

# SYLLABUS

## *Bachelor Degree in Culinary and Gastronomic Sciences*

Code-Course	<b>054228 – Innovation and Development of the Gastronomic Products</b>		
Thematic Area	Research and culinary innovation	Year	4th
Course Type	MANDATORY	Credits	6 ECTS
In-class Hours	60	Hours of individual work	90

### BRIEF COURSE DESCRIPTION

Although a balanced diet is based on the consumption of whole and fresh foods, the percentage of professionally produced food that we consume today has a direct impact on our health and our economy. Either to feed us to restaurants, canteens, hospital centers, hotels, airports (including airplanes) or prepared dishes from the retail channel we have outsourced a good part of the management and responsibility for our food.

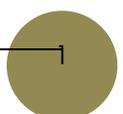
This diversification involves the specific training of cooking professionals in management processes and design (both references and production) very different from those used in conventional restaurants, as the operational requirements and health control in large structures of food production are much higher.

In this subject the student will learn to use knowledge and gastronomic principles to design balanced and high nutritional value products according to production requirements, regulations and traceability monitoring of large format kitchens.

### BASIC SKILLS

BS2 - Students can apply their knowledge to their work or vocation in a professional way and have skills typically demonstrated through the production and defence of arguments, and the solving of problems within their area of study

BS5 - Students will develop the learning skills necessary to undertake further studies with a high degree of autonomy



## GENERAL SKILLS

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CG3 - Solving situations with initiative and autonomy, incorporating a creative and innovative spirit

CG8-Formulating hypotheses, collecting and interpreting information following the scientific method

## SPECIFIC SKILLS

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CE16 - Informing and providing technical advice to the food industry and consumers to design intervention and training strategies in the culinary and gastronomic field

CE21 - Developing new processes and products, generating new opportunities in the culinary and gastronomic field

## LEARNING OBJECTIVES

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- Obtain knowledge to facilitate the design and formulation of new foods.
- Know the new technologies for food processing and preservation.
- Acquire the criteria to select the type and scale suitable for any process of the gastronomic industry.
- Apply research techniques in the culinary scientific field.
- Apply scientific knowledge in the applications of optimization of culinary processes.

## THEMATIC CONTENTS

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1. Introduction and contextualization of the subject. Schedule of development of teaching and practical contents.
2. Food key principles for the composition of menus balanced in nature and quantity of nutrients.
3. Integrated cooking and pasteurization processes. Initial concepts System: environment and cooking object. Processes: Temperatures, pressure, degree of pasteurization.
4. Technology and Materials Packaging, cooking and pasteurization equipment. Cooking supports. Food processing polymers.

5. Sample design-empirical pricing. Formulation of processes by stages. Structuring of industrial production. Regulations for label statements.
6. Design, formulation and development of compulsory food product (common to all students, in on-site exam format).
7. Design, formulation and development of free food product (as a practical project within the subject).

## LEARNING METHODOLOGY

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1. Theoretical teaching stage. Themes 1-5.
2. Project development stage. Themes 6 and 7 Schedule of delivery of samples of personal evolution and schedule of shifts of access to equipment for development.

## ASSESSMENT SYSTEM

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The assessment is the process of evaluation of the degree of assimilation of the learning by the student in relation to the competences of this subject.

In this sense, the student may choose to be assessed continuously during the course or through a single assessment at the end of the established period.

**Continuous Assessment:** this consists of the evaluation of the teaching-learning process from the continuous monitoring during the course of work carried out by the student and the learning incorporated.

**Final Assessment:** this consists of the evaluation of this process at the end of the established period, for all students who, for justified reasons, cannot attend classes regularly. This assessment is made based on the evidence that this subject has designed for these purposes.

Rating system:

Assessment systems	Continuous	Final
Attendance and participation in the classroom	5%	---
Practical exercises for assessment	30%	

<b>Individual work</b>		40%
<b>Transversal group work</b>		
Written assignment	10%	---
Oral presentation	25%	---
<b>Final written exam</b>	30%	60%

### **Review and Reassessment of the Course**

The student has the right to review all the evidences that have been designed for the assessment of learning.

If a student fails to achieve the learning objectives of the course, in order to opt for the reassessment of the course and submit a new reassessment task, it will be mandatory to fulfil one of these conditions:

A) Students must have been awarded a mean grade of 5.0 or higher in relation to the activities carried out throughout the semester without taking into account the final exam/s (both continuous assessment and single assessment) and having attended the final exam.

B) Students must have been awarded a final minimum grade of 4.0 in the overall course.

After the reassessment, the maximum grade is 5.0 in the overall course.

### **SOURCES OF BASIC INFORMATION**

#### **Basic and extension bibliographic resources:**

- *Química Culinaria*. A Coenders. Ed. Acribia.
- *LA COCINA Y LOS ALIMENTOS*. Harold Mcgee. Ed Debate
- *INTRODUCCIÓN A LA INGENIERIA DE LOS ALIMENTOS*, Singh-Heldman. Ed. Acribia
- *MANUAL DE TRATAMIENTO TÉRMICO Y ENVASADO DE ALIMENTOS*. Miranda-Zamora. Ed. Acribia
- *LÈXIC CIENTÍFIC-GASTRONÒMIC*. Alícia & ElBullitaller
- *LOS ELEMENTOS CIENTÍFICOS DE LA GASTRONOMIA*. Amich-Galí, Ed. Eopro.

- *SFERIFICACIONES Y MACARRONES*. Claudi Mans. Ed. Ariel.
- *TRATADO ELEMENTAL DE COCINA* Hervé This. ed Acribia, s.a.
- *LOS SECRETOS DE LOS PUCHEROS* Hervé This. . Ed. Acribia
- *QUÉ COMEMOS?* Pere Puigdomènech. Ed. Planeta Actual*THE OMNIVORE'S DYLEMA*. Michael Pollan.
- *YLEMA*. Michael Pollan

#### **Webs- regulations .:**

- ACSA. Agència catalana de seguretat alimentària. [acsa@gencat.cat](mailto:acsa@gencat.cat)
- AESAN. Agència española de Seguridad alimentaria y nutrición.

[http://rgsa-web-aesan.mssi.es/rgsa/formulario\\_principal\\_js.jsp](http://rgsa-web-aesan.mssi.es/rgsa/formulario_principal_js.jsp)

- EFSA. European food safety Agency. <http://www.efsa.europa.eu/>

#### **Nutritional composition of food:**

- USDA ALIMENTS COMPOSITION DATABASE. <https://ndb.nal.usda.gov/ndb/search/list>
- SELFNUTRITION DATA. <http://nutritiondata.self.com/>

#### **Businesses in the food and technology sector:**

- VAC BCN, s.l. Manufacturers and distributors of vacuum bags and heat-sealing trays
- SEALED AIR. Manufacturers and distributors of trays and films for the food industry.
- SURDRY Food sterilizers (Biskaia). Manufacturers of autoclaves for the food industry.
- NUTRIPACK. Manufacturers of trays for cooking and preserving. Manufacturers of lidding machinery.
- EFABIND.. (Murcia). Manufacturers of lidding machinery
- MEDITERRANEA AGUA DE MAR. Extractors and marketers of sea water for food uses and technical office for the development and set up of industrial installations for the usage of sea water.

- GRUPO CORSA. Marketers, installers and technical service of equipments for water treatment, osmosis and mineralization, both at an industrial and domestic level.
- INKOA. Monitoring of food processes. Design of industrial food plants. VAC BCN, s.l. Fabricants i distribuïdors de bosses per buit i safates termosegellables
- SEALED AIR. Fabricants i distribuïdors de barquetes i films per indústria alimentària.
- SURDRY Food sterilizers (Biskaia). Fabricants d'autoclaus per alimentació.
- NUTRIPACK. Fabricants de barquetes per cocció i conservació. Fabricants de maquinària termoselladora.
- EFABIND. (Múrcia). Fabricants de maquinària termo-segellant
- MEDITERRANEA AGUA DE MAR. Extractors i comercialitzadors de aigua de mar d'ús alimentari i oficina tècnica de desenvolupament i muntatge de instal·lacions industrials per l'ús d'aigua de mar.
- GRUPO CORSA. Comercialitzadors, instal·ladors i servei tècnic d'equipaments de tractament d'aigües, osmosis i mineralització, tant a nivell domèstic com industrial.
- INKOA. Monitorització de processos alimentaris. Disseny de plantes alimentaries industrials.