



Universitat de Lleida

# DEGREE CURRICULUM

# **NUTRICIÓ**

Coordination: MACIA PUIG, MARIA ALBA

Academic year 2023-24

## Subject's general information

<b>Subject name</b>	NUTRICIÓ			
<b>Code</b>	102766			
<b>Semester</b>	1st Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Double bachelor's degree: Degree in Human Nutrition and Diethetics and Degree in Physiotherapy	2	COMPULSORY	Attendance- based
<b>Course number of credits (ECTS)</b>	9			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRALAB	PRAULA	TEORIA
	<b>Number of credits</b>	0.6	3.9	4.5
	<b>Number of groups</b>	1	1	1
<b>Coordination</b>	MACIA PUIG, MARIA ALBA			
<b>Department</b>	FOOD TECHNOLOGY, ENGINEERING AND SCIENCE			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
MACIA PUIG, MARIA ALBA	alba.macia@udl.cat	9	

## Subject's extra information

Nutrition is the science that studies the physiological and metabolic processes that occur in the body with food intake. In this subject the student acquires knowledge about the use, modification and elimination of macro- and micro-nutrients in the human body, as well as food sources and recommendations for the general population. The student will also study how these recommendations change in the different stages of life or the physiological situations associated with nutrition: pregnancy, lactation, childhood, adolescence, menopause, old age, sports.

## Learning objectives

1. Know at the metabolic level the use, modification and elimination of nutrients in the human organism
2. Know the factors that affect the ingestion and the nutritional requirements
3. Know the nutritional requirements of the human being at different stages of life and physiological situations
4. Know the basics of energy metabolism and what are the energy requirements of the human being at the different stages of life and physiological situations
5. Know the different situations of nutritional imbalance, both malnutrition and malnutrition. Know how to identify the etiology of possible nutritional deficits and determine the situations of risk to develop malnutrition
6. Know what are the nutritional requirements and the food recommendations in healthy people
7. Know which are the official organisms, databases and tools that allow obtaining information with a scientific basis in the field of nutrition

## Competences

### Specific Competences

- CE25 Know the nutrients, their functions and their metabolic utilization
- CE26 Know the bases of energy and nutritional balance and its regulation
- CE27 Evaluate and calculate nutritional requirements in health and disease situations at any stage of the life cycle
- CE32 Know, detect early and evaluate the quantitative and qualitative deviations of the energy and nutritional balance

### General Competences

- CG1 Recognize the essential elements of the dietician-nutritionist profession, including ethical principles, legal responsibility and the exercise of the profession, applying the principle of social justice to professional practice and developing it with respect to people, their habits, beliefs and cultures
- CG3. Recognize one's own limitations and the need to maintain and update professional competence, giving special importance to learning, autonomously and continuously, new knowledge, products and techniques in nutrition and food, as well as motivation for quality.
- CG4. Communicate effectively, both orally and in writing, with people, health professionals or industry and the media, knowing how to use information and communication technologies, especially those related to

nutrition and health. life habits.

- CG5. Know, critically assess and know how to use and apply the sources of information related to nutrition, food, lifestyles and health aspects.

## Basic Competences

- CB2 That the students know how to apply their knowledge to their work or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.
- CB3 That students have the ability to gather and interpret relevant data (usually within their study area) to make judgments that include reflection on relevant social, scientific or ethical issues.
- CB4 That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.
- CB5 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

## Transversal Competences of the UdL

- CT1 Have a correct oral and written expression
- CT2 Master a foreign language
- CT3 Mastering ICT
- CT5. Acquire essential notions of scientific thought

## Subject contents

### Modul 1 – Bases of human nutrition

1. Fundamental concepts of nutrition.
2. Reference dietary intakes, nutritional goals, food guides and studies of food consumption
3. Regulation and components of the energy balance. methods to measure energy expenditure. calculations to measure energy requirements.

### Modul 2 – Macro and micronutrients: metabolism, functions, and requirements.

1. Physiological and biochemical bases of Nutrition. Regulation of intake and satiety.
2. Glucids. Metabolism, functions, and requirements. Deficiency and toxicity.
3. Dietary fiber. Metabolism, functions, and requirements. Deficiency and toxicity.
4. Proteins. Metabolism, functions, and requirements. Deficiency and toxicity.
5. Lipids. Metabolism, functions, and requirements. Deficiency and toxicity.
6. Water and electrolytes. Functions, and requirements. Deficiency and toxicity.
7. Water-soluble vitamins. Functions, and requirements. Deficiency and toxicity.
8. Water and electrolytes. Functions, and requirements. Deficiency and toxicity.
9. Liposoluble vitamins. Functions, and requirements. Deficiency and toxicity.
10. Minerals. Functions, and requirements. Deficiency and toxicity.

### Modul 3 – Applied Nutrition

1. Nutrition in special physiological situations: gestation, lactation, and menopause
2. Nutrition in the various stages of life I: First childhood (0-3 years). Physiological development. Nutrition needs. Maternal and artificial lactation. Beikost of complementary feeding.
3. Nutrition in various stages of life II: School age and adolescence. Physiological development. Nutritional needs
4. Nutrition in various stages of life III: Aging. Physiological changes. Nutritional needs
5. Nutrition and physical activity. Nutritional needs in exercise

## Methodology

### Master classes

These will be done with all the students. They have the purpose of giving an overview of the educational contents related to the specific knowledge of the course, highlighting those aspects that are related to the acquisition of competences, referring to the basic and applied nutrition

### Seminars

The seminars must be carried out in the group that corresponds to each student. They will consist of solving cases of practical cases, searching for information, analysis and discussion, complementing the contents developed in the master classes. The participation and discussion of the students will be stimulated.

### Tutorials

These will be done in groups of 4-6 students and must be done in the assigned group. It will aim to guide learning avoiding dispersal, clarifying doubts and establishing a conceptual diagram of the course.

### Laboratory practices

Laboratory practices will be carried out in groups of 2 students. It is MANDATORY that students bring to the practices a labcoat

### Directed works

A directed work will be carried out in groups of 2 students. The work will be done on a topic that will previously be chosen from a list provided by the teacher. Each group will submit a written document and will make a brief oral presentation. The students have to attend the tutorials corresponding to the follow up.

## Development plan

ACTIVITY	OBJECTIVE	DESCRIPTION
Master class	1-7	Acquisition of the knowledge about human nutrition and applied nutrition in healthy individuals, nutritional value of foods
Seminars	3-4, 7	Exhibition, treatment and discussion of problems related to nutrition
Tutorials	1-7	Guide the learning by clarifying doubts about the content of the course
Laboratory practices	5	Absorption and nutrition metabolism
Directed works	3, 7	Search for information on a topic of interest in human nutrition.

## Evaluation

The assessment will consist of the weighted average of 5 grades, obtained from the following modules:

### BLOCK 1: Exams (50%)

There will be 2 partial exams of the theoretical part, with multiple choice and short-answer questions.

- Exam I 25%
- Exam II: 25 %

The average of the qualifications of the two exams must be higher than 5 to do the average with the rest of qualifications. If the student doesn't pass the exams (<5), the person has to retake the failed exams in a second call. In this second call, the maximum score that can be achieved is a 5.

## **BLOCK 2: Activities proposed and seminars (30%)**

The mark will be calculated based on the arithmetic average obtained from the qualifications obtained by the student in the different activities.

## **BLOCK 3: Directed work (10%)**

A group work will be evaluated. The topic and the guidelines will be facilitated by the teacher. The mark of the work will correspond to the evaluation of the report presented by the group and the oral presentation of the work.

## **BLOCK 4. Practices: (10%)**

They will be carried out in groups of 2 students. The active participation in the sessions and the delivery of a small group report will be valued.

If someone takes the alternative assessment, this will consist of 2 exams on the dates established by the center, which will weigh 80% of the overall grade of the subject, as well as the delivery of the course work (10% ) and the implementation of the practices (10%).

## **Bibliography**

### **Books:**

- Mataix, J. Nutrición y alimentación humana. I. Nutrientes y Alimentos. Ed. Ergon, Madrid, 2002
- Mataix, J. Nutrición y alimentación humana. II. Situaciones fisiológicas y patológicas. Ed. Ergon, Madrid. 2002.
- Gil, A. Tratado de nutrición. Tomo I. Bases Fisiológicas y Bioquímicas de la Nutrición. Ed. Medica Panamericana. 2ª Edición. 2010.
- Gil, A. Tratado de nutrición. Tomo III. Nutrición Humana en el Estado de Salud. Ed. Medica Panamericana. 2ª Edición. 2010.
- Gil Hernández, A.; Ruíz-López, M.D.; Martínez de Victoria Muñoz, E. Nutrición y Salud. Editorial Médica Panamericana, Madrid, 2018
- Moreiras O., Carbajal, A., Cabrera L., Cuadrado, C. Tablas de Composición de Alimentos. Guía de prácticas. Ediciones Pirámide. 16º Edición. 2013
- Brown, J.E. Nutrición en las diferentes etapas de la vida. Ed. McGraw-Hill, S.A.. 2006.
- Cervera, P., Clapés, J., Rigolfas, R. Alimentación y Dietoterapia (Nutrición Aplicada en la salud y la enfermedad). E. McGraw-Hill-Interamericana de España. 2004
- Hernández Rodríguez, M. i Sastre Gallego, A. Tratado de nutrición. Ed. Díaz de Santos, S.A., Madrid. 1999.
- Serra Majem, Ll.; Aranceta Bartrina, J. Nutrición y salud pública. Ed. Masson (Elsevier), Barcelona. 2006.
- Salas-Salvadó, J.; Bonada i Sanjaume, A.; Trallero Casañas, R.; Saló i Solà, M. E.; Burgos Peláez, R. Nutrició y Dietética Clínica. 4ta Edición. Elsevier, Madrid, 2019

### **Websites:**

- <http://www.gencat.net/salut/acsa>
- <http://www.nutricion.org>
- <http://www.sennutricion.org>
- <http://www.nal.usda.gov/fnic>
- <http://www.seedo.es>
- <http://www.fesnad.org>
- <http://www.sennutricion.org>
- <http://www.aedn.es>
- <http://www.naos.aesan.mspsi.es/>
- <http://www.nutricioncomunitaria.org>