COURSE DATA

Data Subject	
Code	34110
Name	Clinical Nutrition
Cycle	Grade
ECTS Credits	4.5
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1201 - Degree in Pharmacy	Faculty of Pharmacy and Food Sciences	3	Second term

Subject-matter

Degree	Subject-matter	Character
1201 - Degree in Pharmacy	9 - Human feeding	Obligatory

Coordination

Name	Department
FRIGOLA CANOVES, ANA MARIA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

SUMMARY

Dietary Therapy course is a compulsory subject taught in the second half in the third year of the Pharmacy degree. In the existing curriculum (2009 Plan) consists of a total of 4.5 credits (1 credit ECTS = 25 h). This course is part, along with "Nutrition and Food Science" of the subject "Human nutrition", taught in the module of Medicine and Pharmacology. This course aims to the pupil to dominate the incidence of nutrition in different diseases and/or physiopathological situations. It must also be able to develop dietary guidelines for hospital and outpatient treatment, as well as to develop plans for nutritional care for various diseases. Finally, it will be tracked and dietary control of the patient. As professionals in the area of Health Sciences, graduates not may escape in their future professional employment of these concepts of huge news.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

The study of the subject of "Dietary Therapy" is based on the practical implementation of many of the knowledge gained in courses in the first cycle "Physiology", "Anatomy", "Biochemistry" and "Pathophysiology", "Nutrition and Food Science".

OUTCOMES

1201 - Degree in Pharmacy

- To possess and to understand the knowledge in the different areas of study included in the formation of the pharmacist.
- To apply this knowledge to the professional world, contributing to the development of Human Rights, democratic principles, principles of equality between women and men, solidarity, protection of the environment and promotion of a culture of peace with Gender perspective.
- To know how interpret, value and communicate relevant data in the different aspects of pharmaceutical activity, making use of information and communication technologies.
- Skill to communicate ideas, analyze problems and solve them with a critical mind, achieving team-working abilities and assuming leadership whenever required.
- Development of skills to update their knowledge and undertake further studies, including pharmaceutical specialization, scientific research and technological development, and teaching.
- Know how to apply the scientific method and acquire skills in the management of legislation, information sources, bibliography, elaboration of protocols and other aspects that are considered necessary for the design and critical evaluation of preclinical and clinical trials.
- To develop communication and information skills, both oral and written, to deal with patients and other health professionals in the center where they carry out their professional activity. To promote the capacity of work and collaboration in multidisciplinary teams and those related to other health professionals.
- To recognize personal limitations and the need to keep up to date professional competence, paying particular attention to the self-learning of new knowledge based on available scientific evidences.
- To intervene in the activities of health promotion, prevention of illness, in the individual, family and community; with a comprehensive and multi-professional vision of the health-illness process.
- Know and handle the basic terminology of Nutrition, Food Science, Dietetics and Diet Therapy.

- To know the nutrients and other components of nutritional interest, as well as the sources, recommendations and the repercussions that would have on health its deficiencies and / or excesses
- To issue nutritional and food advice in the professional field, taking into account the difference by gender, physiological or pathological state.
- Acquire the necessary knowledge to evaluate the fitness of the food for consumption.
- Perform the process of nutritional assistance ambulatory and hospital.
- To issue dietary advice on health, fitness and medical nutritional therapy, considering gender differences.

LEARNING OUTCOMES

Pursuant to the subject of food, the evaluation of the learning of knowledge, competences and skills shall be effected in the form of assessment continued throughout the course. Shall be considered as assessable parameters:

(a) realization of individual and/or collective memories of exercises relating to the various activities in the classroom, the laboratory and computer room, which will assess the acquisition of skills and attitudes defined ad hoc for the subject as well as the work carried out by the student and the adqisición of procedures and basic concepts;

(b) paper written in which will assess the level of general knowledge of theoretical concepts and procedures presented for each topic;

(c) attitude of the student, assessable from the collective and individual tutorials, practical classes and seminars displayed and discussed in the classroom.

DESCRIPTION OF CONTENTS

1. Introduction

1.1.Relationship between diet and disease. Objectives of diet therapy. Types of therapeutic diets and factors to be considered in its elaboration.
1.2.Artificial nutrition. Enteral and parenteral nutrition. Objectives, indications and features.
1.3.Diet prior to certain diagnostic tests. Tests and indications. Applicable dietary modifications and precautions.

2. Modified diets

In this unit explore various modifications of the diet both in its composition and in its texture. How to act through the diet to treat illnesses and/or improve the quality of life of patients

2.1.Diets with modified texture: types. Nutritional objectives. Indications, contraindications and adverse effects. Features. Practical aspects of its implementation. Progressive diets.
2.2.Diet poor and rich in fiber. Objectives and directions. Preparation, characteristics and precautions.

Adverse effects and contraindications. Astringent diets.
2.3.High protein and energy diet: dietary goals and main indications. Characteristics and realization of the diet.
2.4.Low-protein diet for kidney patients. Nutritional objectives. Characteristics of the diet in each clinical situation.
2.5.Controlled amino acid diet. Disorders of amino acid metabolism and hepatic encephalopathy. Characteristics of diet and adjuvants measures.
2.6.Controlled mineral diet. Features and realization. Dietary recommendations.
2.7.Food allergy diet. Types, characteristics and prevalence of food hypersensitivity. False allergies. Clinical manifestations. Most frequently involved foods. Prevention and dietetic treatment.
2.8.Diet on food intolerances. Controlled in lactose, fructose, sucrose and galactose diets. Gluten-free diet. Indications, nutritional objectives and characteristics of the diet.

3. Metabolic syndrome

This unit consider the dietary treatment of metabolic diseases of higher prevalence.

3.1.Metabolic syndrome
3.2.Diet of patients with overweight and/or obesity. Low-calorie diets. Types. Nutritional objectives. Characteristics and development. Indications, precautions and adverse effects. Special considerations in childhood and adolescence. Education and practical recommendations for the control of body weight.
3.3 The diet of the diabetic patient: objectives and characteristics depending on the type of diabetes and the prescribed medical treatment. Nutritional education. Follow-up and monitoring of patients in various situations.
3.4.Diet of the patient dislipidic. Types, possibilities of treatment and associated pathology. Influence of the components of the diet on lipid profile. General and specific recommendations.
3.5.Diet of the hypertensive patient. Diet in low sodium. Nutritional goals and directions. Characteristics of the diet. Adverse Nutritional goals and directions. Characteristics of the diet. Adverse effects and contraindications. Nutritional education of the hypertensive patient.

4. Laboratory class

4.1. Design of the basal diet of a hospitalized patient.
4.2. Design of diets from medical prescriptions. Realization of diets based on rations and equivalences for patients with kidney failure.
4.3. Study and commentary of the nutritional valuation of a menu proposed nutritional recommendations;

4.4. Evaluation of nutritional status through anthropometric measures.
4.5. Evaluation of nutritional status in the adult.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	20,00	100
Computer classroom practice	8,00	100
Laboratory practices	8,00	100
Seminars	4,00	100
Tutorials	2,00	100
Development of group work	10,00	0
Development of individual work	2,50	0
Study and independent work	40,00	0
Readings supplementary material	2,50	0
Preparing lectures	8,00	0
Preparation of practical classes and problem	1,50	0
Resolution of case studies	3,00	0
TOTAL	**109,50**	

TEACHING METHODOLOGY

The development of the course is structured in:

Theory classes: Master class will basically be used in theory classes. The teacher will present the most relevant content on the subject, using audiovisual media necessary for quick and consistent development of the same. The teacher will leave accessible in advance on the platform of teaching "Virtual Classroom", the necessary material support for proper follow-up of theory classes. The theoretical classes enable notably the acquisition of knowledge, and to a lesser extent contribute to the acquisition of procedures and attitudes. The Professor will monitor the assistance to them.

Practical laboratory sessions: are compulsory. Carried out in four sessions of 4 hours (2 in the laboratory and 2 to the computer room). During the session will have to make a script of the "Notebook of practices" sessions, with a short theoretical introduction of them and the detailed protocol. During each session students will have to fill the practice workbook, including the mathematical calculations needed to obtain the results and the final solution. The notebook of practices will be delivered during the week following the completion of the practices and will be corrected by the teacher. The most representative calculations made previously by the student in their time of study will be reviewed during classes. Practical classes contribute primarily to the acquisition of skills, and to a lesser extent to the attitudes and knowledge.

Seminars: Seminars are compulsory attendance. They must be prepared in groups of 4 or 5 students, each of which will present a topic to be held during the seminar (oral presentation and written work). The exhibitions will be held in days of seminars. Concerning the seminar dates and deadlines appear published on Virtual Classroom of the subject in advance. The work shall be submitted in electronic format and on paper guardian and shall consist of the following documents:

a) Written work with a bibliography.

b) Oral presentation. The work will be publicly showcased during the seminars. At the end it will engage a discussion involving all participants in the seminar.

Seminars can also be held with current scientific articles related to the subject, completing the tasks requested on them.

The assessment of this activity will cover both the scientific contents treated as the way in which they have been submitted, particularly assessing the ability of communication and transmission of ideas and concepts, as well as the ability to join a working group.

Tutorials: Attendance is compulsory. The duration of these tutorials will be 1 hour. In them, the Professor will evaluate the learning process of students in a global manner and guide students on the methods of work more useful for the resolution of problems that might arise. Equally, the tutorials will serve to resolve all doubts that have been able to arise over the theoretical and practical classes.

The contents of the course will be related to the Sustainable Development Goals (SDG). This is intended to provide the student with knowledge, skills and motivation to understand and address these SDGs, while promoting reflection and critical.

EVALUATION

The evaluation of learning of the knowledge, competitions and skills will be carried out along the course. There will be considered to be parameters evaluables: a) theoretical-practical final written test in which there will be evaluated the grade of general knowledge of theoretical concepts and procedures presented for every topic; b) achievement of individual and/or collective memoirs of exercises relative to the different activities in classroom, in that ad will evaluate the acquisition of skills and definite attitudes *ad hoc* for the matter; c) preparation and participation in seminars: written work and exhibition (the scientific content of the work will be evaluated, and the capacity of exhibition and debate with the teachers and partners; d) other tasks proposed along the course, whose(which) achievement he(she) will announce the students to himself with enough advance.

Evaluation of the theoretical contents through theoretical questions of the final exam: the result of this evaluation will represent **6.5 points** from the final grade for the course.

Evaluation of the practical lab classes: the qualification obtained in this evaluation will represent **2.0 points** of the final grade for the course. Practical classes will be assessed through realization of practical issues in the final exam.

Evaluation of tutoring and tasks: the evaluation of this section will represent **0.5 points**. In this qualification will take into account the resolution of the tasks proposed, different laboratory practices and seminars and tutoring assistance.

Evaluation of the seminars: the seminar held will contribute a maximum of **1.0 point** to the final note of this subject. You will be assessed the work performed, both the scientific content of the work, like the work of preparation of the same and the ability to expose it in public and discuss it with the teacher and classmates, as well as its integration into the group.

To pass the course, it is necessary to have earned a minimum overall score of 5 out of 10 in the **the final exam.**

In **the case of suspending the course in second call**, laboratory practices must not repeat them during the two following years.

In the first call they will be qualified as **not presented**:

1 ° The students who were not submitted to the written theory examination, but who have participated and have note somewhere/s of activities (seminars, laboratory, computer science tutorials,...).

2º Students who were not submitted to the written theory exam or have participated or retrieved note in the rest of the activities of the course.

In the second call will be rated as **not presented**, only the students that were not submitted to the written theory exam or have participated or retrieved note in the rest of the activities of the course. Instead, which is presented to the theory test but have a score of other kinds of activities, they will be qualified as **suspense**.

REFERENCES

Basic

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  Gil Hernández, A. Tomo IV: Nutrición clínica (Tratado de Nutrición). Acción Médica-Grupo. Madrid. 2005.
  Soriano JM. Nutrición básica humana. Universitat de València 2006.
  Gibney, M.J.; Elia, M.; Ljungqvist, O.; Dowset, J. Nutrición Clínica. Acribia. Zaragoza. 2007.
  Mahan K, Escott-Stump S, Raymond JL. Krause's food & the nutrition care process (13ª ed.) Mc Graw- Hill Interamericana. 2011.
  Salas-Salvadó, J. (ed.). Nutrición y dietética clínica (2ª ed.). Masson. Barcelona. 2008.
  Mataix J. Nutrición y alimentación humana. Tomo II (2ª ed.) Ergon. Madrid. 2009.

Additional

- Mataix J. Tablas de composición de alimentos. 4ª ed. Universidad de Granada 2003.