

## 63017 - Advances in technology and quality control of dairy products

### Syllabus Information

**Academic Year:** 2019/20

**Subject:** 63017 - Advances in technology and quality control of dairy products

**Faculty / School:** 105 - Facultad de Veterinaria

**Degree:** 566 - Master's in Food Quality, Safety and Technology

**ECTS:** 3.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Optional

**Module:** ---

### 1.General information

#### 1.1.Aims of the course

#### 1.2.Context and importance of this course in the degree

#### 1.3.Recommendations to take this course

### 2.Learning goals

#### 2.1.Competences

#### 2.2.Learning goals

#### 2.3.Importance of learning goals

### 3.Assessment (1st and 2nd call)

#### 3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

### 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 practice sessions: 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)**

Practice 1. Sensory evaluation of liquid milks (1 hour).

Practice 2. Sensory and texture evaluation of yogurt (2 hours).

Practice 3. Sensory and texture evaluation of butter and spread fats (1 hour).

Practice 4. Sensory and texture evaluation of cheese (2 hours).

Practice 5: Sensory evaluation of ice-cream (2 hours).

#### **Presentation seminars (3 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).

### **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**