Universidad Zaragoza

Academic Year/course: 2024/25

30840 - Innovation in the Food Industry

Syllabus Information

Academic year: 2024/25
Subject: 30840 - Innovation in the Food Industry
Faculty / School: 105 - Facultad de Veterinaria
Degree: 568 - Degree in Food Science and Technology
ECTS: 5.0
Year: 4
Semester: Second semester
Subject type: Optional
Module:

1. General information

The subject Innovation in the food industry is an elective and is part of the module of Integration of teachings. It has a teaching load of 5 ECTS and is taught in the second semester of the fourth year of the degree . The objective of this subject is to maintain an attitude of updating and innovation with respect to technological, organizational and socio-cultural changes in the food industry, especially in the development of new products, processes and marketing models, for which it is necessary to know how to identify these changes, analysing their implications in order to maintain the spirit of innovation.

2. Learning results

- Is able to explain the concept of innovation and the phases of the development of new products and processes in the food industry, as well as to understand and know how to apply technological surveillance or intelligence
- Is able to describe and apply marketing methods and strategies for new products adapted to new market niches, as well as new socio-food trends
- Is able to explain the development and innovation of food products, relating the properties of their components to health based on scientific evidence, as well as foods adapted to population groups with special dietary needs, recognizing their requirements
- Is able to describe and classify the key technologies of Industry 4.0, the innovations in instrumentation, process control, optimization, equipment and facilities in the food industry, as well as the new strategies for energy efficiency and environmental sustainability in the sector
- Acquires skills in search, management and use of information (in Spanish and English), application of tools related to the implementation of technological innovations in the food industry, as well as the evaluation of innovative products and their functional properties.
- Is able to actively participate in the innovation seminars, with contributions on different aspects related to the topics proposed .

3. Syllabus

- **Theoretical teaching**

Block 1. Introduction to innovation in the food industry. Novel foods and emerging technologies (10 hours).

Block 2. Innovation in functional foods, nutrition and health claims and food supplements ~~novel foods~~(6 hours).

Block 3. Concepts and phases of an innovation project: new products (4 hours).

Block 4. Food Industry 4.0: Key technologies (4.5 hours).

Block 5. Optimization strategies of process variables in the food industry (4.5 hours).

Block 6. Best available techniques in the food industry. Environmental aspects in innovation in the food industry (3 hours).

Block 7. Methods and strategies for the development and commercialization of new products in the food company (3 hours).

- **Practical Teaching**

Computer classroom: Management of sources of information on innovation in the industry (4 hours).

Classroom: Presentation of work from block 2 (2 hours), block 4 (1.5 hours) and block 5 (1.5 hours).

Innovation seminars: Seminars on the development of new products and the technological situation of the sector (6 hours).

4. Academic activities

Lectures (35 hours): sessions with the teacher in which the syllabus will be explained.

Problem solving (11 hours): problem solving sessions and innovation case studies, innovation seminars.

Computerized practices (4 hours): handling of information sources, use of computer tools (web pages, multimedia material, etc.)

Teaching assignments and other activities (13.6 hours): self-monitoring exercises, report writing and assignments.

Study (56.9 hours).

Assessment tests (4.5 hours)

5. Assessment system

The final grade will be obtained by weighting the grades obtained in the different blocks of the subject, with their respective evaluation tests, as long as the individual grade of each of the blocks is equal to or higher than 5 out of 10

Teaching block	Assessment tests.	
Block 1 (32% of the grade)	Theoretical-practical content exercises	
Block 2 (20% of the grade)	Theoretical-practical content exercises	
Block 3 (12% of the grade)	Conceptual design of an innovative product according to specifications: report and group presentation	
Block 4 (12% of the grade)	Production and presentation of a report on 2 technological enablers 4.0	
Block 5 (12% of the grade)	Carry out and present a paper on (a) process simulation, or (b) cogeneration and/or energy recovery system	
Block 6 (6% of the grade)	Report on environmental aspects in the food industry	

Block 7 (6% of the grade)	Design of a product test	
TOTAL (100%)		

Assessment criteria

The evaluation tests will assess the ability to search and synthesize information, to organize and structure the work, the learning and application of the content of the subject, critical thinking and reasoning, the student's autonomous work and the ability to write in a correct, clear and concise way . Similarly, in those papers that are presented orally, the quality and clarity of the presentation, the oratory during the presentation, as well as the reasoning and critical thinking skills during the oral discussion will also be assessed.

If the student has not passed any of the blocks during the semester, they will have the opportunity to pass the subject in the two official calls, taking the evaluation test only of those blocks that have not been passed. This evaluation test will consist of the delivery of work and/or case studies individually related to the teaching material taught within the block to be evaluated. The grades of the blocks passed in the first call may be kept until the second call of the same academic year.

6. Sustainable Development Goals

3 - Good Health & Well-Being
9 - Industry, Innovation and Infrastructure
12 - Responsible Production and Consumption