



## Information about the subject

**Degree:** Bachelor of Science Degree in Human Nutrition and Dietetics

**Faculty:** Faculty of Medicine and Health Sciences

**Code:** 1310302 **Name:** Pharmacology Applied to Nutrition

**Credits:** 6,00 **ECTS Year:** 3 **Semester:** 1

**Module:** Nutritional, Dietetic and Health Sciences Module

**Subject Matter:** Pathology and Therapy **Type:** Compulsory

**Field of knowledge:** Health Sciences

**Department:** Biomedical Sciences

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

### Lecturer/-s:

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## Module organization

### Nutritional, Dietetic and Health Sciences Module

Subject Matter	ECTS	Subject	ECTS	Year/semester
Ethics and professional deontology	6,00	Social Morality. Deontological ethics	6,00	4/1
Dietetics	6,00	Dietetics	6,00	2/2
Fundamentals of Nutrition	18,00	Human Nutrition	6,00	2/1
		Nutrition in the Different Life Stages	6,00	3/1
		Parenteral and Hospital Nutrition	6,00	3/2
Pathology and Therapy	24,00	Dietotherapy	6,00	4/1
		Nutritional Pathology	6,00	3/2
		Pharmacology Applied to Nutrition	6,00	3/1
		Physiopathology	6,00	2/2
Documentation	6,00	Documentation and Research Techniques	6,00	4/1

## Recommended knowledge

Pre-requisites: None established



## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 Understands and assimilates the concepts included in the course content.
- R2 Shows ability to solve problems related to these contents using different resources.
- R3 Shows ability to work in a laboratory performing correctly the basic operations and observing the corresponding security rules. As well as a correct understanding of the planning, development and purpose of the experience.
- R4 Understands and presents data.
- R5 Collaborates with the teacher and colleagues throughout the learning process: Attendance to theoretical, practical or tutoring sessions; teamwork; respect in the treatment; compliance with the rules of organization of the subject for the benefit of all.



## Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC	Weighting			
	1	2	3	4
CB2			X	
CB3			X	

  

GENERAL	Weighting			
	1	2	3	4
CG13			X	
CG14				X
CG26				X

  

SPECIFIC	Weighting			
	1	2	3	4
CE14		X		
CE25	X			



CE27	Students evaluate and calculate the nutritional requirements in health and disease situations at any stage of the life cycle.	X		
CE29	To participate in the design of total diet studies.			X
CE30	To know, detect early and evaluate the deviations by excess or defect, quantitative and qualitative, of the nutritional balance.	X		
CE31	Students plan, carry out and interpret the evaluation of the nutritional status of subjects and/or groups, both healthy (in all physiological situations) and sick.			X
CE32	To know the physiopathological aspects of nutrition-related diseases.			X
CE33	To identify the dietary and nutritional problems of the patient, as well as the risk factors and inadequate practices.	X		
CE35	Interpret and integrate clinical, biochemical and pharmacological data in the nutritional assessment of the patient and in his dietetic-nutritional treatment. Apply the bases of clinical nutrition to dietetic therapy.			X
CE36	Apply the bases of clinical nutrition to dietetic therapy.	X		
CE37	Plan, implement and evaluate therapeutic diets for subjects and/or groups.			X
CE42	Plan and carry out programs of dietetic-nutritional education in healthy and sick subjects	X		
CE43	Understand clinical pharmacology and drug-nutrient interactions			X
CE44	Students manage the basic tools in ICT, used in the field of Food, Nutrition and Dietetics.	X		
CE46	Prescribe the specific treatment, corresponding to the scope of competence of the dietitian-nutritionist.			X



## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R5	5,00%	Evaluation of the use of the practical classes in the classroom, of problems or computers, seminars and tutorials. Through attendance, and participation in the different activities proposed.
R1, R4	65,00%	Written evaluation of the knowledge and skills obtained. The test may consist of a series of open-ended or multiple-choice questions on the theoretical content of the subject and/or practical exercises (problem solving).
R2, R5	15,00%	Assessment of practical laboratory work, or laboratory culinary techniques workshop, through which the competencies acquired must be demonstrated and that they are capable of being used to solve the different situations and problems that arise in a laboratory; this assessment may be carried out by one of the following methods, or a combination of several of them: an individual written test, the individual or group performance of a laboratory experience, the submission of an individual or group report on the work carried out in the laboratory
R2, R3	15,00%	Evaluation of individual or group practices or activities, in which information related to each of the subjects must be sought and structured, and cases or problems resolved. This is done through a system of continuous evaluation throughout the course, which involves the delivery and / or exposure of work, whose objectives and content will be proposed by the teacher.

### Observations

\* A minimum grade of 5 is needed in the individual written test to be able to average.

\*\* Attendance at Laboratory and Seminars Practices is mandatory.



\*\*\* THE collaborative work consists of:

- Seminar (7.5%)
- Class activities (7.5%)

### MENTION OF DISTINCTION:

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 Exposition of contents by the teacher, analysis of competencies, explanation and demonstration of capacities, skills and knowledge in the classroom. The blackboard, the computer and the cannon will be used to display texts, graphics, etc.
- M2 Resolution of practical exercises and case studies, analysis of evaluation procedures and procedural intervention. All this with the support of the teacher. This aspect can be controlled through attendance and active participation in the practical sessions.
- M3 Resolution of practical exercises and case studies, analysis of evaluation procedures and procedural intervention. All this with the support of the teacher. This aspect can be controlled through attendance and active participation in the practical sessions.
- M4 Monographic sessions throughout the course, oriented towards current aspects and applications of the subject.
- M5 Student study: individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. for discussion or delivery in electronic format.



- M7 Personalised attention and in small groups. Period of instruction and/or orientation carried out by a tutor with the aim of reviewing and discussing the materials and topics presented in the classes, seminars, readings, completion of assignments, etc. The attendance of the student and his/her level of gradual development in the knowledge of the subjects will be evaluated.
- M8 A set of tests, written or oral, used in the evaluation of the student.
- M9 Group preparation of readings, essays, problem solving, seminars, papers, reports, etc... for discussion or delivery.





## IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons M1, M2, M3	R1, R2, R4, R5	30,00	1,20
Practice lessons M2, M3, M5	R3, R4, R5	5,00	0,20
Laboratory M3	R3, R4, R5	15,00	0,60
Seminar M9	R4, R5	6,00	0,24
Office Hours M7	R1, R5	2,00	0,08
Evaluation M8	R1, R2, R4	2,00	0,08
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>

## LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M9	R3, R5	70,00	2,80
Group work M5	R1, R2, R3, R4, R5	20,00	0,80
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>



## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

Content block	Contents
UNIT I: INTRODUCTION TO PHARMACOLOGY. GENERAL PRINCIPLES OF ACTION OF DRUGS	Topic 1- Introduction to pharmacology. Topic 2- Pharmacokinetics: routes of administration. Topic 3- Pharmacokinetics: general principles. LADME cycle. Topic 4- Pharmacokinetics: absorption. Topic 5- Pharmacokinetics: distribution. Topic 6- Pharmacokinetics: elimination (metabolism and excretion) Topic 7- Pharmacodynamics. Drug-receptor interactions. Topic 8- Pharmaceutical forms. Topic 9- Toxicity, interactions and adverse reactions to medications
UNIT II: PHARMACOTHERAPY	Topic 10- Pharmacology of the gastrointestinal system. Topic 11- Pharmacology of the cardiovascular system and blood. Topic 12- Pharmacological treatment of dyslipidemia. Unit 13- Pharmacological treatment of diabetes mellitus. Unit 14- Pharmacology of corticosteroids. Topic 15- Other drugs of the endocrine system: thyroid and antithyroid. Contraceptives Topic 16- Pharmacological treatment of eating disorders and obesity. Topic 17- Pharmacological treatment in osteoporosis. Unit 18- Anti-infectives and cytostatics. Unit 19- Pharmacology of the central nervous system. Topic 20- Other pharmacological groups: anti-uremic, H1 antihistamines, treatment of food poisoning.
UNIT III: DRUG-FOOD INTERACTIONS.	Topic 21- Drug-drug and drug-food interactions



## Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT I: INTRODUCTION TO PHARMACOLOGY. GENERAL PRINCIPLES OF ACTION OF DRUGS	11,00	22,00
UNIT II: PHARMACOTHERAPY	16,00	32,00
UNIT III: DRUG-FOOD INTERACTIONS.	3,00	6,00

## References

- Florez, J.; Armijo, J.A; Mediavilla, A. Farmacología Humana, 6ª edición, Ed. Elsevier-Masson, Barcelona 2013.
- Mestres, C.; Durán, M. Farmacología en nutrición. 1ª edición. Editorial Panamericana 2012
- Lorenzo, P.; Moreno, A.; Leza, J.C.; Lizasoain,I; Moro,M.A., Velazquez. Farmacología Básica y Clínica, 18ª edición, Ed. Médica Panamericana, 2008.
- Calvo, V; Planas, M, Interrelación entre fármacos y nutrientes en situaciones fisiopatológicas determinadas, 1ª edición, Ed. Glosa S.L. 2008