

**Food Products**

Code: 103239  
ECTS Credits: 6

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

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

**Contact**

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**Use of Languages**

Principal working language: spanish (spa)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

**Teachers**

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**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, 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

Teacher development will be based on the following activities:

Theoretical classes:

They will consist of master classes with ICT support. In this case the material will be located on the virtual campus. Each of the 6 thematic blocks will be developed, by each of the participating teachers, through recordings or commented PowerPoint presentations. These materials will explain the concepts and information relevant to learning the subject. Therefore, this training will be virtual and asynchronous.

In the virtual campus the topics will be classified by thematic blocks, so that the monitoring is easier.

Practical classes:

Teaching in this case will be synchronous and may be face-to-face or virtual.

The virtual sessions will be as follows:

1. Presentation: Organization of the subject,
2. Reinforcement 1: Fishery Products,
3. Reinforcement 2: Milk and eggs,
4. Reinforcement 3: Meat and derivatives,
5. Reinforcement 4: Cereals and legumes,
6. Reinforcement 5: Fruits and Vegetables,
7. Reinforcement 6: Drinks,
8. Reinforcement 7: Products with special properties.

The face-to-face sessions will be as follows:

1. Seminar 1: Food labeling,

2. Seminar 2 Individual works,

3. Seminar 3 Individual works.

#### Tutorials:

the student will be able to carry out tutorials throughout the course to follow up on the self-study work and other aspects related to the subject. The tutorials will be mainly aimed at guiding and solving the doubts of the students. The tutorials can be done individually or in groups, depending on the objectives. Each student will be able to contact the teaching team by email to schedule the tutorials when they need it.

#### Self-learning:

Teachers will program directed self-learning activities, aimed at evaluating the subject's competences. Therefore, two seminar sessions have been scheduled to address questions about individual work. In these works, each of the foods to be studied must be developed:

1. Classify and describe foods according to their nature and composition,
2. Describe the nutritional and functional characteristics of food,
3. Demonstrate that the nutrients are known, their bioavailability,
4. Identify the technological utility of food components.
5. Evaluate based on changes in the composition or properties of raw materials the technological utility in food processing and its consequences on food,
6. Assess the aptitude for transformation in order to obtain other food products,
7. Identify the sources and variability of raw materials to predict the impact on processing and feeding operations,
8. Apply the regulatory aspects regarding the composition and properties of food,
9. Search, manage and interpret information from various sources.
10. Use computer resources for communication and information search in the field of study, data processing and calculation.

## 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
Self study	50	2	3, 9, 1, 4, 5, 8, 10, 6

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## Assessment

The evaluation will be based on the fulfillment of the described competences of the subject. To do this, we will be based on the cases, the seminars developed, the participation in the question sessions, in the correction of the deliverables and in the theoretical exams. To facilitate learning the subject is divided into two parts. These two parts correspond to the partial examination 1 and 2. However, the deliverables and the practical activities will be developed throughout the subject.

Deliverables:

Each student will have to be evaluated according to 10 competencies:

1. Classify and describe foods according to their nature and composition,
2. Describe the nutritional and functional characteristics of foods,
3. Demonstrate knowledge of nutrients, their bioavailability,
4. Identify the technological utility of food components.
5. Assess the technological utility of food processing and its effects on food in the light of changes in the composition or properties of raw materials,
6. Assess the suitability for processing in order to obtain other foodstuffs,
7. Identify the sources and variability of raw materials to predict the impact on processing operations and feeding,
8. Apply the normative aspects regarding the composition and properties of foods,
9. Search, manage and interpret information from various sources.
10. Use computer resources for communication and information retrieval in the field of study, data processing and computation.

Each of them will be evaluated with the deliverables that will be proposed to the students, which will give a global evaluation of the degree of fulfillment of these. Each competency will be evaluated from 0 to 10. Therefore, adding each of the competencies will result in an overall grade from 0 to 100. To pass the subject, a minimum of 70 will be required. This part will be counted only if they have been delivered. a minimum of 80% of the activities proposed throughout the course.

This part will be evaluated with 50% of the final grade of the subject.

Theoretical exams:

- a) Control of blocks I and II, with a weight of 20% of the final grade. The theoretical exam will be a test type and will deduct 0.25 points for each incorrectly answered question.
- b) Control of blocks III to VI with a weight of 20% of the final grade. The theoretical exam will be a test type and will deduct 0.25 points for each incorrectly answered question.

Each of the exams will have 100 questions, corresponding to the theoretical training and the proposed deliverables. For the realization of the examination the students will have 60 minutes and will have to obtain a minimum of 40 points, that will be equivalent to a 5. The maximum note (10) will be the maximum note obtained by the students of the asignatura. The rest of the scores, from 0 to 10, will be calculated in proportion to the maximum mark obtained.

Assistance:

Attendance at synchronous activities and tutorials will be valued at 10% of the final grade.

It will be considered a "Non-evaluable" in the subject if the student does not take one of the two controls (or the corresponding retake exam), regardless of whether or not he has done the self-learning activities.

To pass the subject you are asked to have obtained:

A minimum of 5.0 points (out of 10) in a weighted average of the different evaluable elements: Attendance (10%), deliverables (50%) and theoretical exams (40%).

A student will be considered non-assessable if he has participated in assessment activities that represent que 15% of the final grade.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Assistance	10%	0	0	9, 10
Continuous evaluation activities of individual realization (self-learning)	50%	0	0	3, 7, 9, 1, 2, 4, 5, 8, 10, 6
Control of blocks I to II (individual)	20%	2.5	0.1	3, 7, 1, 4, 5, 8, 6
Control of blocks III to VI (individual)	20%	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.