

SUBJECT GUIDE

## Culinary Technology

MODULE	CONTENT	YEAR	TERM	CREDITS	TYPE
Food Science	Culinary technology	2º	1º	6	Core subject
<b>LECTURER(S)</b>			<b>Postal address, telephone nº, e-mail address</b>		
Ana María Rivas Velasco José Ángel Rufián Henares			Ana María Rivas Velasco Tfno: 958243864 email: amrivas@ugr.es  José Ángel Rufián Henares Tfno: email: jarufian@ugr.es  Department of Nutrition and Food Science Campus de Cartuja s/n, 18071 University of Granada		
<b>DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT</b>					
Human Nutrition and Dietetics					
<b>PREREQUISITES and/or RECOMMENDATIONS (if necessary)</b>					
“Fundamentals of food composition” and “General chemistry”					
<b>BRIEF ACCOUNT OF THE SUBJECT PROGRAMME (ACCORDING TO THE DEGREE)</b>					
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.					
<b>GENERAL AND PARTICULAR ABILITIES</b>					
<u>General</u>					
<ul style="list-style-type: none"> <li>CG8: To identify and classify foods and food products. Knowing how to analyze and determine their</li> </ul>					



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 IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)**

- 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 SUBJECT SYLLABUS**

##### THEORETICAL PROGRAM

1. Concept and objectives of the culinary technology. Concept. Objectives. Home and kitchen business
2. The current restoration: food sources. Current restoration objectives: the menus. Historical development of eating habits. Food sources in the restoration of today.
3. Current systems of catering. Cooking-cooling; freezing cooked; Cooking under vacuum. Application in catering.
4. Practical application of cooking - cooling in hospital catering.
5. Restoring deferred: systems and applications. Concept and development of restoration deferred. Hot preservation systems. Refrigerated storage systems. Systems conservation in deep freeze
6. The quality in culinary technology. The quality of the dishes. Sheets preparation of dishes. Integrated aspects of quality.
7. Operations and culinary processes at room temperature. Operations prior to the culinary processes. Sorting, cleaning and division. Bonding operations ingredients.
8. Processes with heat cooking: cooking processes. Cooking concept. Generating heat or cooking equipment. Heat transfer to the food.
9. Kinetics of heat transfer. The primary process of cooking processes. The secondary processes in the cooking process.
10. The types of cooking. Classification of cooking according to the transfer means of heat. In non- liquid cooking: general types and description.
11. Equipment and working conditions in the firings in non-liquid cooking. Effects on foods. Culinary applications.



12. Firings in aqueous media. General types and description. Equipment and conditions job. Effects on food.
13. Culinary uses of cooking in aqueous media.
14. Cooking in fatty medium. General types and description. Equipment and conditions of the job. Properties of the frying fats effects on food.
15. Culinary applications of cooking in fatty medium.
16. Cooking in mixed medium. General types and description. Specific considerations to stews, braised and stewed. Effects on food.
17. Applications of cooking culinary ventures.
18. Cooking in dry heat. General types and description. The baking process. Acid mass.
19. Non-foam mass. Yeast dough. The functions of the egg during baking. The roasting process. Effects on food.
20. Culinary applications culinary of cooking in dry heat.
21. Special cookings. Cooking with microwaves. Molecular gastronomy. Cryogenic cooking or cooking with liquid nitrogen. Deconstruction. The internal cooking. Gelatin foam and hot.
22. Advanced professional cooking. Knowing the ingredients that make up our diverse food and tools and techniques needed to properly combine all them.
23. New culinary techniques. Meeting the new techniques used in professional kitchens to create, develop and transform food. Knowing and classifying all new ingredients, making a study of all its features and reactions to different temperatures and media. To know the new instruments of labor to be found in the kitchens and the advances that them allow us.
24. 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.

#### PRACTICAL PROGRAM

1. Formation of foam when cooking rice.
2. Loss of phenolic compounds during cooking. Influence of pH.
3. Influence of water hardness on cooking time.
4. Loss of mineral salts according to the procedure used in cooking.
5. Molecular gastronomy practices.

#### READING

- Bello, J. Ciencia y Tecnología Culinaria. 1998. Ed. Diaz de Santos. Madrid.
- Candela, M. Astiasaran, 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.
- 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.
- Gerog Schwedt. Experimentos en la cocina: la cocción, el asado y el horneado. Editorial Acribia S.A. (2006) Zaragoza.



#### RECOMMENDED INTERNET LINKS

European Food Safety Authority: [www.efsa.europa.eu](http://www.efsa.europa.eu)

Agencia Española de Seguridad alimentaria y Nutrición: [www.aesan.msc.es](http://www.aesan.msc.es)

Calidad Alimentaria.net: [www.calidadalimentaria.com](http://www.calidadalimentaria.com)

Codex Alimentarius: [www.codexalimentarius.net/web/index\\_es.jsp](http://www.codexalimentarius.net/web/index_es.jsp)

FDA's Center for Food Safety and Applied Nutrition: [www.cfsan.fda.gov](http://www.cfsan.fda.gov)

Federación Española de Hostelería: [www.fehr.es](http://www.fehr.es)

Federación Española de Industrias de Alimentación y Bebidas (FIAB): [www.fiab.es](http://www.fiab.es)

International Portal on Food Safety, Animal and Plant Health: [www.ipfsaph.org](http://www.ipfsaph.org)

Organización Mundial de la Salud: [www.who.int/foodsafety/fs\\_management/infosan/en/](http://www.who.int/foodsafety/fs_management/infosan/en/)

Portal de Tecnologías y Mercados del sector alimentario: [www.alimentatec.com](http://www.alimentatec.com)

Seguridad Alimentaria (CONSUMER EROSKI): [www.consumaseguridad.com](http://www.consumaseguridad.com)

Seguridad Alimentaria: [www.seguridadalimentaria.com](http://www.seguridadalimentaria.com)

