

Food Products

Code: 103239
ECTS Credits: 6

Degree	Type	Year	Semester
2501925 Food Science and Technology	OB	2	1

Contact

Name: José Juan Rodríguez Jerez
Email: JoseJuan.Rodriguez@uab.cat

Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

Mireia Porta Oliva
Carolina Ripolles Avila

Prerequisites

Although there are no official prerequisites, it is convenient for the student to review the knowledge acquired in the first year subjects:

- 1) Chemistry I and II
- 2) Biochemistry I
- 3) Production of Raw Materials

Objectives and Contextualisation

The subject "Food Products" is an initial training course that aims to introduce the student to the world of food, presenting in a general way all the aspects related to its importance in relation to its consumption in our society, its fundamental composition, properties nutritious and functional and commercial and regulatory aspects, as well as their technological skills.

overall objective

Identify and classify the different types of foods, determining their nutritional and technological aptitudes based on their composition and characteristics.

Training objectives:

- Evaluate the importance that different food groups have for our society,
- Classify foods in their fundamental groups, both commercially and in their composition, nutritional value and technological transformation,
- Identify the different nutritive, functional and anti-nutritive substances of the food,
- Determine your aptitudes for technological transformation,

- Evaluate the effects of the technological transformation in the seves propietats.

Competences

- Communicate effectively with both professional and non-professional audiences, orally and in writing, in the first language and/or in English.
- Display knowledge of nutrients, of their bioavailability and function in the organism, and the bases of nutritional balance.
- Display knowledge of the physical, chemical, biochemical and biological properties of raw materials and foods.
- Identify the sources and the variability of raw materials in order to predict their impact on processing and food.
- Search for, manage and interpret information from different sources.
- Use IT resources for communication, the search for information within the field of study, data processing and calculations.

Learning Outcomes

1. Classify and describe foods in terms of their nature and composition, and know their principal structural and stability characteristics.
2. Communicate effectively with both professional and non-professional audiences, orally and in writing, in the first language and/or in English.
3. Comply with regulations on the composition and properties of foods.
4. Describe the nutritional and functional characteristics of the different groups of foods.
5. Determine functional and nutritional properties from their composition.
6. Evaluate aptitude for transformation with the aim of obtaining other food products.
7. Evaluate raw materials' technological value in food production and their consequences for nutrition in the light of changes in their composition or properties.
8. Identify the technologically-useful properties of food components.
9. Search for, manage and interpret information from different sources.
10. Use IT resources for communication, the search for information within the field of study, data processing and calculations.

Content

Theory

Block I. GENERAL CONCEPTS

- Concepts of Food Science and Food Science,
- Concepts of edibility, alteration and quality,
- Nutritious and anti-nutritive components of food,
- Requirements of food for consumption: standardization,
- Consumer information: labeling,
- Introduction to the main sources of information.

Block II. FOOD OF ANIMAL ORIGIN

- Meats and derivatives
- Fish, shellfish and derivatives
- Eggs and egg products
- Milk and dairy products, including ice cream

Block III. VEGETARIAN FOOD

- Cereals, flours, bread and others derived from cereals,
- legumes,

- Vegetables, vegetables, mushrooms and derivatives,
- Fruits and nuts, and derivatives.

Block IV. FOODS WITH SENSORY AND STIMULATING PROPERTIES

- Stimulant foods and derivatives: coffee, tea, cocoa and chocolate,
- Natural and synthetic sweeteners,
- Salt, spices and condiments,
- Edible oils and fats.

Block V. DRINKS

- Drinking water and packaged,
- Non-alcoholic beverages: juices and soft drinks,
- Alcoholic beverages: fermented and distilled.

Block VI. FOOD FOR SPECIAL FOODS

- Foods for infants and young children, dietetic foods and for special medical purposes,
- Food Complements.

Methodology

The development of the course is based on the following activities:

On-site:

- Theoretical classes: consisting of master classes with ICT support, where the fundamental concepts of the basic topics of the subject will be explained.
- Practical classes: Laboratory sessions, which will work on the classification and properties of food as well as techniques and procedures for analyzing the composition and properties of food.
- Tutorials: the student will be able to carry out tutorials throughout the course to follow the self-learning work and other aspects related to the subject. The tutorials will be directed mainly to guide and solve the doubts of the students. The tutorials can be done individually or in groups, depending on the objectives.

Non-contact:

Individual or group self-learning activities: the student must carry out activities individually, which will be presented throughout the course coinciding with the different theoretical blocks. These are short jobs, which involve the search of information by the student on one or several issues, and must be submitted in writing within a week from the approach.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical classes	13	0.52	3, 1
Theoretical classes (lectures or master classes of theory)	32	1.28	3, 1, 4, 5, 8, 6
Type: Supervised			
Tutorials	5	0.2	3, 1, 2, 4, 5, 8, 6
Type: Autonomous			
Preparation of case studies and continuous evaluation activities	45	1.8	3, 9, 1, 4, 5, 8, 10, 6

Assessment

The competences of this subject will be evaluated by:

- Control of blocks I and II, with a weight of 30% of the final grade. The theoretical exam will be test type.
- Control of blocks III to VI with a weight of 30% of the final grade. The theoretical exam will be test type.
- Self-learning activities: will have a weight of 20% in the final grade. This part will be accounted for only if a minimum of 80% of the activities raised throughout the course have been delivered.
- The attendance and the presentation of the questionnaire of the sessions of laboratory practices: it will be valued with 20% of the final grade.

It will be considered a "non-assessable" in the subject if the student does not appear at either of the two controls (or the corresponding recovery exam), regardless of whether or not they have done self-learning activities, or if they have not performed the practices.

To approve the subject, it is requested to have obtained:

- A minimum of 5.0 points (out of 10) in each of the two controls (or in the corresponding repeats); in case of not reaching this grade in any of the two controls, it will be necessary to obtain an average grade of 6.0 between the two controls (or the corresponding repechages).
- A minimum of 5.0 points (out of 10) in the average of all evaluable activities: controls, self-learning activities and attendance at laboratory practices.
- It will be considered that a student is not evaluable if he has participated in evaluation activities that represent $\leq 15\%$ of the final grade.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance and presentation of the questionnaire practical sessions	20%	0	0	9, 10
Continuous evaluation activities of individual realization (self-learning)	20%	0	0	3, 7, 9, 1, 2, 4, 5, 8, 10, 6
Control of blocks I to II (individual)	30%	2.5	0.1	3, 7, 1, 4, 5, 8, 6
Control of blocks III to VI (individual)	30%	2.5	0.1	3, 7, 1, 4, 5, 8, 6

Bibliography

- Astiasarán, I. Y Martínez, J.A. 2000. *Alimentos: composición y propiedades*. McGraw-Hill-Interamericana. Madrid.
- Belitz, H. D. y Grosch W. 1997. *Química de los alimentos*. Acribia, Zaragoza.
- Bello Gutiérrez, J. 2000. *Ciencia bromatológica : principios generales de los alimentos*. Díaz de Santos, Madrid..
- Casado Cimiano, P. 1998. *Los Alimentos en el nuevo milenio*. Publicaciones Técnicas Alimentarias, Madrid.
- Fennema, O.R. 2000. *Química de los alimentos*. Acribia, Zaragoza.
- Moreiras, O. 1996. *Tablas de composición de alimentos*. Ciencia y técnica (Pirámide)
- Potter, N. 1999. *Ciencia de los alimentos*. Acribia, Zaragoza.
- Primo Yúfera, E. 1997. *Química de los alimentos*. Síntesis, Madrid.
- Robinson, D.S. 1991. *Bioquímica y valor nutritivo de los alimentos*. Acribia, Zaragoza.
- Vollmer, G. 1999. *Elementos de bromatología descriptiva*. Acribia, Zaragoza.

- Wong, D.W. S. 1994. *Química de los alimentos: mecanismos y teoría*. Acribia, Zaragoza.