



## 1. General information

Course: (EDIBLE) OILS AND FATS

Type: CORE COURSE

Degree: 383 - UNDERGRADUATE DEGREE PROGRAMME IN FOOD SCIENCE AND TECHNOLOGY

Center: 1 - FACULTY OF SCIENCE AND CHEMICAL TECHNOLOGY

Year: 4

Main language: Spanish

Use of additional languages:

Web site:

Code: 58329

ECTS credits: 6

Academic year: 2023-24

Group(s): 22

Duration: First semester

Second language:

English Friendly: Y

Bilingual: N

Lecturer: SERGIO GOMEZ ALONSO - Group(s): 22				
Building/Office	Department	Phone number	Email	Office hours
IRICA/Primera planta	Q. ANALÍTICA Y TGIA. ALIMENTOS	926052829	sergio.gomez@uclm.es	Send an email to arrange a day and time of the tutorial.
Lecturer: MARIA DESAMPARADOS SALVADOR MOYA - Group(s): 22				
Building/Office	Department	Phone number	Email	Office hours
Marie Curie, 1a planta	Q. ANALÍTICA Y TGIA. ALIMENTOS	3422	amparo.salvador@uclm.es	Send an email to arrange a day and time of the tutorial.

## 2. Pre-Requisites

It is recommended to have passed the subjects 'Estructura y propiedades de los componentes de los alimentos', 'Bromatología', 'Tecnología de Alimentos' y 'Análisis Sensorial'.

## 3. Justification in the curriculum, relation to other subjects and to the profession

The main objective of this subject is to acquire basic knowledge and skills applied to the composition, characterization and manufacture of main edible fats and oils.

Due to the great relevance in our nutrition, virgin olive oil is studied in more detail.

## 4. Degree competences achieved in this course

## Course competences

Code	Description
CB03	Be able to gather and process relevant information (usually within their subject area) to give opinions, including reflections on relevant social, scientific or ethical issues.
CB04	Transmit information, ideas, problems and solutions for both specialist and non-specialist audiences.
CB05	Have developed the necessary learning abilities to carry on studying autonomously
E04	To know the basic fundamentals of instrumentation and process control in the food industry
E05	To know the composition, phyco-chemical properties, nutritional value and sensory properties of foods
E06	To know and be able to handle the techniques and procedures of food analysis
E08	To be able to apply the technological advances and the innovation in foods and food processing processes in the food industry and to evaluate their acceptability by consumers
E09	To know, optimize and control the production and conservation food processes
E10	To acquire knowledge on equipments and systems for the automatization and control of food processing
E11	To qualify to be able to evaluate the effects of processing on the components and properties of foods
E12	To acquire knowledge on microbiology and biotechnology and their applications in the food processing
E13	To know the organoleptic properties of foods and be able to apply methodology and techniques of sensory analysis
E18	To acquire knowledge on food legislation and normalization. To counsel legally, scientifically and technocally the food industry and consumers.
E19	To know the fundamentals of quality and traceability systems and be able to perform their deploy, as well as to evaluate and control the food quality
E22	To perform formation of staff in the food sector
E24	To assure and improve the nutritional quality and the health properties of ingredients and foods
G05	To understand and to use the English language, both written and spoken, applied to the area of the Food Science and Technology. (To be able to acquire this ability, a series of actions that will be specified in every module will be performed).
G06	To dominate the Technologies of the Information and the Communication (TIC) to user's level, which allows to work in virtual spaces, Internet, electronic databases, as well as with common software packages (e.g. Microsoft Office).
G07	To possess ability of organization and planning, initiative, entrepreneurship and aptitude to be employed in teamworks. To possess capacity of resolution of specific problems of the professional area and to develop the critical reasoning and decision making.
G09	To develop the motivation for quality, the capacity to adapt to new situations and the creativity.

## 5. Objectives or Learning Outcomes

### Course learning outcomes

#### Description

To acquire skills regarding the physico-chemical analysis in the food (edible fats, grape and wine, dairy and meat products).

To acquire basic and applied knowledge on the majority and minority chemical compounds with influence in the sensory properties (color, smell, flavor, texture), or related to technological processes or of instability of the different food studied.

To qualify the student in order to determine the effects of the technological processes on the composition of the above mentioned food.

To have knowledge on the quality control and the procedures that guarantee the traceability of the meat and dairy products, wine, fats and oils.

To advance in the knowledge of the physico-chemical, nutritional and functional properties, as well as the alterations that can experiment the cereals and its derivatives, as well as of different type of drinks.

To learn how to detect the origin of defects in processed foods and their possible prevention or correction.

## 6. Units / Contents

**Unit 1: Introduction to edible fats and oils.**

**Unit 2: Vegetable oils.**

**Unit 3: Fats and oils processing**

**Unit 4: Refining of fats and oils**

**Unit 5: Virgin olive oil**

**Unit 6: Fats of animal origin**

**Unit 7: Practical activities**

## 7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures		1.28	32	Y	N	
Class Attendance (practical) [ON-SITE]	Practical or hands-on activities		0.85	21.25	Y	Y	
Workshops or seminars [ON-SITE]	Project/Problem Based Learning (PBL)		0.1	2.5	Y	Y	
Group tutoring sessions [ON-SITE]	Group tutoring sessions		0.05	1.25	Y	N	
Practicum and practical activities report writing or preparation [OFF-SITE]	Cooperative / Collaborative Learning		1	25	Y	N	
Study and Exam Preparation [OFF-SITE]	Self-study		2.6	65	Y	N	
Progress test [ON-SITE]	Assessment tests		0.12	3	Y	N	
<b>Total:</b>			<b>6</b>	<b>150</b>			
<b>Total credits of in-class work: 2.4</b>			<b>Total class time hours: 60</b>				
<b>Total credits of out of class work: 3.6</b>			<b>Total hours of out of class work: 90</b>				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

## 8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Progress Tests	70.00%	70.00%	Written examen on theoretical knowledge and practical activities
Portfolio assessment	30.00%	30.00%	Assessment of educational activities
<b>Total:</b>	<b>100.00%</b>	<b>100.00%</b>	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

### Evaluation criteria for the final exam:

#### Continuous assessment:

Defined in Campus virtual.

#### Non-continuous evaluation:

Defined in Campus virtual.

### Specifications for the resit/retake exam:

none

### Specifications for the second resit / retake exam:

None

## 9. Assignments, course calendar and important dates

### Not related to the syllabus/contents

Hours	hours

## 10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Alba Mendoza, José	Aceite de oliva virgen : análisis sensorial	Editorial Agrícola Española Ministerio de Med		978-84-85441-92-1	2008	
Comisión Mixta FAO/OMS del Codex Alimentarius	Codex alimentarius. volumen 8. Grasas y aceites y productos	Organización de las Naciones Unidas para la Agr		92-5-303268-5	1993	
Edited R.E. O'Brien; W.E. Farra	Introduction to Fats and Oils technology	American Oil Chemists' Society		0-893997-13-8	2000	
Graciani Constante, Enrique	Los aceites y grasas : composición y propiedades	A. Madrid Vicente Mundi Prensa		84-8476-272-6	2006	
Lawson, Harry	Aceites y grasas alimentarios : tecnología, utilización y nu	Acribia		84-200-0880-X	1999	
Madrid Vicente, Antonio	Manual de aceites y grasas comestibles	A. Madrid Vicente Mundi Prensa		84-87440-60-6 (A. Ma	1997	
Aparicio, Ramón	Manual del aceite de oliva	A. Madrid Vicente, Ediciones Ediciones Mundi-P		84-8476-038-3 (Edici	2003	