Universidad Zaragoza

Academic Year/course: 2023/24

28939 - Quality management for the agri-food industry

Syllabus Information

Academic year: 2023/24
Subject: 28939 - Quality management for the agri-food industry
Faculty / School: 201 - Escuela Politécnica Superior
Degree: 583 - Degree in Rural and Agri-Food Engineering
ECTS: 6.0
Year:
Semester: Second semester
Subject type: Optional
Module:

1. General information

One of the professional profiles that a graduate in Agri-Food and Rural Engineering can occupy is the Management of Food Quality and Safety. This subject provides the skills to develop this work in the industry.

The approach of the subject is aligned with some of the Sustainable Development Goals (SDGs), contributing to some extent to to some extent to their achievement:

Goal 2: Zero hunger

Target 2.1. ensure access to healthy, nutritious and sufficient food

Goal 3: Health and wellness

Target 3.9. reduce number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution.

Goal 12: Responsible production and consumption

Target 12.3. reduce food losses in the production and supply chains.

2. Learning results

Upon completion of this subject, the student will be able to:

- To be able to know, understand and use the principles of quality management and food safety in an agri-food industry.

- To be able to document a quality management system applicable to a company in the food industry standardized according to ISO 9001 or other international systems.

- Be able to document and apply accreditation according to ISO 17025 to a company in the food industry.

- To be able to solve questions in which aspects related to quality assurance systems and quality management in an agri-food industrial process are studied in depth . Use of the ISO 22000 standard.

- To be able to explain and apply the different certification and accreditation systems, as well as the validation methodology in food control laboratories.

- Be able to identify hazards that may be present in the food chain and develop protocols to control their presence and survival.

- To be able to establish prerequisite plans with general hygiene measures to ensure compliance with the hygiene requirements to be implemented in the agri-food industries.

- To be able to apply quality control, assurance and management techniques in industrial processes through a HACCP quality assurance system, in order to minimize non-quality costs and failures in the production process.

3. Syllabus

FIRST BLOCK

Topic 1. Introduction Quality

Topic 2. Quality Management ISO 9000 Standards

Topic 3. ISO9001:2008 Standard

Topic 4. Analytic quality assurance

Topic 5. Laboratory Quality Systems. Standard UNE-EN ISO17025/2005

Topic 6. Measurement process in chemistry

Topic 7. Reference materials-calibration

Topic 8. Food analysis

SECOND BLOCK

Topic 1. Quality concept

Topic 2. European Food Safety Policy

Topic 3. Health hazards in food consumption

Topic 4. Prerequisite plans

Topic 5. HACCP System

LABORATORY PRACTICES

- Determination of nutritional quality in food

- Hygienic quality control in foodstuffs and processes

4. Academic activities

Theoretical classes: 30 hours of participative lectures developed with ADD material.

Practical classes: 20 hours. Analysis protocols will be developed and results will be analyzed

Case resolution: 10 hours. The case will be explained and, through supervision, it will be solved by consulting different bibliographic sources.

Theoretical classes provide an introduction to the concept of food quality and safety. The legislative framework that regulates food safety in Europeis interpreted and the role of the food industry is analyzed.

From a practical point of view, chemical analyses are carried out and applied in food chains to achieve safe food.

Study: 87 hours

Assessment: (3 hours)

5. Assessment system

The assessment of this subject will be carried out by means of an individual written test on the theoretical and practical content of the subject . The practical questions will be related both to the material developed during the classroom seminars and to the laboratory practices.

The success rates for the subject in the last three years are: 2019/20: 100%; 2020/21: 100%; 2021/22: 100%