

MODULE	SUBJECT MATTER	YEAR	SEMESTER	CREDITS	TYPE
Food Science	Culinary Technology	2º	1º	6	Core subject
TEACHING STAFF ⁽¹⁾			ADDRESS, TELEPHONE NUMBER, EMAIL, ETC. DIRECCIÓN COMPLETA DE CONTACTO PARA TUTORÍAS (Dirección postal, teléfono, correo electrónico, etc.)		
<ul style="list-style-type: none"> Miguel Mariscal Arcas: Group A “Dpt. Nutrition and Food Science” New Professor: Group E “Dpt. Nutrition and Food Science” 			DEPT. Nutrition and Food Science”, School of Pharmacy. Office number: 711 Email: mariscal@ugr.es		
			TIMETABLE FOR TUTORIALS OR LINK TO WEBSITE		
			https://www.ugr.es/~nutricion/index.php Make an appointment (email or PRADO)		
BELONGS TO UNDERGRADUATE DEGREE PROGRAMME			AND ALSO TO OTHER UNDERGRADUATE DEGREE PROGRAMMES		
<i>Grade in Human Nutrition and Dietetics.</i> <i>Double Grade in Human Nutrition and Dietetics and Food Technology.</i>					
PREREQUISITES OR RECOMMENDATIONS (where applicable)					
“Fundamentals of food composition” and “General chemistry”					
BRIEF DESCRIPTION OF CONTENT (ACCORDING TO OFFICIAL VALIDATION REPORT)					
Appropriate cooking techniques to optimize the organoleptic and nutritional characteristics in dietetics and diet therapy. Nutritional changes in food suffered as a result of technological and culinary processes. Basic processes in the production, processing and preservation of the food. Application of new cooking techniques in preparing dishes.					

¹ Consult any updates in Acceso Identificado > Aplicaciones > Ordenación Docente

(∞) This course guide should be filled in according to UGR regulations on assessment of student learning: ([http://secretariageneral.ugr.es/pages/normativa/fichasugr/ngc7121/!](http://secretariageneral.ugr.es/pages/normativa/fichasugr/ngc7121/))



GENERAL AND SPECIFIC COMPETENCES

General

- CG8: To identify and classify foods and food products. Knowing how to analyse and determine their composition, properties, nutritional value, the bioavailability of nutrients, organoleptic characteristics and the modifications suffered as a result of technological and culinary processes.
- CG9: To understand the basic processes in the production, processing and conservation of animal foods and plant.
- CG25: To participate in management, organization and development of food services.
- CG26: To develop, monitor and cooperate in the planning of menus and diets tailored to the characteristics of the group to which they are intended.

Particular

- CE10: To identify and classify foods, food products and food ingredients.
- CE12: To improve the knowledge of production systems and the basic processes in the production, processing and preservation of the main food.
- CE16: To learn the culinary techniques to optimize the organoleptic and nutritional food, with respect for traditional cuisine.

OBJECTIVES (EXPRESSED AS EXPECTED LEARNING OUTCOMES)

- Knowing that technological processes are used in the preparation and food processing.
- Knowing the different cooking techniques that allow for more varied diets and adapted to the circumstances of each person.
- Learn the culinary techniques to optimize the organoleptic and nutritional food, with respect to the traditional cuisine.

DETAILED SYLLABUS

THEORY:

- Topic 1. Concept and objectives of the culinary technology. Concept. Objectives. Home and kitchen business.
- Topic 2. The current restoration: food sources. Current restoration objectives: the menus. Historical development of eating habits. Food sources in the restoration of today.
- Topic 3. Current systems of catering. Cooking-cooling; freezing cooked; Cooking under vacuum. Application in catering.
- Topic 4. The quality in culinary technology. The quality of the dishes. Sheets preparation of dishes. Integrated aspects of quality.
- Topic 5. Operations and culinary processes at room temperature. Operations prior to the culinary processes. Sorting, cleaning and division. Bonding operations ingredients.
- Topic 6. Processes with heat cooking: cooking processes. Cooking concept. Generating heat or cooking equipment. Heat transfer to the food.
- Topic 7. The types of cooking. Classification of cooking according to the transfer means of heat. In non- liquid cooking: general types and description.
- Topic 8. Firings in aqueous media. General types and description. Equipment and conditions job. Effects on food.
- Topic 9. Cooking in fatty medium. General types and description. Equipment and conditions of the job. Properties of the frying fats effects on food.
- Topic 10. Cooking in mixed medium. General types and description. Specific considerations to stews, braised and stewed. Effects on food.
- Topic 11. Cooking in dry heat. General types and description. The baking process. Acid mass.



- Topic 12. Special cookings. Cooking with microwaves. Molecular gastronomy. Cryogenic cooking or cooking with liquid nitrogen. Deconstruction. The internal cooking. Gelatin foam and hot.
- Topic 13. Molecular gastronomy. Knowing how to apply science to culinary practice. To study the effect of physicochemical properties and technological processed ingredients for innovative new food structures such as foams, emulsions or gels.

PRACTICE:

Laboratory work

Session 1. Formation of foam when cooking rice.

Session 2. Loss of phenolic compounds during cooking. Influence of pH.

Session 3. Influence of water hardness on cooking time.

Session 4. Loss of mineral salts according to the procedure used in cooking.

Session 5. Molecular gastronomy practices.

Inclusion and diversity of the University of Granada

In the case of students with disabilities or other specific educational support needs, the tutoring system must be adapted to their needs, according to the recommendations of the Inclusion Unit of the University of Granada, with the Departments and Centres proceeding to establish the measures suitable for tutoring to take place in accessible places. Likewise, at the request of the professor, support may be requested from the competent unit of the University of Granada in the case of special methodological adaptations.

BIBLIOGRAPHY

BASIC READING LIST

- Bello, J. Ciencia y Tecnología Culinaria. 1998. Ed. Díaz de Santos. Madrid.
- Candela, M. Astiasaram, I. Alimentos: composición y propiedades. 1999. Ed. Eurograf. Pamplona.
- Ceserani V, Kinton R, Foskett D. Practical cookery. 8ª ed. 1995. Hodder & Stoughton. London.
- Coenders, A. Química Culinaria. 1996. Ed. Acribia. Zaragoza.
- Gerog Schwedt. Experimentos en la cocina: la cocción, el asado y el horneado. Editorial Acribia S.A. (2006) Zaragoza (España).

COMPLEMENTARY READING

- Malo M. Comedores colectivos. Código de buenas prácticas. 1997. Ed. Consejería de Sanidad, Consumo y Bienestar Social. Gobierno de Cantabria.
- Sala, Y. Montañes, J. Restauración colectiva. Planificación de instalaciones, locales y equipamientos. Ed. Masson.

RECOMMENDED LINKS

- Agencia Española de Seguridad alimentaria y Nutrición: www.aesan.msc.es.
- Página Oficial de la Agencia Española de Seguridad Alimentaria donde se puede encontrar datos sobre campañas alimentarias y de seguridad.
- Autoridad Europea de Seguridad Alimentaria: www.efsa.europa.eu.
- Página Oficial de la Unión Europea donde se puede encontrar datos sobre campañas alimentarias y de seguridad.
- Calidad Alimentaria.net: www.calidadalimentaria.com.
- Codex Alimentarius: www.codexalimentarius.net/web/index_es.jsp.
- FDA's Center for Food Safety and Applied Nutrition: www.cfsan.fda.gov.



- Federación Española de Hostelería: www.fehr.es.
- Federación Española de Industrias de Alimentación y Bebidas (FIAB): www.fiab.es.
- International Portal on Food Safety, Animal and Plant Health: www.ipfsaph.org.
- Organización Mundial de la Salud: <https://www.who.int/health-topics/food-safety/>
- Portal de Tecnologías y Mercados del sector alimentario: www.alimentatec.com.
- Seguridad Alimentaria (CONSUMER EROSKI): www.consumaseguridad.com.
- Seguridad Alimentaria: www.seguridadalimentaria.com.

TEACHING METHODOLOGY

For the development of the teaching and learning process, a series of training actions will be carried out that can be used by students to acquire the programmed competences:

- Theoretical classes, through which it is ensured that students develop fundamentally conceptual skills, of great importance to motivate students to reflect, facilitating the discovery of the relationships between various concepts and forming a critical mind-set.
- Practical classes, our purpose is to develop in students the cognitive and procedural skills of the subject.
- Tutorials, through which the autonomous and group work of the students will be oriented, will deepen in different aspects of the subject and will guide the academic-comprehensive training of the student.
- Seminars, group work and individual student work will revert to the development of generic skills and attitudes that permeate the entire teaching-learning process.

The teaching and learning process will be an active and meaningful process. The debates raised in classes, in seminars and group work, have chosen the students to be active and protagonist of their own learning process. The diversity of necessary subjects develops a multidisciplinary vision and equip them with cognitive and instrumental competences.

ASSESSMENT (ASSESSMENT INSTRUMENTS, CRITERIA AND PERCENTAGE VALUE OF FINAL OVERALL MARK, ETC.)

The evaluation will consist of:

- Theoretical exams based on questions about the contents of the program. There will be a final exam. In the case of written exams, it is necessary for the arithmetic mean between them to have been obtained, having obtained a minimum grade of 5 (out of 10).
- Practical exam that will include practical and theoretical aspects, skills and abilities, reporting and problem solving.

Assessment of self-employment:

- Theoretical exam: 65%
- Practical exam: 15%
- Attendance and participation in class: 10%
- Autonomous work of the student: 10%

DESCRIPTION OF THE EXERCISES WHICH WILL CONSTITUTE SINGLE FINAL ASSESSMENT AS ESTABLISHED IN UGR REGULATIONS

- It will be carried out in a single academic act consisting of a theoretical-practical exam. Students who wish to take advantage of this evaluation modality will have to request it to the Director of the Department in the first two weeks from the student's enrolment in the subject, citing and accrediting the reasons that assist him or her for not being able to follow the continuous evaluation system.



SCENARIO A (ON-CAMPUS AND REMOTE TEACHING AND LEARNING COMBINED)

TUTORIALS	
TIMETABLE (According to Official Academic Organization Plan)	TOOLS FOR TUTORIALS (Indicate which digital tools will be used for tutorials)
https://www.ugr.es/~nutricion/index.php Exclusively by appointment	Email and PRADO messages The tutorial attention will be in Tutoring hours
MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY	
<ul style="list-style-type: none"> PRADO platform to provide teaching material to students. PRADO platform for managing tasks and activities carried out by students. PRADO messages for the delivery and review of tasks proposed to students. Face lessons adapted to PRADO resources. Hands-on classes and classroom exhibitions and synchronous streaming classes with Google Meet 	
MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)	
Ordinary assessment session	
<ul style="list-style-type: none"> Theoretical exam: 55% Practical exam: 15% Attendance and participation in class: 15% Autonomous work of the student: 15% 	
Extraordinary assessment session	
<ul style="list-style-type: none"> Theoretical exam: 55% Practical exam: 15% Attendance and participation in class: 15% Autonomous work of the student: 15% 	
Single final assessment	
<ul style="list-style-type: none"> It will be carried out in a single academic act consisting of a theoretical exam (70%) - practical (30%). Students who wish to take advantage of this evaluation modality will have to request it to the Director of the Department in the first two weeks from the student enrollment in the subject, citing and accrediting the reasons for not being able to follow the continuous assessment system. 	

SCENARIO B (ONCAMPUS ACTIVITY SUSPENDED)

TUTORIALS	
TIMETABLE (According to Official Academic Organization Plan)	TOOLS FOR TUTORIALS (Indicate which digital tools will be used for tutorials)
https://www.ugr.es/~nutricion/index.php	Email and PRADO messages



The tutorial attention will be in Tutoring hours

MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY

- PRADO platform to provide teaching material to students.
- PRADO platform for managing tasks and activities carried out by students.
- PRADO messages for the delivery and review of tasks proposed to students.
- Face lessons adapted to PRADO resources.
- Hands-on classes and classroom exhibitions and synchronous streaming classes with Google Meet

MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)

Ordinary assessment session

- Theoretical exam: 50%
- Practical exam: 15%
- Attendance and participation in class: 15%
- Autonomous work of the student: 20%

Extraordinary assessment session

- Theoretical exam: 50%
- Practical exam: 15%
- Attendance and participation in class: 15%
- Autonomous work of the student: 20%

Single final assessment

- It will be carried out in a single academic act consisting of a theoretical exam (70%) - practical (30%). Students who wish to take advantage of this evaluation modality will have to request it to the Director of the Department in the first two weeks from the student enrollment in the subject, citing and accrediting the reasons for not being able to follow the continuous assessment system.

ADDITIONAL INFORMATION (if necessary)

Regulations for the evaluation and qualification of the students of the University of Granada.

