



Centre adscrit



UNIVERSITAT DE
BARCELONA

COURSE CONTENT

Academic year 2020/2021

Code-Course	054405 - Advanced technological innovation		
Thematic Area	Science and cuisine	Year	Fourth
Course Type	Optional	Credits	6 cr. ECTS
In-class hours	50 hours	Hours of individual work	100 hours

BRIEF COURSE DESCRIPTION

The development of cuisine and gastronomy during the last 60 years has been accompanied by the introduction of new techniques and technologies, some of them adopted from the food industry and others introduced from diverse fields such as Physics, Chemistry or Engineering. On the whole, cooking has experienced a revolution both in the industrial field and in the field of catering, which has led to the appearance of new products and the introduction of new appliances and utensils in commercial catering.

This subject aims to give a historical view of the technology applied to cooking and to deepen in those techniques that are being developed with more intensity at the present moment in the catering and the food industry.

SPECIFIC SKILLS

SS16 Informing and advising scientifically and technically the food industry and consumers to design intervention and training strategies in the field of culinary and gastronomic science

LEARNING OBJECTIVES

- Design the most efficient system and production process, determining the management of the production and distribution table, which ensures the logistics system of the operating centers according to the applicable legislative norms.
- Adapt the logistics process to the production system according to the production demand to ensure the supply to all distribution centers.
- Design the most efficient system and production process, determining the direction of the production and distribution table, which ensures the logistics system of the centers according to the applicable legislative norms.

THEMATIC CONTENTS

1. Block I: Science and technology in the food industry and commercial catering.



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- 1.1. Introduction
- 1.2. What is science? What is technology?
- 1.3. The origins of the food industry.
- 1.4. Science and technology in commercial gastronomic catering.
2. Block II: Fermentation techniques and technologies.
 - 2.1. Introduction
 - 2.2. Bacteria
 - 2.3. Fungi
 - 2.4. Yeast
 - 2.5. Elaborations
3. Block III: Digital gastronomy.
 - 3.1. 3D printing.

LEARNING METHODOLOGY

On-site activities: theoretical classes (30h), laboratory practices (20h).

ASSESSMENT SYSTEM

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. A person who has chosen to follow this type of assessment will not be able to change to the single assessment.

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 based on the evidence that this subject has designed for these purposes.

To apply for this method, it must be requested through the assessment section of the Virtual Campus within the first 15 days from the beginning of the subject.



WEIGHTING SYSTEM OF GRADING

The concepts that will be assessed and their weight in the final grade will be as follows:

ASSESSMENT SYSTEMS	Continuous	Final
Partial Exam Block I	20	---
Presentation of a poster Block II	10	---
Essay Block III	20	---
Final exam (Practices and theory Block II)	50	---
Final exam Block I	---	20 %
Final exam Block II	---	60 %
Final exam Block III	---	20 %

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:

- Students must have been awarded a 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.
- 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

Barcelona, Tusquets editores.

- Bruegel, M. (Ed.). (2013). *A Cultural History of Food in the Age of Empire*. Berg.
- Bentley, A. (2012) *A Cultural History of Food in the Modern Age*. Berg.
- Contreras, J. (Ed.). (1995). *Alimentación y cultura: necesidades, gustos y costumbres* (Vol. 3). Edicions Universitat, Barcelona.



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- McGee, H. (1986) Science and the Study of Food. *Oxford Symposium on Food and Cookery 1984 & 1985: Proceedings*. London: Prospect Books.
- Garrabou, R. (1994) Revolución o revoluciones agrarias en el siglo XIX: su difusión en el mundo mediterráneo. En: Sánchez Picón, A. (coor.) *Agriculturas mediterráneas y mundo campesino : cambios históricos y retos actuales: actas de las Jornadas de Historia Agraria. Almería, 19-23 de abril de 1993*
- Pedrocco, G. (2004). La industria alimentaria y las nuevas técnicas de conservación. En: Flandrin, J.L y Montanari, M. (eds.) *Historia de la Alimentación*. Trea Ediciones.
- Sandor Ellix Katz (2012) *The Art of Fermentation: An In-Depth Exploration of Essential Concepts and Processes from around the World*. Chelsea Green Publishing.
- Nathan Myrhvold i Francisco Migoya (2017) *Modernist Bread: the Art and Science*. The Cooking Lab.