Universidad Zaragoza

Academic Year/course: 2021/22

68766 - Advances in technology and quality control of dairy products

Syllabus Information

Academic Year: 2021/22
Subject: 68766 - Advances in technology and quality control of dairy products
Faculty / School: 105 - Facultad de Veterinaria
Degree: 631 -
ECTS: 3.0
Year: 1
Semester: Second semester
Subject Type: Optional
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as:

- Lectures: the students will have available in the virtual platform ADD the presentations that will be used in the lectures. In the classrooms there will be Internet connection to have access to complementary material, such as videos and web pages.
- Laboratory practical sessions: they will take place in the Food Science and Technology Pilot Plant and the students will be organized in small groups and will be supervised by the lecturers. These sessions will allow the students to apply the basic knowledge acquired in the lectures.
- Assignment: it will consist on an oral presentation, in PowerPoint format, of a summary of the work carried out in small groups.

4.2. Learning tasks

The learning activities of this course include lectures, laboratory practice sessions and the presentation of an assignment.

The lectures will give students the knowledge on the last advances in the technology and quality control of dairy products. This knowledge will be necessary so that the students understand the content of the laboratory practice sessions and to select and prepare their assignment. The students will participate in the presentation with questions and observations on the works of their classmates.

4.3. Syllabus

The course will address the following topics:

Lectures (18 hours)

- Topic 1. Composition and structure of milk. Functional properties of milk components (4 hours).
- Topic 2. Emerging technologies for preservation of milk products: microfiltration, high pressure, microwaves and electric pulses (2 hours).
- Topic 3. Dairy products: technological and functional applications (2 hours).
- Topic 4. Milk-derived functional products (2 hours).
- Topic 5. Low- fat dairy products (2 hours).
- Topic 6. Sensory analysis of dairy products (3 hours).
- Topic 7. New techniques for quality control of dairy products: structure and texture analysis (3 hours).

Laboratory practicals (6 hours)

- Laboratory session 1. Sensory evaluation of liquid milks (1 hour).
- Laboratory session 2. Elaboration and sensory and texture evaluation of yogurt (2 hours).
- Laboratory session3. Elaboration and sensory and texture evaluation of butter and spread fats (2 hour).
- Laboratory session 4. Elaboration and sensory and texture evaluation of cheese (2.5 hours).
- Laboratory session 5: Sensory evaluation of ice-cream (2.5 hours).

Presentation seminars (2 hours)

The students will give an oral presentation in PowerPoint format of the assignment to the class.

Optional visits:

The students will have the opportunity of visiting one or two dairy industries: Villacorona-El Burgo Cheese (El Burgo de Ebro, Zaragoza) and the Dairy Company Saiona (Olvega, Soria) if the sanitary conditions allow it.

4.4. Course planning and calendar

Further information concerning the timetable, classroom, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Faculty of Veterinary website http://veterinaria.unizar.es/

4.5. Bibliography and recommended resources

Bibliography of the academic year is updated and looked up by the Library webpage. Recommended bibliography at: https://biblioteca.unizar.es/