



Universitat de Lleida

DEGREE CURRICULUM

BACHELOR'S DEGREE THESIS

Coordination: TORRES GRIFO, MERCE

Academic year 2019-20

Subject's general information

Subject name	BACHELOR'S DEGREE THESIS			
Code	102243			
Semester	UNDEFINED			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Food Science and Technology	4	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	TFG		
	Number of credits	6	6	
	Number of groups	0	1	
Coordination	TORRES GRIFO, MERCE			
Department	FOOD TECHNOLOGY			
Important information on data processing	Consult this link for more information.			
Office and hour of attention	A petició			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
TORRES GRIFO, MERCE	merce.torres@udl.cat	0	

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 Competences:

CG2: Apply knowledge into practice in a professional setting and have the necessary skills for argumentation, defence and problem solving within the field.

CG3: Gather and interpret relevant data to make judgements involving a reflection on related social, scientific and ethical issues.

CG4: Convey comprehensive information, ideas, problems and solutions both to specialised and non-specialised audiences.

CG5: Have the necessary learning skills to undertake further study with a high degree of autonomy.

CG6: Analyse specific situations, identify problems, make decisions and implement action plans in search for solutions.

CG7: Interpret studies, reports and data and analyse them numerically.

CG8: Select and manage available written and computerised sources of information related with the professional activity.

CG9: Utilize the existing ICT tools as support to develop the professional activity (strategic competence UdL)

CG10: Be able to work individually and in a multidisciplinary team.

CG11: Be able to comprehend and express concepts using the proper terminology.

CG12: Be able to present oral and written information in a correct fashion (strategic competence UdL)

CG13: Discuss and debate in different situations.

CG14: Be able to communicate fluently in a foreign language (strategic competence UdL)

CG15: Update according to the technological advances through continuous learning.

CG16: Value integral training, personal motivation and mobility.

CG17: Analyse and assess the social and ethical implications of the professional activity.

CG18: Have a critical and innovative mind.

CG19: Analyse and assess the environmental implications of the professional activity.

CG20: Respect the fundamental rights, equality between men and women, the promotion of the human rights and the values of peace and democracy.

- **Basic Sciences**

CE1: Know and be able to apply the physics and mathematics fundamentals needed to develop the professional activities and other disciplines.

CE2: Know and be able to apply the chemistry fundamentals needed to develop the professional activities and other disciplines.

CE3: Know and be able to apply the biology and human physiology fundamentals needed to develop the professional activities and other disciplines.

CE4: Know and be able to apply the basic concepts of statistics, and make a statistical analysis of the results of studies and critically interpret these.

CE5: Know the basic processes of a lab, be able to use lab equipment, work with reagents, comply with safety regulations and draw reports.

CE6: Be able to pose and solve problems applying the concepts learnt to specific situations.

- **Nutrition and health**

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

CE8. Know the basic concepts related with energy expenditure, energetic calculations and basic recommended energetic requirements in the stages of life.

CE9. Know and understand the nutrient digestion absorption and excretion systems.

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

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

CE12. Know the mechanisms of the recommended nutritional intervention – diet modifications for different pathologies.

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

- **Food science**

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

CE15. Capacity to relate the composition of food with their physical and chemical properties and their

technological possibilities.

CE16. Capacity to interpret the physical, chemical and biochemical transformations that take place during food elaboration and storage.

CE17. Know and be able to use the methods and instruments for physical, chemical and sensory analysis of food.

- **Food technology**

CE18. Know the production systems of animal and plant raw materials.

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

CE20. Assess the characteristics of the main plant varieties and their potential for different transformation processes.

CE21. Know the fundamentals and how to apply basic operations to the processes of food manufacturing.

CE22. Know the equipment for food processing and be able to use it.

CE23. Outline the processes of food elaboration and preservation based on flow charts.

CE24. Identify and evaluate raw materials, ingredients, additives and technological co-adjuvants in use in the agrifood industry.

CE25. Know the function of food ingredients and additives.

CE26. Apply basic knowledge on raw materials, ingredients and additives to the formulation of food.

CE27. Interpret the physical and chemical changes produced during food elaboration.

CE28. Modify the processes of food elaboration based on specific objectives.

CE29. Select equipment and organise food elaboration and packaging lines.

CE30. Develop new processes and products.

CE31. Identify and value the different parts of a project of agrifood industry.

CE32. Size up production lines.

CE33. Estimate equipment capacity for the production lines and the need for auxiliary systems.

- **Food safety**

CE34. Know the food microbiology and parasitology and the microbial implications in food hygiene and safety.

CE35. Analyse and evaluate food hazards and manage food safety.

CE36. Carry out the staff training in food handling techniques.

CE37. Identify the necessary hygiene measures to guarantee food innocuousness.

CE38. Evaluate the hygienic design of premises, equipment and tools.

CE39. Prevent health problems related to non-hygienic food handling.

CE40. Use the food microbiological analysis techniques

CE41. Carry out the chemical, physical, microbiological and sensory analyses for food evaluation.

- **Quality Management in the Food Industry**

CE42. Define the quality management systems in the food industry.

CE43. Design and apply a quality management program in an agrifood industry.

CE44. Draw up a production plan and steer agrifood processes.

CE45. Establish product quality control procedures in the different stages of the production process.

CE46. Organise the management of food industry by-products and residues.

CE47. Identify, analyse and solve the environmental issues generated by agrifood industries.

CE48. Seek and interpret the regulations and sources of information relevant to the agrifood industry.

CE49. Design a Business Plan and a Business Organisational Framework.

CE50. Economically assess an investment.

CE51. Analyse the Agrifood Production Sector and the food consumption, and make an estimation of a food global demand.

CE52. Know the trade and market regulation systems.

CE53. Design and apply Agrifood Marketing policies and strategies.

CE54. Carry out market studies about agrifood products and product innovation.

CE55. Evaluate the ethical and sociocultural aspects of the new forms of food and new products, adapting to the 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>