VNIVERSITAT DE VALÈNCIA

Course Guide
33945 Culinary Technology

COURSE DATA

Data Subject	
Code	33945
Name	Culinary Technology
Cycle	Grade
ECTS Credits	6.0
Academic year	2024 - 2025

Study (s)

Degree	Center	Acad. year	Period
1205 - Degree in Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	3	Second term
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	5	Second term

Subject-matter

Degree	Subject-matter	Character
1205 - Degree in Human Nutrition and Dietetics	13 - Culinary technology	Obligatory
1211 - Double Degree in Pharmacy and Human Nutrition and Dietetics	1 - Asignaturas obligatorias del PDG Farmacia-Nutrición Humana y Dietética	Obligatory

Coordination

Name	Department
GANDIA GOMEZ, MONICA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.
PARDO HAYA, ESTER	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

SUMMARY

The Culinary Technology course is a obligatory subject of the third year of the Degree of Human Nutrition and Dietetics and fifth year of Dual and Joint Degree in Pharmacy and Human Nutrition and Dietetics, which is taught in the Faculty of Pharmacy and Food Sciences, University of Valencia. This course has a total of 6 ECTS taught in the second term.

Different cooking techniques are used in preparation of food and they will significantly affect to the sensory and nutritional quality of food. On the other hand, the evolution of social habits, especially in developed countries has changed the way we eat, both on the quality of our diet and the type of cuisine that are made in our menus. So, in the exercise of the professional work of a dietitian, a thorough knowledge of culinary techniques, as well as the effect caused in the properties of food, is essential for the assessment of diets, and to establish recommendations in food preparation. It is also intended to obtain ideas about the spaces in which these processes take place. Thus culinary technology appears as one of the minimum training content must exist within the degree in Human Nutrition and Dietetics.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

To study the subject it is interesting to have basic knowledge of Physics, Chemistry and Biochemistry of foods that will allow them to understand the changes in the composition of foods and the theoretical concepts of Culinary Technology. Moreover, it is also interesting to have knowledge in Food Science, Nutrition and Food Technology, without which they would be very difficult to understand some issues developed in the subject.

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1205 - Degree in Human Nutrition and Dietetics

- Recognise the essential elements of the profession of the dietitian-nutritionist including ethical principles, legal responsibilities and the practice of the profession, apply the principle of social justice to professional practice, and work with respect to people, their habits, beliefs and cultures, from a gender perspective.
- Practise the profession with respect for other health professionals and acquire skills to work in teams.
- Communicate effectively, both orally and in writing, with people, with health or industry professionals and with the media, knowing how to use information and communication technologies, especially those related to nutrition and lifestyles.
- Recognise the need to maintain and update professional competence, with particular emphasis on independent and lifelong learning of new facts, products and techniques in the field of nutrition and food, and on motivation for quality.
- Know, judge and know how to use and apply the sources of information related to nutrition, food, lifestyles and health.

- Know the changes undergone by food as a result of technological and cooking processes.
- Understand the processes of culinary transformation of food and their implications in diet therapy.
- Know mass catering establishments and their different types, organisation and running.
- Know the cooking techniques that optimise the organoleptic and nutritional characteristics of foodstuffs, with regard to traditional gastronomy.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

SKILLS TO ACQUIRE

- Understand and critically evaluate the culinary treatments that may suffer fresh and processed foods leading to the production of cooked food and its implications for diet therapy.

- Knowing how these treatments affect the chemical composition of foods.

- Understand and assess critically the consequences in the biochemical, physical, nutritional and organoleptic qualities of cooked foods.

- Knowing catering spaces and its different variants, as well as its organization and operation.

SOCIAL SKILLS AND ABILITIES

- Critical thinking that allows them to argue and defend judgments with integrity and tolerance.

- Ability to work individually and in groups, in concert.

- Ability to apply knowledge to practice.

- Ability to build a written text or an oral presentation understandable and organized.

DESCRIPTION OF CONTENTS

1. Introduction

Topic 1. Introduction to Culinary Technology. Definition of Culinary Technology. Objectives. Some milestones.

Topic 2. Kitchen communities. Defining kitchen. The classic cuisine. Key factors in the evolution of catering. Identification of variants of catering.

Topic 3. The culinary space. Areas of the culinary space. Personal. The rational distribution

2. Preparative culinary operations

Topic 4. Preparative culinary operations without application of heat. Operations of sorting, cleaning and cutting.
Topic 5. Preparative culinary operations without application of heat. Operations of binding ingredients. Emulsions and types of emulsion. Production of cold sauces.
Topic 6. Preparative culinary operations with application of heat. Operations of binding ingredients. Development of funds and hot sauces.
Topic 7. Spice and flavoring. Spices, herbs and essential oils. Factors affecting the taste. Confit. Marinade. Adobo.

3. Cooking: operations with heat

Topic 8. Cooking I. Application of heat to food. Overview cooking. The generation of heat and transfer to food. Changes of heat on food.

Topic 9. Cooking II. Chemical and physical changes on food. Chemical changes of food by the heat. Maillard and caramelization reactions. Physical changes of food. Culinary application.

Topic 10. Dry cooking I. The roast and Smoking. Preliminary considerations about roast. Direct roast or grilled directly on the grill. Indirect roast in the oven. Smoking.

Topic 11. Dry cooking II. Frying. Overview frying. Operations prior to frying. Characteristics of frying oils. Effect on food.

Topic 12. Cooking in aqueous media. Overview and types of cooking in aqueous media. Importance of water in the application of heat. Effect on food.

Topic 13. Mixed Cooking. Overview and types of mixed cooking.

Topic 14. Vacuum cooking. Overview. Process. Advantages and disadvantages.

Topic 15. Microwave cooking. Fundamentals and physical principles of heating. Penetration depth of microwaves. The process of heat transfer. Applications to food.

4. Practices

BLOCK 1: Emulsions and Sauces
BLOCK 2: Microwave
BLOCK 3: Bakery and pastry-making
BLOCK 4: Cooking the egg and pasta
BLOCK 5: Culinary modifications on the physical and chemical properties of food
BLOCK 6: Molecular Gastronomy
BLOCK 7: The culinary space
BLOCK 8: Frying

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	38,00	100
Laboratory practices	15,00	100
Seminars	2,00	100
Tutorials	2,00	100
Development of group work	10,00	0
Development of individual work	5,00	0
Study and independent work	10,00	0
Readings supplementary material	5,00	0
Preparation of evaluation activities	30,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	10,00	0
Resolution of case studies	5,00	0
TOTAL	**147,00**	

TEACHING METHODOLOGY

The **theoretical teaching** methodology will be based on the delivery of lectures along with the performance, presentation and defense of individual and collective reports. Classes are taught using audio-visual technical equipment. The student will have this material in the virtual classroom

Individual study of the topics above will be strengthened by organizing **tutorials**. Prior to the date of tutoring, the student must have prepared the proposed activities to reinforce the learning aspects of the program.

The **seminars** are group works that will consist of the approach of a working hypothesis on sustainable food in line with the Sustainable Development Goals (SDG) related to the subject, and with the lines of action of the AGROALNEXT call of the Generalitat Valenciana (GVA) based on the supply of healthy, safe and sustainable food in line with the circular economy. A practical workshop will be held to support or refute it. In addition, dissemination skills could be enhanced by producing infographics or posters and dissemination videos that will be posted on a channel on the YouTube platform for the creation of useful teaching material. Coordinated seminars will take place on topics selected and related to the course and must follow the guidelines on coordinated seminars available at the web page of the Degree. In the case of Double Degree (Pharmacy and HND) the seminars will not be coordinated. The development of the seminar will be monitored through tutorials, to be agreed upon between the teacher and the students.

The **laboratory practices** will be conducted in a professional kitchen where students can extend and implement the knowledge. He distributed a booklet of practices with the necessary materials and the development of each of the perfectly organized practices. The teacher will monitor the practice, will address the doubts in the implementation and provide guidance on how to make reports, organizing

results and conclusions. At the end of the internship, the student must develop a report according to the instructions given and submit it to the professor within a given time limit.

EVALUATION

Evidence of copying or plagiarism in any of the assessable tasks will result in failure to pass the subject and in appropriate disciplinary action being taken. Please note that, in accordance with article 13. d) of the Statute of the University Student (RD 1791/2010, of 30 December), it is the duty of students to refrain from using or participating in dishonest means in assessment tests, assignments or university official documents. In the event of fraudulent practices, the "Action Protocol for fraudulent practices at the University of Valencia" will be applied (ACGUV 123/2020): https://www.uv.es/sgeneral/Protocols/C83sp.pdf.

Implementation, presentation and defense of individual and group reports on topics related to the contents explained and discussed in the classroom during the **seminars**. Written work, presentation, defense, and proposed activities will be taken into account for their assessment according to the guidelines on coordinated **seminars** available at the web page of the Degree. The level of understanding of the contents as well as the skills for its presentation and discussion will be assessed.

Evaluation of the work during the **tutorials** and the ability for resolving the proposed activities (10%). The delivery of the activities after the deadline will mean the non-grading of the same.

Make a **written test** to ensure knowledge and understanding of established theoretical minimum content for the subject (60%).

Assessment of **laboratory** work by monitoring the work of the same, the ability to solve experimental problems and the ability to make very detailed and organized reports of experimental results. The laboratory work will be evaluated according to the written test of test and short questions that will include questions about practice (10%) and the practical report carried out (10%). The delivery of the report after the term will imply the non-qualification of the same. Additionally, the qualification obtained will be multiplied by a coefficient between 0.5 and 1 to be considered by the teaching staff according to the attitude, participation in the laboratory and punctuality shown by the student.

It is necessary to obtain 4.5 points out of 10 in the written test, which includes theory and practice questions, to mediate with the rest of the evaluable activities.

To pass the subject it is necessary to obtain a minimum of 5 points out of 10 in the weighted average of the total evaluable activities. The final grade for the course may be increased by up to 0.5 points with the evaluation of activities carried out during the hours of theory classes.

To obtain “with honors” mention (matrícula de honor), it is a preferred criterion to pass the subject in the first convocation.

The activities of practices, tutorials and seminars, are of MANDATORY ATTENDANCE and, therefore, NOT RECOVERABLE, in accordance with the provisions of Article 6.5 of the Regulation of Evaluation and Qualification of the UV for Bachelor and Master degrees. If it is not possible to attend any of these activities for justified reasons, it must be communicated in advance. In this way, the person in charge of the subject will determine the actions to be carried out. Group changes will only be admitted for justified reasons, upon receipt of the corresponding receipt, and a maximum of 15 days before the start of the activity.

Attendance at practices, tutorials and seminars is mandatory to pass the subject. Attendance is NOT mandatory for repeating students who have completed these activities in the two courses after their completion, during which the grades will be kept. Non-attendance without justified cause in the tutorials or in the coordinated seminars will imply a zero in the corresponding evaluation section, on the other hand, the non-presentation of the coordinated seminar will imply the failure of the subject, except for the repeating students who have attended and presented in previous courses.

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Additional

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