Universitat de Lleida

DEGREE CURRICULUM

NUTRITION

Coordination: ODRIOZOLA SERRANO, ISABEL ANDREA

Academic year 2019-20

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	PRAULA	TEORIA
Number of credits	1.8	4.2
Number of groups	2	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
Office and hour of attention	Isabel A. Odriozola Serrano (coordinadora) Centre: Escola Tècnica Superior d'Enginyeria Agraria Departament: Tecnologia d'Aliments Despatx: 2.1.09.2 Telèfon: 973702616 Gemma Oms Oliu Centre: Escola Tècnica Superior d'Enginyeria Agraria Departament: Tecnologia d'Aliments Despatx: 2.1.09.2 Telèfon: 973702671

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ODRIOZOLA SERRANO, ISABEL ANDREA	isabel.odriozola@udl.cat	5,2	
OMS OLIU, GEMMA	gemma.oms@udl.cat	2,6	

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

General Competences

CG2: Apply knowledge into practice in a professional setting and have the necessary skills for argumentation, defence and problem solving within the field.

CG3: Gather and interpret relevant data to make judgements involving a reflection on related social, scientific and ethical issues.

CG4: Convey comprehensive information, ideas, problems and solutions both to specialised and non-specialised audiences.

CG5: Have the necessary learning skills to undertake further study with a high degree of autonomy.

Moreover, students should be able to:

CG6: Analyse specific situations, identify problems, make decisions and implement action plans in search for solutions.

CG8: Select and manage available written and computerised sources of information related with the professional

activity.

CG9: Utilize the existing ICT tools as support to develop the professional activity (strategic competence UdL))

CG10: Be able to work individually and in a multidisciplinary team.

CG11: Be able to comprehend and express concepts using the proper terminology.

CG12: Be able to present oral and written information in a correct fashion (strategic competence UdL)

CG15: Update according to the technological advances through continuous learning.

CG18: Have a critical and innovative mind.

Specific Competences

Graduates in Food Science and Technology after completing their studies will have acquired the following knowledge and skills:

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

CE8. Know the basic concepts related with energy expenditure, energetic calculations and basic recommended energetic requirements in the stages of life.

CE9. Know and understand the nutrient digestion absorption and excretion systems.

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

CE13. Know 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	Total time	
		Objective	Hour	Student work	Hour	Hour	Hour	ECTS
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**
Total			**60**		**78**	**12**	**150**	**6.0**

Evaluation

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

1. Written test (individual examination): 35%

2. Written test II (individual examination): 35%

3. Seminars: 30%.

There will be two exams of the theoretical part with multiple choice questions and short answer questions. 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.

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, metabòlicos 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.

Adaptations to the methodology due to COVID-19

Activities	Description	Student presential hours		Student no presential hours		Evaluation	Total time	
		Objective	Hour	Student work	Hour	Hour	Hour	ECTS
Lectures	Master classes	Explanation of the main concepts	38	Acquisition of knowledge about the basis of nutrition and applied nutrition of healthy people.	**48**	**2**	**88**	**3.52**
Seminars	Participative classes	Discussion or implementation activities	18	Exposition, treatment and discussion about problems	**28**	**6**	**52**	**2.08**
Directed activities Online	Student work (individual or group)	Deepen in the theoretical concepts of the subject	4		**4**	**2**	**10**	**0.40**
Total			**60**		**80**	**10**	**150**	**6.0**

Adaptations to the development plan due to COVID-19

Theoretical classes and seminars will be given by videoconference.

Students will make use of the virtual campus for the delivery of seminars and guided activities

Due to the cancellation of the face-to-face classes, working hours have been added for the resolution of directed activities on theoretical concepts of the subject.

Adaptations to the evaluation due to COVID-19

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): 25%

3. Seminars: 35%

4. Activities related to the theorical concepts: 10%

There will be two exams of the theoretical part with multiple choice questions. 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.

The presentation of directed activities on theoretical concepts of the subject is not mandatory (activities with on-line delivery of the subjects of Water and electrolytes, Vitamins and Minerals)