



DEGREE CURRICULUM

# PRACTICAL OF FOOD PROCESSING

Coordination: GARZA GARZA, SALVADOR

Academic year 2023-24

## Subject's general information

<b>Subject name</b>	PRACTICAL OF FOOD PROCESSING			
<b>Code</b>	102234			
<b>Semester</b>	2nd Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's Degree in Food Science and Technology	3	COMPULSORY	Attendance-based
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRALAB		
	<b>Number of credits</b>	6		
	<b>Number of groups</b>	2		
<b>Coordination</b>	GARZA GARZA, SALVADOR			
<b>Department</b>	FOOD TECHNOLOGY, ENGINEERING AND SCIENCE			
<b>Teaching load distribution between lectures and independent student work</b>	Hores presencials: 60 Hores no presencials: 90			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Spanish			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
GARZA GARZA, SALVADOR	salvador.garza@udl.cat	12	

## Subject's extra information

The aim of the course is to do the practical part of the course "102231 Food processing" For this, there will be a number of practices in the pilot plant and the department will visit various food industries.

### Recommendations

Before you take this course, you should have completed the course "102231 Food processing" or an equivalent course.

## Learning objectives

At the end of the course, you should be able to:

- Apply knowledge of food processing
- Designing a thermal sterilization operation
- Write a technical report
- Perform flow chart of a company
- A presentation of technical content

## Competences

### o Specific

CE1. Select and apply the physical and mathematical foundations necessary for the development of other disciplines and the activities of the profession.

CE2. Identify and apply the chemical foundations necessary for the development of other disciplines and the activities of the profession.

CE4. Select and apply the basic concepts of the statistical method, being able to statistically analyze the results of studies and interpret them critically.

CE5. Apply the basic processes of a laboratory and use equipment, handle reagents, meet safety conditions and prepare reports.

CE6. Posing and solving problems by correctly applying the concepts acquired to specific situations.

CE19. Analyze the technological aspects of animal production that determine the quality of raw materials for subsequent transformation.

CE21. Discuss the rationale and apply basic operations to food manufacturing processes.

CE22. Recognize food processing equipment and know how to use it.

CE23. Outline, based on flow diagrams, the processes of food preparation and preservation.

CE24. Identify and evaluate raw materials, ingredients, additives and technological aids for use in the agri-food industry.

CE25. Explain the role of ingredients and food additives.

CE26. Apply basic knowledge about raw materials, ingredients and additives to food formulation.

CE27. Interpret the physical and chemical changes that occur during the different food-making processes.

CE28. Modify the processes of making a food based on some objectives.

CE29. Select equipment and organize food preparation and packaging lines.

CE30. Develop new processes and products.

CE31. Identify and assess the various parts of a project of an agri-food industry.

CE32. Sizing production lines.

CE33. Estimate equipment capabilities for production lines and auxiliary systems needs.

## ◦ **Basic**

CB1. That students have demonstrated to possess and understand knowledge from the base of general secondary education at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study

CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature.

CB4. That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.

CB5. That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

## ◦ **General**

CG1. Analyze specific situations, define problems, make decisions and implement action plans in search of solutions.

CG2. Interpret studies, reports, data and analyze them numerically.

CG3. Select and manage the available written and computerized sources of information related to the professional activity.

CG4. Work alone and in a multidisciplinary team.

CG5. Understand and express themselves with the appropriate terminology.

CG6. Discuss and argue in various forums.

CG7. Recycle in new technological advances through continuous learning.

CG8. Value comprehensive training, personal motivation and mobility.

CG9. Analyze and assess the social and ethical implications of professional activity.

CG10. Have a critical and innovative spirit.

CG11. Analyze and assess the environmental implications in professional activity.

## ◦ **Transversal**

CT1. Correctly present information orally and in writing.

CT3. Use existing IT and communication tools as support for the development of their professional activity.

CT4. Respect the fundamental rights of equality between men and women, the promotion of Human Rights and the values of a culture of peace and democratic values.

## Subject contents

### Practical activities

Throughout this course will be a series of practices in groups of two or three people. Some of the practices are carried out (the list is not final):

- Production of canned foods.

- Preparation of breaded, fresh pasta and bread.
- Design of a thermal sterilization operation.
- Hot air drying.
- Production of meat product.
- Milk quality analysis and dairy production.
- Design of a new food.

Initially, it is planned to make 1 visit to industry or food fair. If this activity could not be carried out normally, it will be exchanged for other that will take place at pilot plant.

Approximately 70% of the time is spent in practice, 12,5% of the visit and the remaining 5% to present practices.

## Methodology

Tipus d'activitat	Descripció	Activitat presencial alumne		Activitat no presencial alumne		Avaluació	Temps total/ECTS
		Objectius	Hores	Treball alumne	Hores	Hores	Hores/ECTS
<b>Laboratori</b>	Pràctica de Laboratori (Grup mitjà)	Execució de la pràctica: comprendre fenòmens, mesurar...	<b>42/(42+15)</b>	Estudiar i realitzar Examen	<b>85/(85+5)</b>	0	<b>127/4.2 (127+20/4.2+1.5)</b>
<b>Visites</b>	Visita a explotacions o indústries	Realització de la visita	<b>15/(0)</b>	Estudiar i Realitzar memòria	<b>5/(0)</b>	0	<b>20/1.5 (0/0)</b>
<b>Aula/</b>	Exposició pràctiques	Realitzar una presentació de contingut tècnic	<b>3</b>				<b>3/0.3</b>
<b>Totals</b>			<b>60</b>		<b>90</b>	0	<b>150/6</b>

**NOTE:** Values in brackets are the assignments in case the initially scheduled visits could not be carried out.

## Development plan

The different activities of the subject will be carried out, except for the visit to a fair in the food sector, during the period of time indicated in the academic schedule.

## Evaluation

It is mandatory to attend all the activities of the subject, as well as the presentation and presentation of the respective reports.

Each activity of the subject will be evaluated on 10.

The grade of the subject will be the arithmetic mean resulting from all the grades of the activities.

In order to pass the course, it is necessary to obtain an average grade equal to or higher than 5.

Those students who fail this assessment, will take an exam on the different activities carried out in the subject, the day and time marked in the official calendar.

## Bibliography

### Bibliografia bàsica

P. Fellows. "Food Processing Technology. Principles and Practice. Second Edition". Woodhead Publishing Limited, 2000, Cambridge, England.

R.L. Earle and M.D. Earle. "Unit Operations in Food Industry – the Web Edition" <http://www.nzifst.org.nz/unitoperations>

## **Bibliografía complementaria**

Juan A. Ordóñez (editor). "Tecnología de los Alimentos. Volumen I. Componentes de los alimentos y procesos" Ed. Síntesis, 1997, Madrid, España.

J.G. Brennan, J.R. Butters, N.D. Cowell y A.E.V. Lilly "Las operaciones de la ingeniería de los alimentos." Ed. Acribia, 1980, Zaragoza, España.

Alfred Bartholomai "Fábricas de Alimentos" Ed. Acribia, 1991, Zaragoza, España.

Robert H. Perry et al. (Eds.). "Manual del ingeniero químico." Ed. McGraw-Hill, 1992, México. Juan A. Ordóñez (editor). "Tecnología de los Alimentos. Volumen II. Alimentos de origen animal." Ed. Síntesis, 1997, Madrid, España.

Cenzano et al. "Nuevo manual de industrias alimentarias" Ed. Mundi-Prensa, 1993, Madrid, España.