

**COURSE DATA****Data Subject**

<b>Code</b>	33986
<b>Name</b>	Quality Management
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	4.5
<b>Academic year</b>	2021 - 2022

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	3	Second term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1103 - Degree in Food Science and Technology	24 - Quality management	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
BADIA VALIENTE, JOSE DAVID	245 - Chemical Engineering
MECA DE CARO, GIUSEPPE	265 - Prev. Medicine, Public Health, Food Sc., Toxic. and For. Med.

**SUMMARY**

Quality Management is a compulsory course of 4.5 ECTS, taught in the second semester of the third degree year in Food Science and Technology. This course is integrated into the module "Management and Quality in the Food Industry" of 13.5 ECTS. Aims to introduce the knowledge and application of the main tools of quality management related to the food industry. Quality figures, quality management systems and environmental quality control and statistical techniques will be developed.

The overall objective of this course is to acquaint students with the concepts and tools of quality management in the food industry. To achieve this overall objective the student should be able to:



- Highlight the ongoing importance of proper quality and environmental management.
- Know the different quality management tools.
- Standards, Rules, regulations and legislation for the implementation of Quality Management Systems (ISO9001: 2008, ISO22000: 2005 and ISO17025: 2005, BRC, IFS, Globalgap) Environmental Management (ISO14001: 2004) their audits (ISO 19011) and integration procedures (UNE 66177:2005).
- Develop tools of a quality and/or environmental management system.
  - To implement statistical tools for the description and control of the natural variability of processes
- Develop and interpret control charts for variables and attributes.
- Understand the sampling procedures.
- Application of the HAPPC criteria in food industry
- Know the different food quality designations in force in the European Union as well as quality brands: concept, requirements, applications and control structures.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

Basic knowledge of statistics, and food chemistry is suggested

## OUTCOMES

### 1103 - Degree in Food Science and Technology

- Capacidad de interpretar datos relevantes.
- Evaluar, controlar y gestionar la calidad alimentaria.
- Be able to prepare a written report in a correct, understandable and organised manner.
- Implantar sistemas de calidad.
- Know and understand the fundamental concepts associated with environmental management.
- Know and understand the fundamentals and the components of quality systems.
- Apply tools and indicators for quality control.
- Be able to document and implement a quality management system according to UNE-EN-ISO standards.



- Be able to document and implement an environmental management system according to UNE-EN-ISO standards.
- Know the procedures for planning and conducting quality audits.

## LEARNING OUTCOMES

- To Know and properly handle the terminology of the subject.
- To know and handle the main basic and specialized bibliographic sources and some sources for the dissemination of computer-related issues of quality management.
- Acquire the ability to synthesize and organize well, information from different sources.
- Be able to express properly, knowledge and relate to previous ones.
- Acquire critical and creative (initiative and autonomy)
- Attitude of cooperation through teamwork, exchange of experience.
- Know how to apply / develop knowledge and skills acquired with a personal attitude that fosters the development of human rights.
- Know the different quality management tools used in food industry.
- Know the different quality/environmental management systems for the food industry.
- Ability to develop a quality/environmental management system.
- Understand and be able to plan an audit.
- Know and be able to apply the methodologies used in statistical process control.

Ability to apply the HAPPC in food industry

## DESCRIPTION OF CONTENTS

### 1. Statistical Process Control

Quality statistical tools.

Statistical processes control.

Natural variability and capacity of the processes.

Total and conditioned probability.

Inspection, sampling and acceptance.

Quality control charts.



## 2. Total Quality: Phylosophy, Politics and Tools

Definition of quality. Quality management. Quality costs. Quality management levels Management systems in the company. Quality systems.

Quality management systems: ISO9001 and EFQM. Documentation control. Requirements of the standard. Implementation and certification. Quality audits

Business environmental management instruments. Approved Environmental Management Systems: The European regulation EMAS and ISO 14001. Elements of an environmental management system. Implementation and certification of an environmental management system based on the ISO14001: 2004 standard

## 3. Quality in Food

Self-control in the agri-food industry: HACCP (Hazard Analysis and Critical Control Points).

Application of the HACCP criteria to the agri-food industry. Self-control in the industry of production of dairy products, wine, cereals and derivatives, oils, and meat products.

Quality standards. BRC (British Retail Council). IFS (International Food Standard). GLOBALGAP. FSSC2000 (Food Safety System Certification).

Quality names in the European Union. Differentiated quality: Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), Guaranteed Traditional Specialty (ETG)

Quality marks. Trademark Law. Collective and quality guarantee marks.

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	38,00	100
Tutorials	2,00	100
Seminars	2,00	100
Development of group work	12,00	0
Development of individual work	15,00	0
Study and independent work	30,50	0
Preparation of practical classes and problem	10,00	0
<b>TOTAL</b>	<b>109,50</b>	

## TEACHING METHODOLOGY

The course is structured around four items: Lecture sessions, practical sessions, tutorial and work / seminars.



Lecture classes: it will give an overview of the topic and have an impact on those key concepts for understanding it. The student will have of additional information in the virtual platform.

Problems / practices: analyze and develop cases and practical examples. Students solve the assumptions made and prepare a report.

Tutorials: Two tutorials, one hour each for group of students. In them, the lecturer will clarify the concepts and solve any doubts related with the proposed problems.

Seminars: Two seminars on topics provided by the teacher or proposed by students and related to the subject of the course. A report and an oral defense of the work developed in the seminars will be presented.

## EVALUATION

The final grade will take into account the following aspects:

SEM - Seminars: Making presentation and discussion of collective reports on topics related to the contents explained in the classroom. The level of understanding of the contents as well as the skills for its presentation and discussion will be assessed. Attendance at the coordinated seminars of the subject is compulsory. Failure to attend them may imply a rating of 0.0 (zero) in this section of the evaluation.

EX-Written test: The exam subject includes the topics presented in the classes with problems and theoretical questions both open and short answer and alternative answer (true-false) with reasoning or test type.

TR- Problems / Classroom practices and tutorials: The memories of the works presented and the student's participation in the different activities / problems carried out in the face-to-face classes will be valued. This section also includes attendance and active participation in the tutoring sessions, the lack of which may imply a grade of 0.0 (zero) in this section of the evaluation.

The qualification will be the maximum of the modalities that are presented below:

Modality A: EX (65%) + TR (25%) + SEM (10%)

Modality B: EX (75%) + TR (15%) + SEM (10%)





A minimum grade of 5.0 is considered in sections EX and TR in both modalities.

In case of not exceeding the minimum grade in one of the sections, the grade will be determined by the one obtained through modality B. In case of not exceeding the minimum grade in the written test, the grade will be EX.

Deliveries of sections TR and SEM are not recoverable between calls.

The evaluation methodology is valid for the first and second call.

In any case, the evaluation system will be governed by the provisions of the Evaluation and Qualification Regulations of the University of Valencia for Degrees and Masters.

## REFERENCES

### Basic

- - Gestión de la Calidad, Editorial AENOR. 2006
- Gestión ambiental, Editorial AENOR. 2006
- Comprender, documentar, implantar y mantener ISO 9000, G. Gallego Laborda (Ed. AENOR). 1998
- Control estadístico de la calidad. D.C. Montgomery (Ed. Limusa Wiley). 2004.
- Cómo implantar un sistema de gestión ambiental según la norma ISO 14001:2004, Granero Castro, Javier. Ed. Fundación Confemetal. 2011.
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<http://www.marm.es/es/alimentacion/temas/calidad-agroalimentaria/calidad-diferenciada/>  
(último acceso mayo 2015).

### Additional

- Manual de control de calidad, J.M. Juran y F. Gryma (Ed. Mc Graw-Hill). 1993
- Gestión de la calidad y gestión medioambiental. Claver Cortés, Enrique; Molina Azorín, José Francisco; Tarí Guilló, Juan José. Ed. Pirámide. 2005.
- Desde ISO 9001 hasta más allá de los sistemas integrados de gestión. Cadrecha Nava, Juan. Editorial : CADRECHA NAVA, Juan. 2003
- Guía para la implantación y el desarrollo de un sistema de gestión medioambiental, A. Rodríguez. (Generalitat de Catalunya, Dept. Medi Ambient). 1997



## ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

### 1. Contents

The contents initially included in the teaching guide are maintained.

### 2. Volume of work and temporal planning of teaching

The workload for the student is maintained, derived from the number of credits, but the methodology of the activities changes with respect to the conventional teaching guide, due to the current situation that makes it necessary to adopt a hybrid teaching model.

### 3. Teaching methodology

- Theoretical teaching: it will be carried out through synchronous sessions (synchronized videoconferences on BBC, or other technology indicated by the Center) and face-to-face. The distribution of students will be done in groups, so that 50% will be in the Faculty classroom while the other 50% will go online, alternating their attendance by weeks. The class will always be held following the schedule (date and time) approved by the Center Board.
- Tutorials: They will all be face-to-face according to the dates set by the course calendar.
- Coordinated or non-coordinated seminars: They will all be face-to-face according to the dates set by the course calendar.

If a state of total confinement took place, all face-to-face teaching would be carried out online.

### 4. Evaluation

If the evolution of the current pandemic allows it, it will be face-to-face and in the terms indicated in the teaching guide. Only in case this is not possible, the evaluation will be carried out through the virtual classroom with tasks or online questionnaires with single or multiple choice questions, which can be complemented with short questions and/or on certain occasions through an oral exam through video conferencing.

The relative weight of theory, practices and seminars is maintained as indicated in the teaching guide.