

Teaching Guide of the subject

Year 2024 - 2025

**NUTRITION**

Code: 106099

ECTS credits: 6

Titulation	Type	Course	Semester
<b>2500891 Nursing</b>	<b>FB</b>	<b>1</b>	<b>2</b>

Contact	Use of languages
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**Prerequisites**

There are no official prerequisites.

**Contextualization and objectives**

This subject is part of the Basic Sciences training module, Nutrition subject and is planned in the second semester of the Bachelor's Degree in Nursing.

The purpose of this subject is to introduce students to the basic concepts of nutrition, food and dietetics to help healthy people meet the need to eat properly at different stages of life, as well as people who have health problems and require dietary treatment.

**Learning objectives of the subject**

1. Identify the different nutrients and foods where they are found.
2. To know the nutritional needs throughout the life cycle in healthy people with health problems.
3. Describe how to promote and reinforce healthy eating patterns.
4. Identify the most prevalent nutritional problems and make appropriate dietary recommendations.

## Competencies and learning outcomes

Competence	Learning Outcomes
<b>SPECIFIC</b>	
<b>E01.</b> To provide technical and professional health care appropriate to the health needs of the people being cared for, in accordance with the state of development of scientific knowledge at any given time and with the levels of quality and safety established in the applicable legal and deontological standards.	<b>E01.06</b> Describe the nutritional needs of healthy people with health problems during their life cycle to promote and reinforce healthy eating patterns. <b>E01.07</b> Recognize the nutrients and foods in which they are found, which allow the nutritional needs of healthy people or people with health problems to be met. <b>E01.08</b> Identify the most prevalent nutritional problems and select appropriate dietary recommendations.
<b>E10.</b> Protect the health and well-being of the people, family or groups served by guaranteeing their safety.	<b>E10.03</b> Determine the problems that occur most frequently when people with health problems do not follow the planned therapeutic diet, proposing effective interventions for adherence. <b>E10.04</b> Design appropriate diets for healthy people with the most prevalent health problems
<b>GENERAL / BASIC</b>	
<b>G04.</b> Act within the field of self-knowledge by assessing inequalities based on sex/gender.	<b>G04.03</b> Analyze sex differences and gender inequalities in etiology, anatomy, physiology, pathologies, differential diagnosis, therapeutic options, pharmacological response, prognosis, and nursing care.
<b>B03.</b> Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific, or ethical issues.	

## **Content**

### **MODULE 1. Physiological and Biochemical Bases of Nutrition**

1. Introduction to nutrition.
2. Energy needs. Concept of energy balance. Concept of energy income. Concept of expenditure energy expenditure and measurement of energy expenditure. Equations for calculating a person's energy expenditure. Determining a person's nutritional needs.
3. Classification, function, digestion and metabolism of Macronutrients (carbohydrates, lipids and proteins) and Micronutrients (vitamins and minerals).

### **MODULE 2. Composition and nutritional quality of food. Healthy, sustainable and safe food.**

1. Food groups and composition:
  - 1.1. - Milk and dairy products.
  - 1.2. - Meat and meat products.
  - 1.3. - Fish and seafood.
  - 1.4. - Eggs and egg products.
  - 1.5. - Cereals and derived products.
  - 1.6. - Legumes, vegetables and horticultural products. Fibre.
  - 1.7. - Fruits and derived products.
  - 1.8. - Dried fruit.
  - 1.9. - Fats and oils.
  - 1.10.- Beverages: vegetables, alcoholic, soft drinks, coffee and infusions.
  - 1.11.- Others: functional foods, additives, transgenic foods, new sources of nutrients, processed foods.
2. Healthy and Sustainable Food. Healthy eating guides. Dietary reference intakes. Qualitative and quantitative recommendations for healthy eating. Mediterranean Diet. Concept of sustainable food and food waste.
3. Vegetarian and vegan diet.
4. Food composition tables and nutritional databases. Concept of rations.
- 5.- Food safety and hygiene. Concepts. Food safety control systems. Labeling. Diet of Low Bacterial Load (BCB).

### **MODULE 3. Assessment of nutritional status**

1. Nutritional assessment.
2. Body composition analysis. Anthropometric parameters and body composition techniques.
3. Biochemical data.
4. Malnutrition: types, causes, diagnoses, treatment and health consequences.

#### **MODULE 4. Nutrition at different stages of the life cycle.**

1. Feeding during pregnancy and breastfeeding.
2. Feeding children.
3. Feeding to adolescence.
4. Diet in old age, frail elderly and sarcopenia.
5. Feeding during menopause.
6. Gender equality and nutrition. Concepts of gender and nutrition. Gender and impact on health and nutrition. Inclusion of gender in nutritional interventions.

#### **MODULE 5. Diet therapy in the most prevalent health problems.**

1. Nutrition and obesity. Definition, assessment and type of obesity. Pathogenesis. Treatment. Obesity surgery.
2. Nutrition in Diabetes Mellitus. Objective of nutritional treatment. Nutritional recommendations.
3. Nutrition and cardiovascular disease. Diseases associated with atherosclerosis. Mediterranean diet model and cardiovascular risk. Nutrition and heart failure. Low-sodium diet.
4. Nutrition in kidney diseases. Adequate diet in dialysis and predialysis.
5. Nutrition and cancer. Objective of nutritional support. Nutritional requirements. Nutritional strategy. Immunonutrition concept.
6. Nutrition in digestive pathologies. Inflammatory bowel disease. Ulcerative colitis. Malabsorption syndrome. Colostomies and ileostomies. Gastrectomies. GERD.
7. Nutrition in neurological diseases. Dysphagia.
8. Nutrition in food allergies and intolerances. Differences between allergy and intolerance. Celiac disease. Lactose intolerance. Fructose and sorbitol intolerance. Cow's milk protein allergy (CMPA).
9. Nutrition in eating disorders.
10. 10. Drug-nutrient interactions.
11. Exploratory diets.
12. Hospital Allowance Index. Indications and characteristics.
13. Artificial nutrition. Oral supplementation. Enteral and parenteral nutrition. Home Enteral Nutrition (NED). Adapted Basic Diet (ABA).

## **Methodology**

The methodological approach of the subject is based on considering that each student is the protagonist in the teaching and learning process. Students must be active and autonomous throughout the process and teachers must support them, providing the information and resources necessary for learning to take place.

The subject is face-to-face with non-compulsory attendance, but recommended.

### ***Theory (TE)***

The master class is mainly used, through the transmission of information in a time occupied mainly by oral presentation and ICT support. During the theoretical session, doubts and questions are encouraged, debate, practical activities are introduced, and the search for information is guided.

### ***Classroom Internship (PAUL)***

The central methodological strategy is learning from individual and small group work. Activities are carried out that complement the theory, as well as exercises from which the theory is developed.

The tutorials, face-to-face or online, allow the accompaniment, support and monitoring of the student throughout the process.

## **Training activities**

Activity	Hours	ECTS	Learning Outcomes
<b>Types: Directed</b>  . Theory (TE) . Classroom Internship (PAUL)	45	1,80	<i>E01.06, E01.07, E01.08, E10.03, E10.04, B03, G04.03</i>
<b>Types: Supervised</b>  . Tutorials	1	0,04	<i>E01.06, E01.07, E01.08, E10.03, E10.04, B03, G04.03</i>
<b>Type: Self-employed:</b>  . Personal study. . Preparation of works . Bibliographic consultation	90	3,60	<i>E01.06, E01.07, E01.08, E10.03, E10.04, B03, G04.03</i>

***The teaching staff will allocate approximately 15 minutes once the subject is finished to allow them to the students can answer the assessment surveys on the teaching performance and the subject.***

## Evaluation

### *Continuous evaluation*

The evaluation of the subject consists of 3 blocks:

- **Individual work.** The individual work consists of assessing the food intake of a person close to the student. The grade is made according to the complexity of the exercise, numerically (1-10). A minimum grade of 5 is required to weight this block with 25%. If the grade is < 5, it must be recovered, with the maximum grade being a 5. Delay in delivery, maximum 24 hours, will be penalized by subtracting one point from the grade of the work.
- **Group work + oral presentation.** The group work will consist of the development of a practical case in relation to the food-disease binomial, of which an oral presentation must be made in class. The gender distribution in the work and oral presentation among the groups will be equitable. The grade is numerical (1-10). A minimum final grade of 5 is required in this entire category, to weight this block with 25%. Delay in delivery, maximum 24 hours, will be penalized by subtracting one point from the grade of the work.
- **Written test type test.** Two multiple-choice written tests: written test I (Module 1, 2 and 3) and written test II (Module 4 and 5). A minimum grade of 5 is required to weight this block with 50%. The test is of the test type. The negative answers are according to the following formula:  $X = \text{correct answers} - (\text{errors} / n - 1)$ , where  $n$  is the number of answer options. Thus, in the most frequent type of examination of 5 possible options (A, B, C, D or E), each item answered incorrectly, subtracts 0.25 items answered correctly; therefore 4 errors subtract a correct answer.

The results of the evaluation tests will be retroacted through the classroom and tutorials where appropriate.

The work evaluation rubric is available in the virtual classroom.

## Qualification

- 0 to 4.9: Fail
- 5.0 to 6.9: Pass
- 7.0 to 8.9: Remarkable
- 9.0 to 10: Excellent (in the event that the student has obtained a grade equal to or higher than 9, he/she may opt, at the discretion of the teacher, for an honors).

## Unique assessment

1. In this subject there is no homework scheduled to be done in a group.
2. The date of the unique test will coincide with the date of the last continuous assessment test that appears in the daily schedule and in the calendar of training and evaluation activities.
3. The unique assessment will consist of:
  - Test 1 which will consist of an **objective multiple-choice test (Module 1, 2 and 3)** and weights **25%**.
  - Test 2 which will consist of the **objective multiple-choice test (Module 4 and 5)** and weights **25%**.
  - Test 3 which will consist **of the submission of individual work** and weights **25%**.
  - Test 4 which will consist **of individual work** and weights **25%**.

### **Recovery activity**

1. A unique date is determined for the remedial activity for all students, whether or not they are eligible for a unique evaluation
2. A remedial activity is proposed for those students who have been previously evaluated for the set of activities whose weight is equivalent to a minimum of 2/3 of the total grade of the subject, and have obtained a final grade higher than 3.5 and less than 5 out of 10.
3. This activity will consist of an evaluation test, to be determined by the teaching staff, which will include the failed contents, will be carried out in the period established for this purpose and will only allow a grade of 5 to be obtained.
4. The retake mark, 5, will replace the mark originally obtained and the final weighted mark will be recalculated.
5. Once the subject has been passed, it may not be subject to a new evaluation.

### **Not assessable**

It is considered non-assessable when the student has not participated in any of the assessment activities.

### **Exam Review**

Once the final grade has been published, the student can request a review of the retake test within the established period. Requests for revision are not accepted on dates outside this period.

### **Procedure in case of copying/plagiarism**

1. Copying **or plagiarism** in any type of assessment activity is a crime, and will be penalised with a 0 as the grade of the subject, losing the possibility of recovering it, whether it is an individual or group work (in this case, all members of the group will have a 0).
2. If during the completion of an individual project in class, the teacher considers that a student is trying to copy or is discovered some type of document or device not authorised by the teaching staff, it will be graded with a 0, with no retake option, and therefore, the subject will be suspended.
3. A work, activity or exam is considered to be "copied" when it reproduces all or a significant part of the work of oneself or another classmate.
4. A work or activity will be considered "plagiarized" when a part of a text by an author is presented as one's own without citing the sources, regardless of whether the original sources are on paper or in digital format.

### **Aspects of assessment related to values and attitudes**

1. The teacher may reduce the grade of the subject by between 1 and 2 points when the student repeatedly does not respect the indications of behavior in the classroom and/or disturbs the normal functioning of the classroom.
2. "No disrespect for colleagues or teachers will be tolerated. Homophobic, sexist or racist attitudes will not be tolerated either. Any student in whom any of the attitudes described above are detected will be classified as failing the subject."

### **Formal aspects of written work**

In all activities (individual and group) linguistic correctness, writing and formal aspects of presentation will be considered.

### **Other considerations**

1. All the evaluation tests will be published in the daily program and in the calendar of the training and evaluation activities.
2. The date of the unique test will coincide with the date of the last continuous assessment test.
3. Students who repeat the subject may request at the beginning of the academic year to take only a final synthesis assessment (Article 117, page 46 of the Academic Regulations of the Universitat Autònoma de Barcelona (Approved by agreement of the Governing Council of 7 July 2022, and amended by agreement of the Governing Council of 1 February 2023)).

*Students in the second or higher enrolment who have taken all the assessment tests the previous year may choose to take assessment with a single synthesis assessment activity. This activity will consist of an exam at the end of the subject coinciding with the written exam of the subject. Students in the second or higher enrolment who wish to opt for the synthesis exam must notify the teaching staff responsible for the subject in writing two weeks before the published date.*

### **Evaluation Activities**

Activity	Weight	Hours	ECTS	Learning Outcomes
<b>Written assessment using two objective tests</b>	25%	2	0,16	<i>E01.06, E01.07, E01.08, E10.03, E10.04, B03, G04.03</i>
	25%	2		
<b>Submission of Papers:</b>				
- Individual:	25%	2	0,08	<i>E01.06, E01.07, E01.08, E10.03, E10.04, B03, G04.03</i>
- In a group:	25%			



## **Bibliography**

### ***Books:***

#### **FOODS. COMPOSITION AND PROPERTIES**

*Editor:* Iciar Astiasarán

*Edition:* 2nd; McGraw-Hill; 2000

*ISBN:* 8448603052

#### **NUTRITION AND CLINICAL DIETETICS**

*Editor:* Jordi Salas Salvadó

*Edition:* 3rd; Elsevier Masson; 2014

*ISBN:* 9788445823774

#### **DIET THERAPY, CLINICAL NUTRITION AND METABOLISM**

*Editor:* Daniel A. de Luis Román

*Edition:* 3rd; Díaz de Santos; 2017

*ISBN:* 9788478856213

#### **NUTRIGUÍA. CLINICAL NUTRITION MANUAL.**

*Editor:* Ortega RM, Requejo AM.

*Edition:* 2nd. Pan american; 2015

*ISBN:* 978-84-9835-867-4

#### **FUNDAMENTALS OF NUTRITION AND DIETETICS. METHODOLOGICAL BASES AND APPLICATIONS.**

Madrid.

*Edition:* Panamericana

#### **KRAUSE. DIET THERAPY**

*Editor:* Raymond JL, Morrow K.

*Edition:* 15th. Elsevier Spain; 2021

*ISBN:* 978-84-9113-937-9

### ***Web links:***

Food - Health Channel - Government of Catalonia. [Internet]. [Accessed June 18, 2024]. Available in:

[http://canalsalut.gencat.cat/ca/home\\_ciudadania/vida\\_saludable/alimentacio/](http://canalsalut.gencat.cat/ca/home_ciudadania/vida_saludable/alimentacio/)

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<https://dietamediterranea.com/ca/>

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<http://www.sennutricion.org/>

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<http://www.nutricioncomunitaria.org/>

Spanish Society of Clinical Nutrition and Metabolism. [Internet]. [Accessed June 18, 2024]. Available at:  
<http://www.senpe.com/>

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<http://www.seedo.es/>

European Food Information Council. [Internet]. [Accessed June 18, 2024]. Available at:  
<http://www.eufic.org/>

The European Nutrition for Health Alliance. [Internet]. [Accessed June 18, 2024]. Available at:  
<http://www.european-nutrition.org/>

The European Society for Clinical Nutrition and Metabolism. [Internet]. [Accessed June 18, 2024]. Available:  
<http://www.espen.org/http://www.espen.org/>

Health without hoaxes. [Internet]. [Accessed June 18, 2024]. Available to:  
<https://saludsinbulos.com/>

EFSA. Dietary reference values for the EU. [Internet]. [Accessed June 18, 2024]. Available to:  
<https://efsa.europa.eu/en/interactive-pages/drvs>

### **Teaching platforms:**

- Moodle
- Kahoot
- Google Forms

