



Universitat de Lleida

DEGREE CURRICULUM  
**QUALITY MANAGEMENT AND  
FOOD SAFETY**

Coordination: SANCHIS ALMENAR, VICENTE

Academic year 2019-20

Subject's general information

<b>Subject name</b>	QUALITY MANAGEMENT AND FOOD SAFETY			
<b>Code</b>	102592			
<b>Semester</b>	2nd Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's Degree in Agricultural and Food Engineering	4	OPTIONAL	Attendance-based
	Bachelor's Degree in Food Science and Technology	4	COMPULSORY	Attendance-based
	Bachelor's Degree in Agricultural and Food Engineering	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>	5	3	2
<b>Coordination</b>	SANCHIS ALMENAR, VICENTE			
<b>Department</b>	FOOD TECHNOLOGY			
<b>Teaching load distribution between lectures and independent student work</b>	<p>GRAU EN CIÈNCIA I TECNOLOGIA D'ALIMENTS:                      Hores presencials: 60                      Hores no presencials: 120</p> <p>DEGREE IN AGRICULTURAL AND FOOD ENGINEERING                      On-site hours: 60                      Off-site hours: 90</p>			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	<p>GRAU EN CIÈNCIA I TECNOLOGIA D'ALIMENTS:                      Català: 30%                      Castellà: 65%                      Anglès: 5%</p> <p>DEGREE IN AGRICULTURAL AND FOOD ENGINEERING                      Catalan: 50                      Spanish: 50</p>			

## Office and hour of attention

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Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
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## 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:

This subject is not taught in English. Please, check the available information in Catalan or Spanish. In case you need information in English, please contact the teaching staff of the subject.

### DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

Students who pass the course must:

- Know the terminology associated to management systems and the necessary documentation for their certification.
- Know the rules and the different options of accreditation and certification of quality management systems, as well as legislation and food safety management systems.

Implement management systems of traceability in the food industry.

Students who pass the course should be able to:

- Explain the importance of quality in the food business.
- Describe the quality management model of a company.
- Analyze quality plans.
- Draw control process sheets and analyze the information obtained.
- Designing a sampling plan in a food industry.
- Identify, develop and interpret the documents necessary for the implementation of a quality management system (ISO 9001), environmental management (ISO 14001 and EMAS), occupational health and safety (OHSAS 18001), food safety (ISO 22000, BRC, IFS, Globalgap) and integration procedure of them all.
- Identifying, developing and interpreting the management plan for food safety in a food business.
- Take the necessary actions to implement quality and safety management systems and defend them against an audit.

## Competences

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

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

General skills

- Capacity for the direction and management of farms and livestock, food industries and urban green spaces and / or rural areas, together with the application of new technologies and processes for quality, traceability and more appropriate marketing techniques .
- Leadership and communication for the transmission of knowledge and skills in the sector.
- Ability to search and use of the rules and regulations relating to its scope.
- Ability to solve problems with initiative and creative proposals, methodology and using critical reasoning.
- Ability to develop activities related to farms, food processing industries and green spaces, from social commitment to the environment and assuming the current needs of environmental protection.
- Ability to work in multidisciplinary and multicultural teams.
- Ability to correct oral and written expression.
- Ability and mastery of information and communications technology.

Specific skills (according Curriculum document)

- Processes in the food industry.
- Food quality and safety.
- Food analysis.
- Traceability.
- Automation and process control.
- Waste management.

In addition, graduates should be able to:

CG6: Analyse specific situations, defining problems, make decisions and implement plans of action in the search for solutions.

CG7: Interpreting studies, reports, data and analyze them numerically.

CG8: Select and usability of information sources available computerized written and related professional activities.

CG9: Use tools and communication available to support the development of their professional activity (strategic competition UDL)

CG10: Working alone and in multidisciplinary team.

CG11: Understand and express themselves in appropriate terminology.

CG12: Presenting information correctly orally and in writing (strategic competition UDL)

CG13: Discuss and argued in various forums.

CG16: Evaluate the integral training, motivation and personal mobility.

CG18: Having a critical and innovative spirit.

CG19: Analyze and assess the environmental implications of their professional activity.

CG20: respect the fundamental rights of equality between men and women, the promotion of human rights and the values ??of a culture of peace and democratic values.

## 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? Classic tools of quality control.

Item 2. Sampling in the food industry .

Item 3. Statistical process control .

Item 4. Rules for quality assurance and management ISO 9000

Item 5. Environmental Management (ISO 14001: 2004), risk prevention and occupational health management( OHSAS 18001: 2007) and social responsibility (ISO 26000 : 2010 . SA8000 ) .

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		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>		1	Producing report	30	2	<b>32/1,3</b>
<b>Total</b>		<b>54</b>		<b>90</b>	<b>6</b>	<b>150/6</b>

## Evaluation

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### DEGREE IN AGRICULTURAL AND FOOD ENGINEERING:

Written tests		Case studies and problem solving	Other activities
65		15	20

Type of activity	Assessment		Weight
	Procedure	Number	
<b>Lecture</b>	Written tests	2	<b>65</b>
<b>Problem solving</b>	Written report	1	<b>10</b>
<b>Interactive lecture</b>	Classroom activities	1	<b>5</b>
<b>Guided work</b>	Report	1	<b>20</b>
<b>Total</b>		<b>5</b>	<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.