

63013 - Rheology and texture of foods

Información del Plan Docente

Academic Year	2016/17
Academic center	105 - Facultad de Veterinaria
Degree	566 - Master's in Food Quality, Safety and Technology
ECTS	3.0
Course	1
Period	First semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

1. Lectures. 10 classroom teaching hours (1 or 2 hours sessions)

In these lectures fundamentals of food rheological and textural properties and the main instruments and techniques for the measurement will be presented by audiovisual means.

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2. Practical activities. 15 classroom teaching hours (3 or 4 hours sessions).

During these activities the use of two instruments for rheological and textural measurements (controlled stress oscillatory rheometer and texturometer) will be taught. The main tests and probes used in foods will be explained and practical activities with some of them will be done. For the rheometer some work with model foods (like a vegetable oil, a yogurth and a tomato puree) will be done. For the texturometer the use of the equipment and software will be explained to the students. Different tests (compression, penetration, puncture, etc) by using different probes will be performed in the different foods. In the remained practical sessions the students (supervised by the professors) will practice with the equipments to carry out their specific practical research.

3. Seminars: Video sessions and bibliographic scientific search related with food rheological and textural properties and probes. 5 classroom teaching hours.

Other instruments and probes for rheological and textural measurements (different to the equipments described in practical activities) will be showed.

The way for bibliographic scientific search related with food rheological and textural properties research will be taught to the students.

4. Elaboration and presentation of a specific practical work. 20 not presential hours. 4 on site hours (included in practical activities).

5. Written exam about theoretical part. 25 not presential hours for study. 1 on site hour (included in theoretical sessions).

Training activity	Hours number	% On site activities
Lectures	10	100
Practical activities	15	100
Seminars	5	100
Elaboration and presentation of a specific practical work	20	0
Written exam about theoretical part	1	100
Theoretical part study	25	0

5.3.Program

1. Food rheology. Introduction.

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2. Rheological properties and rheological models.
3. Viscometers, rheometers and measurement probes.
4. Practical applications in rheology.
5. Food texture introduction.
6. Food mechanical properties.
7. Food texture instrumental analysis.
8. Texture instrumental analysis application.

5.4.Planning and scheduling

The classes will be preferably during the first quarter of the academic year. The calendar of the master and the program of lectures and practices for this matter will be showed during September in the web of Veterinary Faculty in the next address <http://veterinaria.unizar.es/> . The hours for tutorial will be agreed previously with the matter teachers.

5.5.Bibliography and recomended resources