



DEGREE CURRICULUM

NUTRITION

Coordination: ODRIOZOLA SERRANO, ISABEL ANDREA

Academic year 2021-22

Subject's general information

Subject name	NUTRITION			
Code	102226			
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Food Science and Technology	2	COMMON	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRALAB	PRAULA	TEORIA
	Number of credits	0.6	1.2	4.2
	Number of groups	2	1	1
Coordination	ODRIOZOLA SERRANO, ISABEL ANDREA			
Department	FOOD TECHNOLOGY			
Teaching load distribution between lectures and independent student work	Hores presencials: 60 Hores no presencials: 90			
Important information on data processing	Consult this link for more information.			
Language	Català			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ODRIOZOLA SERRANO, ISABEL ANDREA	isabel.odrizola@udl.cat	3,6	
OMS OLIU, GEMMA	gemma.oms@udl.cat	2	
PIQUE FERRE, M. TERESA	mariateresa.pique@udl.cat	1	

Subject's extra information

Feeding is a voluntary process linked to the culture of different ethnic groups. However, nutrition is an involuntary and unconscious process that is influenced by the metabolism of every organism. This course provides knowledge about the use of different food components, nutrients, and all its related processes. The course also explains the importance of a proper nutrition, with a balanced intake of nutrients, as a base of good health of human, and allows a clear distinction between food and nutrition.

Learning objectives

After the course, students should be able to:

- Learn at metabolic level, the use, modification and removal of nutrients in the human body.
- Understand the factors that affect the human nutrition.
- Know the changes in nutritional requirements in relation to body growth, regeneration and tissue repair, sex and age of the individual.
- Know how to promote the acquisition of healthy eating habits.
- Learn how to incorporate scientific advances in the field and Nutrition.

Competences

Basic skills

CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies 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 area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature.

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.

General Competences

CG1. Analyze specific situations, define problems, make decisions and implement action plans in search of solutions.

CG3. Select and manage the available written and computerized sources of information related to the professional activity.

CG4. Work alone and in a multidisciplinary team.

CG5. Understand and express themselves with the appropriate terminology.

CG7. Recycle in new technological advances through continuous learning.

CG10. Have a critical and innovative spirit.

Transversal Competences

CT1. Correctly present information in oral and written form

CT3. Use existing IT and communication tools as support for the development of their professional activity

Specific Competences

CE3. Identify and apply the fundamentals of Biology and Human Physiology necessary for the development of other disciplines and the activities of the profession.

CE7. Identify the basic nutrients, their metabolism and their function in the human body

CE8. Recognize the basic concepts related to energy expenditure, energy calculations and recommended energy requirements in the different stages of life.

CE9. Describe the systems of digestion, absorption, transport and excretion of nutrients.

CE10. Contextualize the basic concepts of human nutrition with other related sciences and disciplines, in particular with food manufacturing processes

CE13. Design the methodology for the development of functional foods.

Subject contents

Theme 1.-Basic concepts of food and nutrition

Theme 2.-Body composition: body growth and nutritional needs, changes depending on age and sex

Theme 3.-Biochemical and physiological bases of nutrition

Theme 4.-Regulation of energy balance and caloric intake

Theme 5.-Carbohydrates: classification, food sources, digestion, absorption, metabolism, functions and needs.

Theme 6.-Dietary fibre: classification, structure, food sources, digestion and physiological effects.

Theme 7.-Lipids: classification, food sources, digestion, absorption, metabolism, functions and needs.

Theme 8.-Protein: classification, food sources, digestion, absorption, metabolism, functions and needs.

Theme 9.-Water and electrolytes: quantity and distribution of the water body, regulation of cellular compartments, balance, regulation intake, excretion, absorption and functions, electrolytes: sodium, potassium and chloride.

Theme 10.-Vitamins: classification, food sources, digestion, absorption, metabolism, functions, needs, deficiencies and toxicity.

Theme 11.-Minerals: classification, food sources, digestion, absorption, metabolism, functions, needs, deficiencies and toxicity.

Practical activities

1).-Calculation of energy and nutritional needs of an individual

2).-Development of a functional food

Methodology

Activities	Description	Student presential hours		Student no presential hours		Evaluation Hour	Total time	
		Objective	Hour	Student work	Hour		Hour	Hour
Lectures	Master classes	Explanation of the main concepts	42	Acquisition of knowledge about the basis of nutrition and applied nutrition of healthy people.	50	4	96	3.84
Seminars	Participative classes	Discussion or implementation activities	18	Exposition, treatment and discussion about problems	28	8	54	2.16
Directed activities	Student work (individual or group)	Deepen in the theoretical concepts of the subject						
Total			60		80	10	150	6.0

Evaluation

The evaluation will consist of an average of three grades, obtained from the following elements:

1. Written test (individual examination): 30%
2. Written test II (individual examination): 35%
3. Seminars: 35%.

There will be two exams of the theoretical part. Also, there will be two exams of the practical part (protein and energy requirements). Students must pass each exam with a grade of 5 or higher. No approved parts will be recoverable.

The presentation of the activity of functional foods is mandatory to pass the course.

Recuperation exam: As much as all the practical activities are approved, a minimum of 5 out of 10 of each of the partials must be obtained in order to pass the course.

Bibliography

Basic Bibliography

- BENDER, A.E. (1995). *Fundamentos de Nutrición y Metabolismo*. Ed. Acribia, Zaragoza.
- HERCBERG, H.; DUPIN, H.; PAPOZ, L., y GALAN, P. (1988) *Nutrición y Salud Pública*. Ed. De Aula Medica, Madrid.
- HERNÁNDEZ RODRÍGUEZ, M. y SASTRE GALLEGO, A. (1999). *Tratado de Nutrición*. Ed. Díaz de Santos, S.A., Madrid.
- LINDER, M. C. (1988). *Nutrición. Aspectos bioquímicos, metabólicos y clínicos*. Ed. Eunsa, Pamplona.

MATAIX, J. coord. (1993). *Nutrición y Dietética. Aspectos sanitarios. Tomos 1 y 2.* Ed. Consejo General de Colegios Oficiales de Farmacéuticos, Madrid.

Complementary Bibliography

ALEMANY LAMAÑA, M. (1992). *Obesidad y Nutrición.* Ed. Alianza Editorial, Madrid.

BIESALSKI, H.K., GRIM, P. (2007). *Nutrición.* Ed. Médica Panamericana, S.A. Madrid.