



Universitat de Lleida

DEGREE CURRICULUM

# **BACHELOR'S DEGREE THESIS**

Coordination: ODRIOZOLA SERRANO, ISABEL ANDREA

Academic year 2021-22

## Subject's general information

<b>Subject name</b>	BACHELOR'S DEGREE THESIS			
<b>Code</b>	102243			
<b>Semester</b>	UNDEFINED			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's Degree in Food Science and Technology	4	COMPULSORY	Attendance-based
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	TFG		
	<b>Number of credits</b>	6		
	<b>Number of groups</b>	1		
<b>Coordination</b>	ODRIOZOLA SERRANO, ISABEL ANDREA			
<b>Department</b>	FOOD TECHNOLOGY			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			

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## Subject's extra information

Work will be performed at the end of the Practicum. The topic will be of interest to the company and will be specified in the work plan agreed at the beginning of the stay between the tutor, the representative of the company and the student. The time spent on Bachelor's thesis will be 150 hours.

## Learning objectives

The Bachelor's thesis is an autonomous and individual study that allows the student to show the maturity acquired

during their studies; and in the academic field:

- to apply the knowledge acquired during their studies in conducting work related to any of the numerous fields of science and food technology.
- to demonstrate the skills acquired in grade; including those linked to research and organization of information, analysis and interpretation of data, writing a clear and concise written work and their public dissertation.

## Competences

### 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 skills that are usually demonstrated through the development and defense of arguments and problem solving 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 social, scientific, or ethical issues.

CB4. That students can convey 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.

### Generic

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

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

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

### Transversal

CT1. Present information correctly orally and in writing

CT2. Communicate and master a foreign language

CT3. Use existing computer 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

CT5. Apply the gender perspective to the tasks of the professional field

### **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.

CE3. Identify and apply the foundations of Biology and Human Physiology 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. Pose and solve problems correctly applying the concepts acquired to specific situations.

CE7. Identify basic nutrients, their metabolism and their function in the human body

CE8. Recognize the basic concepts related to energy expenditure, energy calculations and recommended energy requirements at different stages of life.

CE9. Describe the systems of digestion, absorption, transport and excretion of nutrients.

CE10. Contextualize the basic concepts of human nutrition with other related sciences and disciplines, in particular with food manufacturing processes

CE11. Define nutritional needs throughout the different stages of life.

CE12. Develop the most recommended mechanisms of nutritional intervention-dietary modifications for different pathologies.

CE13. Design the methodology for the development of functional foods.

CE14. Recognize the chemical composition of foods and their chemical reactions.

CE15. Relate the composition of food with its physical, chemical and technological properties.

CE16. Interpret the physical, chemical and biochemical transformations that occur throughout the manufacturing and storage processes.

CE17. Select and apply methods and instrumentation for physical-chemical and sensory analysis of food.

CE18. Describe the production systems of raw materials of animal and vegetable origin.

CE19. Analyze the technological aspects of animal production that determine the quality of raw materials for further processing.

CE20. Evaluate the characteristics of the main plant varieties and their suitability for the different transformation processes.

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

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

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

- CE24. Identify and evaluate raw materials, ingredients, additives and technological adjuvants for use in the agri-food industry.
- CE25. Explain the function 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 processing processes.
- CE28. Modify the processes of making a food based on some objectives.
- CE29. Select equipment and organize food processing and packaging lines.
- CE30. Develop new processes and products.
- CE31. Identify and evaluate the various parts of a project in an agri-food industry.
- CE32. Dimension production lines.
- CE33. Estimate the capabilities of equipment for production lines and the needs of auxiliary systems.
- CE34. Describe the microbiology and parasitology of food and the microbial implications for food hygiene and safety.
- CE35. Analyze and evaluate food risks and manage food safety.
- CE36. Organize training tasks for staff and food handlers.
- CE37. Identify the necessary hygienic measures to ensure the safety of food.
- CE38. Evaluate the hygienic design of premises, surfaces, equipment and work tools.
- CE39. Prevent health problems related to unhygienic food handling.
- CE40. Use microbiological food analysis techniques
- CE41. Develop chemical, physical, microbiological and sensory analytics of food evaluation.
- CE42. Define quality management systems in the food industry.
- CE43. Design and implement a quality management program in an agri-food industry.
- CE44. Develop a production plan and direct agri-food processes.
- CE45. Establish ways to manage product quality control in the different phases of the production process.
- CE46. Organize the management of by-products and waste from the food industry.
- CE47. Identify, analyze and solve the environmental problems generated by the agri-food industries.
- CE48. Search for and interpret legislative provisions and sources of information that affect the food industry.
- CE49. Design a Business Plan and a Business Organization Scheme.
- CE50. Evaluate an investment financially.
- CE51. Analyze the Agri-Food Productive Sector, analyze food consumption, and estimate the global demand for a food.
- CE52. Identify the marketing and regulation systems of the markets.
- CE53. Design and implement Agri-Food Marketing policies and strategies.
- CE54. Carry out market studies on agri-food products and product innovation.

CE55. Evaluate the ethical and sociocultural aspect of new forms of food, new products, knowing how to adapt to new demands

## Subject contents

The Bachelor's thesis (BT) is a compulsory subject in the curriculum with a teaching load of 6 ECTS credits (equivalent to 150 hours of work). To be enrolled in the BT, it is necessary to have done the other subjects included in the degree.

The BT will be made at the end of the Placement and focus on an inclusive theme of the competences of the degree. This topic will be of interest to the company where they made the practices and will be implemented in the work plan established at the beginning of the Placement.

The BT can also be performed under the same conditions as above, stays abroad within a mobility program. In this case, the approval of the proposal, the deadlines for submission and evaluation are regulated by the rules of mobility available in the office of International Relations of ETSEA.

The BT will take the form of a written document, original and individual, conducted under the supervision of a tutor and orally defended against a commission.

Professor Placement coordinator will guide students on the subject, the development and the suitable tutor.

## Methodology

You can find the rules of the BT at:

<http://www.cta.udl.cat/export/sites/Cta/.content/documents/TFG-GBiotec-i-GCTA-9-de-julio-2015.pdf>

## Development plan

You can find the rules of the BT at:

<http://www.cta.udl.cat/export/sites/Cta/.content/documents/TFG-GBiotec-i-GCTA-9-de-julio-2015.pdf>

## Evaluation

The model for the evaluation rubric can be found at:

<http://www.etsea.udl.cat/export/sites/Etsea/ca/.galleries/Documents/TFG-i-TFM/Rubrica-TFG.pdf>