



1. General information

Course: UNIT OPERATIONS IN THE FOOD INDUSTRY

Type: CORE COURSE

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

Center: 1 - FACULTY OF SCIENCE AND CHEMICAL TECHNOLOGY

Year: 2

Main language: Spanish

Use of additional languages:

Web site:

Code: 58314

ECTS credits: 6

Academic year: 2022-23

Group(s): 22

Duration: First semester

Second language:

English Friendly: Y

Bilingual: N

Lecturer: PABLO CAÑIZARES CAÑIZARES - Group(s): 22

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Lecturer: FRANCISCO JESUS FERNANDEZ MORALES - Group(s): 22

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Lecturer: MARIA TERESA GARCIA GONZALEZ - Group(s): 22

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Lecturer: ALBERTO RODRIGUEZ GÓMEZ - Group(s): 22

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2. Pre-Requisites

Not established

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

The unit operations are the constituent elements of all the processes of transformation and elaboration of the food industry, due to this reason the graduate in food science and technology must know the bases of design and operation of the unit operations. Both con

The subject basic operations of the food industry belongs to the subject of the same name and is located in the food technology module.

4. Degree competences achieved in this course

Course competences

Code	Description
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
G02	To possess a correct oral and written communication. To transmit information, ideas, problems and solutions to a both specialized and not specialized public.
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 develop in the student the capacity of taking action to propose and solve concrete problems of the food industry, as well as of interpreting the obtained results.

To know the theoretical basis of Unit Operations in the Food Industry based on the flow of fluids, heat transfer and the simultaneous flow of fluids and heat transfer.

To have the scientific and technical knowledge necessary for the design of the equipment and for the operation of the Unit Operations of Chemical Engineering applied to the food industry.

6. Units / Contents

Unit 1: Technological processes in the food industry

Unit 2: Fluid dynamics

Unit 3: Filtration

Unit 4: Centrifugation

Unit 5: Evaporation

Unit 6: Drying process

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Workshops or seminars [ON-SITE]	Case Studies		0.1	2.5	Y	N	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities		0.5	12.5	Y	Y	
Final test [ON-SITE]	Combination of methods		0.14	3.5	Y	N	
Study and Exam Preparation [OFF-SITE]	Combination of methods		3.6	90	Y	N	
Class Attendance (theory) [ON-SITE]	Lectures		0.9	22.5	N	-	
Class Attendance (practical) [ON-SITE]	Problem solving and exercises		0.76	19	N	-	
Total:			6	150			
Total credits of in-class work: 2.4			Total class time hours: 60				
Total credits of out of class work: 3.6			Total hours of out of class work: 90				

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
Practicum and practical activities reports assessment	20.00%	20.00%	
Final test	70.00%	80.00%	
Assessment of problem solving and/or case studies	10.00%	0.00%	
Total:	100.00%	100.00%	

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).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours
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10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Aguado J., Calles, J. A., Cañizares, P., López, B., Rodríguez, F., Santos, A., Serrano, D.	Ingeniería de la industria alimentaria. Volumen I. Conceptos Básicos.	Sintesis			2002	
Brennan, J.G., Butters, J.R., Cowell, N.D., Lilly, A.E.V.:	Las operaciones de la Ingeniería de los Alimentos	Acirbia			1980	
Rodríguez, F., Aguado J., Calles, J. A., Cañizares, P., López, B., Santos, A., Serrano, D.	Ingeniería de la industria Alimentaria. Volumen II. Operaciones de procesamiento	Sintesis			2002	
Rodríguez, F., Aguado J., Calles, J. A., Cañizares, P., López, B., Santos, A., Serrano, D.	Ingeniería de la industria Alimentaria. Volumen III. Operaciones de conservación de alimentos.	Sintesis			2002	