

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

Code	33986
Name	Quality Management
Cycle	Grade
ECTS Credits	4.5
Academic year	2019 - 2020

Study (s)

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

Subject-matter

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	24 - Quality management	Obligatory

Coordination

Name	Department
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. Introduction to the quality

Definition of quality. Quality Management. Cost of quality. Levels of quality management systems in the enterprise management. Quality systems

2. Statistical control techniques

Quality statistical tools. Statistical Process Control. Natural variability and capacity of processes. Quality control charts. Inspection, sampling and acceptance. Sampling plans.



3. Quality Management Systems

Quality Management Systems: * ISO9001 and EFQM. Control documentation. Requirements of the rule. Implementation and certification. Quality audits

4. Environmental Management Systems

Environmental management tools. Environmental Management Systems. Elements of environmental management system. Implementation and certification of environmental management systems based on standard ISO14001: 2004.

5. Auto-control in food industry

Auto-control in food industry: HAPPC (Hazard analysis of critical control points).

6. Application of the HAPPC criteria in food industry

Application of the HAPPC criteria in food industry: The auto-control in food industry of milk and derivate, wine, cereals and derivate, oils and meat products.

7. Food Quality standards

Quality standards: BRC (British Retail Council). IFS (International Food Standard). GLOBALGAP. ISO 22000, FSSC2000 (Food Safety System Certification)

8. Appellations of quality in the European Union

Appellations of quality in the European Union. Differentiated quality: Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), Traditional Speciality Guaranteed (TSG).

9. Quality brands

Quality brands. Trademark Law. Collective marks and quality assurance



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
TOTAL	109,50	

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

1.-Seminars: Performance report presentation and discussion groups on topics related to the contents explained in class. It assessed the level of understanding of the content and skills for presentation and discussion. Attendance to seminars is compulsory. The no attendance may get a 0.0 in this section of the assessment. The contribution of the final seminar will be 10% and the aspects of evaluation will be agreed for coordinated seminars (will be released in the virtual classroom).

2.- Written test: a) The subject of examination includes topics covered in lectures with open-ended questions and short or alternative response (true-false) with reason and/or multiple choice tests. This test represents 70% of the final grade. A minimum of 5.0 out of 10 is required to get the weighed average.

3. Problems and classroom practices and tutorships: We will evaluate the student's participation and



response to questions submitted in writing and memories. The attendance to tutorships is compulsory. The no attendance may get a 0.0 in this section of the assessment. This item contributes 20% to the final grade.

The subject will be deemed superseded if the following conditions: 1) the written test has a grade equal to or greater than 5 (ranged to 10), and 2) the weighted average mark is equal to or greater than 5 (ranged to 10).

Students in the first round do not exceed the established minimum score on the written test they will keep the rating of the seminar, tutoring and classroom practice report for the second round of the year. The students that have followed practical sessions, seminars and/or tutorships, will get a mark regardless the fact of attending to the written tests.

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. Continguts / Contenidos

Se mantienen las unidades temáticas inicialmente recogidas en la guía docente.

2. Volum de treball i planificació temporal de la docència/Volumen de trabajo y planificación temporal de la docencia

En particular, los contenidos de las unidades 5-6-7-8-9 se imparten mediante videoconferencia, ajustándose a sesiones formativas más reducidas. El tiempo de dedicación total en términos de cómputo de ECTS no se modifica, pero se produce un trasvase de 10 horas presenciales a no presenciales, dedicadas a la asimilación y profundización de contenidos de la videoconferencia y preparación de las pruebas de evaluación.

Se mantienen los entregables propuestos en la asignatura, propios de la sección de Problemas/Prácticas de aula

Las sesiones de tutoría se realizarán de forma on-line, mediante videoconferencia, en los horarios previstos en el calendario académico.

Los seminarios se mantienen. La sesión de exposición pública se realizará por videoconferencia, en los horarios previstos en el calendario académico.

No se considera obligatoria la asistencia virtual a las sesiones de tutoría y seminario.

3. Metodologia docent/Metodología docente

Las sesiones inicialmente planteadas en el aula se transforman en sesiones telemáticas síncronas a través de la herramienta Blackboard Collaborate integrada en Aula Virtual.



La retroalimentación de los entregables se realiza a través de la herramienta de tareas del Aula virtual.

Las tutorías individuales se mantienen, bajo demanda, mediante sistemas de videollamada síncrona.

4. Avaluació/Evaluación

La evaluación consta de 3 secciones:

SEMINARIOS

Se mantiene la modalidad de evaluación de esta sección.

PROBLEMAS /PRÁCTICAS DE AULA y TUTORÍAS

Se mantiene la modalidad de evaluación de esta sección.

EXAMEN

Se mantiene la modalidad de evaluación de esta sección. El examen se llevará a cabo en el horario propuesto por la Facultad de Farmacia, de forma telemática, a través del aula virtual. Será la hora que figure en la actividad Tarea del aula virtual como hora de entrega la que se tenga en cuenta para entender que se ha entregado en plazo. Los estudiantes deberán estar conectados mediante videoconferencia BBC con la cámara activada y el micrófono silenciado.

Si una persona no dispone de los medios para establecer esta conexión y acceder al aula virtual, deberá contactar con el profesorado por correo electrónico en el momento de publicación de este anexo a la guía docente.

La prueba constará de dos partes, en función del tiempo estimado/permitido por respuesta en cada una de ellas:



Parte 1: Conceptos teóricos. La prueba estará basada en una batería de preguntas de respuesta múltiple, que se genera de forma automática y aleatoria a partir de un banco de preguntas de dificultad homogénea. Se estima un tiempo de 2 minutos por cada pregunta. Ponderación = 60%

Parte 2: Problemas numéricos. La prueba estará basada en una batería de preguntas de respuesta múltiple, que se genera de forma automática y aleatoria a partir de un banco de preguntas de dificultad homogénea. Se estima un tiempo de 10 minutos por cada pregunta. Al finalizar la prueba, se enviará a través de aula virtual un documento pdf con la resolución del examen. Ponderación = 40%.

CALIFICACIÓN FINAL

Se necesita una nota igual o superior a 5.0 en el examen para aprobar la asignatura.

Para dar mayor prevalencia a la evaluación continua, se modifica la ponderación final de cada una de las secciones, siendo:

10% Seminario

40 % Problemas / Prácticas de aula y tutorías (Pasa del 20 al 40%)

50% Examen (Pasa del 70 al 50%)

5. Bibliografía/Bibliografía

Se sustituyen los manuales recomendados por los apuntes y transparencias locutadas que se suben al aula virtual.