COURSE DATA

Data Subject

Code	33957
Name	Nutrition
Cycle	Grade
ECTS Credits	12.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1205 - Degree in Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	2	Annual
1211 - D.D. in Pharmacy-Human Nutrition and Dietetics	Faculty of Pharmacy and Food Sciences	4	Annual

Subject-matter

Degree	Subject-matter	Character
1205 - Degree in Human Nutrition and Dietetics	19 - Nutrition	Obligatory
1211 - D.D. in Pharmacy-Human Nutrition and Dietetics	1 - Asignaturas obligatorias del PDG Farmacia-Nutrición Humana y Dietética	Obligatory

Coordination

Name	Department
JUAN GARCIA, CRISTINA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.
MOLTO CORTES, JUAN CARLOS	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.
PALLARES BARRACHINA, NOELIA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

SUMMARY

WITHIN THE UNIVERSITY DEGREE CONTEXT: "Nutrition" is the only subject of the "Nutrition" matter. Nutrition is a part of the Module 4. "Science of nutrition, dietetics and health" of 55.5 ECTS.

CONTENTS ACCORDING TO THE UNIVERSITY DEGREE 2009:

Human nutrition. Macro and micronutrients and other dietary components: role, needs and recommendations, sources and metabolic utilization. Energy and nutritional balance. And interaction between nutrients. Individual assessment of nutritional status, medical history, medical history, dietary, anthropometric, biochemical indices of prognosis, functional tests, rapid methods of nutritional screening and assessment of food intake.

OBJECTIVES:

To Know the nutritional needs and how to set the recommended intakes, nutritional goals and dietary guidelines.

To Know the nutrient digestion, absorption, distribution and use by the body as well as their sources and the impact of impairments and/or excesses of intakes on the health.

Recognize nutrient interactions with themselves and with drugs.

To gain experience in methods of assessment of nutritional status of individuals.

To know the different methods of assessment of food consumption at individual.

To explore the errors and myths of nutrition and feeding

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

It is recommended to have studied the matter biochemistry and physiology.

OUTCOMES

1205 - Degree in Human Nutrition and Dietetics

- Reconocer los elementos esenciales de la profesión del dietista-nutricionista, incluyendo los principios éticos, responsabilidades legales y el ejercicio de la profesión, aplicando el principio de justicia social a la práctica profesional y desarrollándola con respeto a las personas, sus hábitos, creencias y culturas, con perspectiva de género.

- Know, judge and know how to use and apply the sources of information related to nutrition, food, lifestyles and health.
- Recognise one's own limitations and the need to maintain and update professional competence, with particular emphasis on independent and lifelong learning of new facts, products and techniques in the field of nutrition and food, and on motivation for quality.
- Realizar la comunicación de manera efectiva, tanto de forma oral como escrita, con las personas, los profesionales de la salud o la industria y los medios de comunicación, sabiendo utilizar las tecnologías de la información y la comunicación especialmente las relacionadas con nutrición y hábitos de vida.
- Interpretar y manejar las tablas y bases de datos de composición de alimentos.
- Desarrollar la profesión con respeto a otros profesionales de la salud, adquiriendo habilidades para trabajar en equipo.
- Study the interactions of and between nutrients that may affect their bioavailability.
- Apply the techniques, methods and tools that allow the assessment of individual nutritional status.
- Diseñar y llevar a cabo protocolos de evaluación del estado nutricional, identificando los factores de riesgo nutricional.
- Interpretar el diagnóstico nutricional, evaluar los aspectos nutricionales de una historia clínica y realizar el plan de actuación dietética.
- Conocer los nutrientes, su función en el organismo, su biodisponibilidad, las necesidades y recomendaciones, y las bases del equilibrio energético y nutricional.
- Conocer y comprender la terminología y los procesos relacionados con la nutrición, la alimentación y su aplicación práctica.
- Conocer las bases del equilibrio energético y nutricional.
- Conocer los macronutrientes, su función en el organismo, fuentes alimentarias, valor energético, biodisponibilidad, necesidades y recomendaciones, así como la repercusión de la deficiencia y exceso sobre la salud.
- Conocer los micronutrientes, su función en el organismo, fuentes alimentarias, biodisponibilidad, necesidades y recomendaciones, así como la repercusión de la deficiencia y exceso sobre la salud.
- Know about other components of foods with a nutritional impact, delving into their function, bioavailability and food sources.
- Know the anamnesis and clinical and dietary history as a prelude to the individual nutritional assessment.

LEARNING OUTCOMES

Studying this course, students should acquire the following skills and abilities:

Strength in basic nutritional knowledge

Ability to pose and solve basic nutritional problems

Knowledge of the possibilities that the Internet provides on nutritional knowledge and ability to discriminate the scientific reliability of the sources of information

DESCRIPTION OF CONTENTS

1. INTRODUCTION

Item 1. Food and Nutrition: Concepts. Related matters. Historical and future prospects. Nutrition areas. Sources of information and literature. Food and nutrients: Concepts and types. Bioaccessibility and bioavailability of nutrients.

2. REQUIREMENTS RECOMMENDATIONS DIETARY NUTRITION GOALS AND GUIDELINES

Item 2. ENERGY NEEDS. Metabolism and energy expenditure. Components of energy expenditure: basal energy expenditure, physical activity energy expenditure, thermogenesis and diet-induced thermogenesis by stress. Quantifying energy expenditure, and calorimetric calorimetric methods.
Item 3. NEEDS AND RECOMMENDATIONS. Concepts. Recommended Dietary Intakes and reference. Classification and components.
Item 4. DIETARY NUTRITION GOALS. Its establishment and purpose. National and international nutrition goals.

3. ENERGY AND NUTRIENTS

ENERGY AND NUTRIENTS
Item 5. Energy value of nutrients. Determination of the energy value of food.
Item 6. Lipids: Classification. Use by the body. Saturated and unsaturated fatty acids. Unsaponifiable components. Needs and recommendations. Dietary sources. Related pathology
Item 7. Protein-use by the body. Essential amino acids. Evaluation of the nutritional quality of proteins. Recommendations. Dietary sources. Plastic needs. Protein needs: estimate. Related pathology.
Item 8. Carbohydrates: Classification. Uses: Digestion, absorption, transport, storage, metabolism and its regulation. Functions. Needs and recommendations. Dietary sources. Related pathology
Item 9. Water and electrolytes: Functions, requirements, recommendations and sources. Related pathology
Item 10. Vitamins: Concept and classification. Water-soluble vitamins: Vitamin C. B vitamins Functions. Needs and recommendations. Dietary sources. Related pathology
Item 11. Soluble vitamins. Functions. Needs and recommendations. Dietary sources. Related pathology
Item 12. Minerals. General. Major elements. Functions. Needs and recommendations. Dietary sources. Related pathology
Item 13. Trace elements. Functions. Needs and recommendations. Dietary sources. Related pathology

4. OTHER FOOD COMPONENTS

OTHER FOOD COMPONENTS
Item 14. Dietary fiber: concept. Components and classification. Biological functions. Needs and recommendations. Dietary sources. Related pathology
Item 15. Biologically active food. Concept and classification. Sources. Biological effects.
Item 16. Ethyl alcohol. Absorption, metabolism and effects. Recommendations. Sources and food and nutritional impact.

5. INTERACTION WITH NUTRIENTS

Item 17. Energy-nutrient interactions and nutrient-nutrient. Concept. Interaction of energy. Interaction between and minerals. Interaction of fiber. Interaction between and vitamins.

6. ASSESSMENT OF NUTRITIONAL STATUS

Item 18. Nutritional assessment. Evolution of nutritional status. Indicators. Anamnesis. Medical and social history.
Item 19. Anthropometric assessment. Concepts. Body compartments. Fat and lean mass. Body water. Most common anthropometric parameters.
Item 20. No anthropometric assessment. Methods based on electrical conductance, isotopic and densitometry.
Item 21. Clinical evaluation. Clinical signs common in nutritional deficiency and excess.
Item 22. Biochemical evaluation. Generic and specific methods. Limitations.
Item 23. Hematologic evaluation. RBC parameters. Red cell indices. Determination of platelets. Leukocyte parameters.
Item 24. Immunologic evaluation. Total lymphocyte count. Percentage and number of lymphocyte subpopulations. Delayed cellular hypersensitivity reactions. Serum immunoglobulins.
Item 25. Strategies for the assessment of nutritional status with anthropometric, clinical and analytical data in practical cases.
Item 26. Other methods. Prognostic indexes. Functional tests. Screening and identification of patients at nutritional risk.

7. ASSESSMENT OF FOOD CONSUMPTION

Item 27. Food surveys. Concept and classification. Evaluation of the individual food consumption.

8. Laboratory experiments

1 .- Resolution of practical issues across the network. Specific nutrition pages.
2 .- Changes in the use of sugars (diabetes).
2.1 .- Making a curve of glucose tolerance.
2.2 .- Recognition of glucose in urine (glucosuria).
2.3 .- Recognition of ketones in the urine.

3 .- Changes in the use of carbohydrates (carbohydrate intolerance).
3.1 .- Investigation of lactose intolerance.
3.2 .- Investigation of galactose intolerance.
4 .- Investigation of adaptive metabolic changes.
4.1 .- Determination of total plasma proteins.
4.2 .- Determination of plasma free fatty acids.
4.3 .- Determination of liver glycogen.
5 .- Biochemical evaluation of nutritional status: State protein
5.1 .- Determination of creatinine.
6 .- Assessment of nutritional status: anthropometry.
7 .- Nutrient Digestion: Enzyme activity of salivary amylase.
8 .- Protein Metabolism: Determination of urea in serum and urine.
9 .- Detection of deficiencies of vitamin C.
10 .- Regulation of electrolyte and mineral nutrient balance:
10.1 .- Determination of volume, density and urinary pH.
10.2 .- Determination of chlorides in urine.
11 .- Study of the diet.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	76,00	100
Laboratory practices	30,00	100
Seminars	4,00	100
Tutorials	4,00	100
Development of group work	20,00	0
Preparing lectures	95,00	0
Preparation of practical classes and problem	30,00	0
Resolution of case studies	20,00	0
Resolution of online questionnaires	15,00	0
TOTAL	**294,00**	

TEACHING METHODOLOGY

The subject development is done through computer presentations and timely board and transparencies. Approach problems solved and unsolved. Approach of case studies of nutritional consultation. Literature search of books available in library at the beginning of each topic outline or summary will be available for students

The teaching techniques include:

- Theoretical sessions including practical cases Hands-on labs
- Hands-on computer
- Preparation, presentation and discussion of current events (seminars coordinated) specialized Tutorials
- Media: Video scientists and current affairs

Other (specify):

- Attendance at conferences and seminars taught by specialized professionals.
- Assistance to specific workshops organized by various organizations.
- Perform tasks of understanding and discussion of theoretical content taught in the classroom.
- Simulation activities, to put into practice the assimilated theoretical concepts.
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During the activities, both theoretical and practical, examples of the applications of the contents of the subject in relation to the Sustainable Development Goals (SDG) will be indicated, as well as in the proposals of topics for the coordinated seminars. This is intended to provide students with knowledge, skills and motivation to understand and address these SDGs, while promoting reflection and criticism.

Train students in a transversal way in all subjects with the integration of the three dimensions of sustainable development: economic, social and environmental, prioritizing the fight against poverty and hunger, with a strong anchor in the defense of the human rights, gender equality and the empowerment of women, together with the elimination of unsustainable consumption patterns.

EVALUATION

The practices, tutorials and seminars, are of MANDATORY ATTENDANCE and, therefore, NOT RECOVERABLE, in accordance with the provisions of Article 6.5 of the Regulation of Evaluation and Qualification of the UV for Bachelor and Master degrees. If it is not possible to attend any of these activities for justified reasons, it must be communicated in advance. In this way, the person in charge of the subject may assign the student a session in another group.

Weighting of the grade evaluated

- Value of the Practical part (15%). Students who repeat the subject are exempt from doing the practices during two academic years, but they must take the practical part exam to pass the subject.

- Value of the theoretical part [70% in the Degree (D) and 75% in the Double Degree (DD)]:

- Value of Seminars: 10% for Degree students or 5% for Double Degree students (activities proposed by the professor, for discussion and sharing during the sessions of coordinated seminars).

- Value of Tutorials (5%)

It is required a minimum grade of 4’5 / 10 in each of the teaching activities assessed to compensate the note from the other activities.

The subject is passed when the specific competences of the subject are acquired (minimum global mark 5/10).

First evaluation:

-First partial exam in January, 35% D or 37,5% DD, it removes contents if pass the exam.

-Second partial exam in May, 35% D or 37,5% DD, or Global evaluation (70% D or 75% DD), together with the Practical exam (15%).

The subject Nutrition is passed in the first evaluation either by passing both partial exams or by passing the Global exam. Second partial and Global exam are carried out at the same date and hour (May).

If any evaluated part is not passed in the first evaluation, a Global Exam in the Second Evaluation must be done.

Second Evaluation:

Global exam of theory content (70% G ó 75% DG) and Practical activities (15%).

Evidence of copying or plagiarism in any of the assessable tasks will result in failure to pass the subject and in appropriate disciplinary action being taken. Please note that, in accordance with article 13. d) of the Statute of the University Student (RD 1791/2010, of 30 December), it is the duty of students to refrain from using or participating in dishonest means in assessment tests, assignments or university official documents.

In the event of fraudulent practices, the “**Action Protocol for fraudulent practices at the University of Valencia**” will be applied (ACGUV 123/2020): https://www.uv.es/sgeneral/Protocols/C83sp.pdf

REFERENCES

Basic

- Cervera P., Clapés J., Rigolfas R., Alimentación y Dietoterapia. 3ª ed. Mc Graw-Hill-Interamericana (1999).

Gil A. Tratado de Nutrición. Ed. Acción Médica. Madrid (2005).

Kuklinski C. Nutrición y Bromatología. Ed Omega Barcelona (2003)

Mahan L.K., Scott-Stump S., Nutrición y Dietoterapia de Krause. 10ª edición. Mc Graw-Hill-Interamericana. México (2001).

Martínez J.A., Fundamentos teórico-prácticos de Nutrición y Dietética. Mc Graw-Hill- Interamericana México (1998).

Mataix J. (ed), Nutrición y alimentación humana: I. Nutrientes y alimentos. II. Situaciones fisiológicas y patológicas. Ergón. Majadahonda. (2002).

Mataix J., Mañas M., Tablas de composición de alimentos españoles. 3ª ed. Universidad de

Granada (1998).

Salas-Salvadó J., Bonada A., Trallero R., Saló E., Nutrición y Dietética Clínica. Masson. Barcelona (2000).

Serra L., Aranceta J. Nutrición y Salud Pública. 2ª Ed. Masson. Barcelona. (2006).

Soriano J.M. Nutrición básica humana. Servei de Publicacions de la Universitat de València. Valencia. (2006).

Additional

- Agencia Española de Seguridad Alimentaria y Nutrición (AESAN) https://www.aesan.gob.es/AECOSAN/web/home/aecosan_inicio.htm
- Agència Catalana de Seguretat Alimentària (ACSA) https://acsa.gencat.cat/ca/inici
- Asociación de Enfermeras de Nutrición y Dietética (ADENYD) https://www.adenyd.es/

Asociación Española de Dietistas y Nutricionistas (AEDN) www.aedn.es
Asociación Española de Doctores y Licenciados en Ciencia y Tecnología de los Alimentos (ALCYTA) www.alcyta.com
Sociedad Española de Nutrición Clínica y Metabolismo. www.senpe.com

Composición de alimentos:
www.ars.usda.gov/Aboutus/docs.htm?docid=6300
www.cropcomposition.org/
Federación Española de Sociedades de Nutrición, Alimentación y Dietética (FESNAD) www.fesnad.org
National Library of Medicine. https://pubmed.ncbi.nlm.nih.gov/
Sociedad Española de Dietética y Ciencias de la Alimentación (SEDCA) www.nutricion.org
Sociedad Española de Endocrinología y Nutrición (SEEN) www.seen.es
Sociedad Española de Gastroenterología, Hepatología y Nutrición Pediátrica (SEGHNP) www.gastroinf.com
Sociedad Española de Nutrición (SEN) www.sennutricion.org
Sociedad Española de Nutrición Comunitaria (SENC) https://www.nutricioncomunitaria.org/es/

Web legislación española: https://noticias.juridicas.com/