specializing in agricultural and food industries, at the moment to start this subject are supposed to have completed "Food industry", "Technology of food processing plant and II", "Technology of processed foods animal "and" Designing food processing plants "so that this final stage will consider the implementation of management systems for quality and safety in these industries. The subject of food microbiology will provide some basic knowledge to work in food safety.

## Learning objectives

### Degree en Food Science and Technology:

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### DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

The student who passes the subject must:

- Know the quality management systems, as well as the legislation and food safety management systems.
- Know the hygiene prerequisites and the Hazard Analysis and Critical Control Points (HACCP) system.
- Know the terminology associated with management systems and the necessary documentation.
- Know the traceability management systems in the food industry.

The student who passes the subject must be able to:

- Explain the importance of quality in the business world.
- Describe the quality management model of a company.

- Analyze quality plans.
- Prepare the process control sheets and analyze the information obtained.
- Design a sampling plan in a food industry.
- Identify, develop and interpret the food safety management plan in a food company.
- Take the necessary actions to implement the quality and safety management systems and defend them before an audit.

## Competences

### **Degree en Food Science and Technology:**

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### **DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:**

#### **Basic skills**

CB1. That students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge from the cutting edge of your field of study

CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature

CB4. That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences

CB5. That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

#### **General competences**

CG6. Ability to direct and manage all kinds of agri-food industries, agricultural and livestock farms, urban and / or rural green spaces, and public or private sports areas, with knowledge of new technologies, quality processes, traceability and certification and the marketing techniques and commercialization of food products and cultivated plants.

CG8. Ability to solve problems with creativity, initiative, methodology and critical reasoning.

CG9. Leadership, communication and transmission of knowledge, abilities and skills in the social fields of action.

CG10. Ability to search and use the rules and regulations related to its scope of action.

#### **Transversal competences**

CT1. Correction in oral and written expression

#### **Specific skills**

CEIAA1. Ability to know, understand and use the principles of: Food engineering and technology. Engineering and basic food operations. Food Technology. Processes in the agri-food industries. Modeling and optimization. Quality and food safety management. Food analysis. Traceability.

## Subject contents

### **Degree en Food Science and Technology:**

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### **DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:**

Item 1. What is quality? How to manage quality?

Item 2. Classic tools of quality control.

Item 3. Sampling in the food industry .

Item 4. Statistical process control .

Item 5. Quality assurance and management

Item 6. Food Safety Legislation .

Item 7. Biological, chemical and physical hazards.

Item 8. Risk Analysis .

Item 9. Traceability systems .

Item 10. Prerequisites of hygiene .

Item 11. The system of Hazard Analysis and Critical Control Points . Application cases .

Practical activities

Practice 1. Preparation of sampling plans .

Practice 2. Statistical process control .

Practice 3. Case Studies to develop a plan of hazard analysis and critical control points .

## Methodology

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### **DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:**

Training activity	On-site/Off-site		Off-site		Assessment	Total time/ECTS
	Objective	Hours	Student work	Hours	Hours	Hours/ECTS
<b>Lecture</b>	Description of the basics	36	Study time	50	4	<b>90/3,6</b>
<b>Problem solving</b>	Solving practical cases	8	Problem solving	10		<b>18/0,7</b>
<b>Interactive lecture</b>	Discussion	10	Reports			<b>10/0,4</b>
<b>Guided work</b>			Producing report	30	2	<b>32/1,3</b>
<b>Total</b>		<b>54</b>		<b>90</b>	6	<b>150/6</b>

## Evaluation

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### DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

Written tests		Case studies and problem solving	Other activities
55		20	25

Type of activity	Assessment		Weight
	Procedure	Number	
<b>Lecture</b>	Written tests	2	<b>55</b>
<b>Problem solving</b>	Written report	-	<b>20</b>
<b>Interactive lecture</b>	Classroom activities	1	<b>5</b>
<b>Guided work</b>	Report	1	<b>20</b>
<b>Total</b>		5	<b>100</b>

A mark over 4 in both written tests is required prior average is calculated with all activities.

## Bibliography

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## DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

### Literature

Briz J. 2003, Internet, trazabilidad y seguridad alimentaria. Ed. MundiPrensa.

De las Cuevas, V. 2006. APPCC Avanzado. Guía para la aplicación de un Sistema de Peligros y Puntos de Control Críticos en una empresa alimentaria. Ed. Ideaspropias. Vigo.

De las Cuevas, V. 2006. Trazabilidad Avanzado. Guía práctica para la aplicación de un Sistema de Trazabilidad en una empresa alimentaria. Ed. Ideaspropias. Vigo.

Serra, J.A., Bugueño, G. 2004. Gestión de calidad en las pymes agroalimentarias. Editorial de la UPV.

VV.AA. Especial Sistema de gestión integral: Gestión de calidad. <http://www.fecyt.es/especiales/calidad/1.htm>

Agència Catalana de Seguretat Alimentària. 2004. Guia per a l'aplicació de l'autocontrol basat en el sistema d'Anàlisi de Perills i Punts de Control Crític. Generalitat de Catalunya. Departament de Salut. 141 pp.

Wallace C.A., Sperber W.H., Mortimore S.E. 2011. Food safety for the 21st century. Managing HACCP and food safety throughout the global supply chain. Wiley-Blackwell, 315 pp.

### Other literature

Juran, J.M., Godfrey, A.B. (eds.) (2001), Manual de calidad de Juran. McGraw Hill.