Information about the subject

Degree: Bachelor of Science Degree in Human Nutrition and Dietetics

Faculty: Faculty of Medicine and Health Sciences

Code: 1310308 **Name:** Nutritional Pathology

Credits: 6,00 **ECTS Year:** 3 **Semester:** 2

Module: Nutritional, Dietetic and Health Sciences Module

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

Field of knowledge: Health Sciences

Department: Nutrition

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

1313A	Sandra Carrera Julia **(Responsible Lecturer)**	sandra.carrera@ucv.es
131CAF5	Sandra Carrera Julia **(Responsible Lecturer)**	sandra.carrera@ucv.es

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

Prior knowledge of physiology and pathophysiology is recommended.

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 Understands and presents data.

R4 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	Students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.				x
CB3	Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgements that include reflection on relevant social, scientific or ethical issues.				x

GENERAL		Weighting			
		1	2	3	4
CG13	Students integrate and evaluate the relationship between food and nutrition in health conditions and pathological situations.				x
CG14	Students apply scientific knowledge of physiology, physiopathology, nutrition and feeding to the planning and dietary advice in individuals and collectivities, along the life cycle, both healthy and sick.			x	
CG26	Students elaborate, control and cooperate in the planning of menus and diets adapted to the characteristics of the collective to which they are destined.	x			

SPECIFIC		Weighting			
		1	2	3	4
CE14	Students interpret and manage the databases and tables of food composition.	x			
CE25	Students apply Food and Nutrition Sciences to dietary practice.		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, R4	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, R2, R3	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).
R1, R3, R4	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
R1, R2, R3, R4	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

In the written evaluation of the knowledge and skills obtained, a minimum score of 5 out of 10 is required to be able to average with the rest of the evaluation instruments. This evaluation consists

of multiple-choice questions, short questions and/or development questions.
During the course, activities will be continuously evaluated through the resolution of clinical cases related to different topics taught in the subject and the design of a clinical and dietetic-nutritional anamnesis sheet. In addition, through the resolution of an activity derived from the seminar of the subject. The delivery of all these activities is mandatory. Attendance to the practical clinical simulation session is mandatory.

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	R1, R2, R3, R4	40,00	1,60
Practice lessons M2	R1, R2, R3, R4	6,00	0,24
Laboratory M2	R1, R2, R3, R4	4,00	0,16
Seminar M4	R1, R4	2,00	0,08
Office Hours M7	R1, R4	2,00	0,08
Evaluation M8	R1, R2, R3	2,00	0,08
TOTAL		**56,00**	**2,24**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M5	R1, R2, R3, R4	60,00	2,40
Group work M9	R1, R2, R3, R4	34,00	1,36
TOTAL		**94,00**	**3,76**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
BLOCK 1: Introduction to nutritional pathology.	**Unit 1:** Introduction: concept and purpose of nutritional pathology. **Unit 2:** General etiology of nutritional diseases. **Unit 3:** Evaluation of nutritional status.
BLOCK 2: Nutrition-based diseases by default and excess.	**Unit 4:** Malnutrition. Concept and types: caloric and protein (Kwashiorkor and Marasmus). **Unit 5:** Thinness: etiology, prevention and treatment. **Unit 6:** Fast: adaptation and metabolic response. **Unit 7:** Obesity: etiology, prevalence and clinical consequences. Metabolic Syndrome.
BLOCK 3: Psychiatric disorders and Eating Disorders.	**Unit 8:** TCA: Anorexia Nervosa. Bulimia Nervosa. Unspecified eating behavior disorders and other eating disorders: Binge Eating Disorder, vigorexia, orthorexia, drunkorexia, potomania. **Unit 9:** Nutrition and alcoholism.
BLOCK 4: Metabolism of nutrients and their pathologies.	**Unit 10.1:** Bone metabolism and nutrition I: rickets and osteomalacia. **Unit 10.2:** Bone metabolism and nutrition II: osteopenia and osteoporosis. **Unit 11:** Nutritional anemia. **Unit 12:** Iodine deficiency and endemic goiter.
BLOCK 5: Specific clinical manifestations of vitamin metabolism.	**Unit 13:** Vitamin A. Xerophthalmia and nutritional blindness.Vitamin C. Scurvy.Vitamin B1. Beriberi. Wernicke-Korsakoff syndrome.Vitamin B3. Pellagra.
BLOCK 6: Nutrition and food allergies.	**Unit 14:** Concept and etiopathogenesis. Epidemiology. Clinical manifestations. Diagnosis. Food allergies that are more common.

BLOCK 7: Nutrition and pathology of the digestive system.	**Unit 15:** Malabsorption syndrome. **Unit 16:** Oroesophagealology. Organic and functional dysphagia. **Unit 17:** Gastroduodenal pathology: gastroesophageal reflux, Hiatal hernia, gastroduodenal ulcer. Gastric cancer. **Unit 18:** Intestinal disease: inflammatory bowel disease, short bowel syndrome. Irritable bowel syndrome, diarrhea, constipation, colon cancer. **Unit 19:** Evaluation of the digestive function.
BLOCK 8: Liver, pancreatic and biliary disorders.	**Unit 20:** Patology of the liver: acute and chronic liver failure. **Unit 21:** Pancreatic pathology: acute and chronic pancreatitis. Pancreatic cancer. **Unit 22:** Biliary pathology: cholelithiasis.
BLOCK 9: Nutrition and kidney diseases.	**Unit 23:** Acute and chronic renal failure.
BLOCK 10: Nutrition and cancer.	**Unit 24:** Concept and etiology. Epidemiology. Nutritional alterations induced by cancer.
BLOCK 11: Nutrition and diseases of the immune system.	**Unit 25:** Nutrition in autoimmune diseases. Nutrition in specific diseases.Nutrition and immunosuppression.
BLOCK 12: Nutrition and neurodegenerative diseases.	**Unit 26:** Influence of nutrition in the structure and function of the nervous system. Nutrition in the main neurodegenerative diseases.
PRACTICAL LESSONS	Practical lessons
Seminar	Seminar.

Temporary organization of learning:

Block of content	Number of sessions	Hours
BLOCK 1: Introduction to nutritional pathology.	2,00	4,00
BLOCK 2: Nutrition-based diseases by default and excess.	3,00	6,00
BLOCK 3: Psychiatric disorders and Eating Disorders.	3,00	6,00
BLOCK 4: Metabolism of nutrients and their pathologies.	2,00	4,00
BLOCK 5: Specific clinical manifestations of vitamin metabolism.	1,00	2,00
BLOCK 6: Nutrition and food allergies.	1,00	2,00
BLOCK 7: Nutrition and pathology of the digestive system.	4,00	8,00
BLOCK 8: Liver, pancreatic and biliary disorders.	2,00	4,00
BLOCK 9: Nutrition and kidney diseases.	1,00	2,00
BLOCK 10: Nutrition and cancer.	1,00	2,00
BLOCK 11: Nutrition and diseases of the immune system.	1,00	2,00
BLOCK 12: Nutrition and neurodegenerative diseases.	1,00	2,00
PRACTICAL LESSONS	5,00	10,00
Seminar	1,00	2,00

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Nutrición Clínica y Dietética Hospitalaria
Nutrición Hospitalaria
Revista de la Sociedad Valenciana de Patología Digestiva
Revista Española de Nutrición Humana y Dietética
Revista Española de Obesidad
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JOURNALS IN ENGLISH:
Advances in nutrition
Americal Journal of Clinical Nutrition
Annual Review of nutrition
British journal of nutrition
Canadian Journal of dietetic practice and research
Clinical Nutrition
Critical reviews in food science and nutrition
Europeal journal of clinical nutrition
Frontiers in Nutrition
International Journal of Behavioral Nutrition and Physical Activity
International Journal of Food Science and Nutrition
Journal of eating disorders
Journal of Human Nutrition and Dietetics
Journal of nutrition
Journal of nutrition biochemistry
Journal of renal nutrition
Nature
Nutrients
Nutrition and Diabetes

Nutrition in clinical practices
Nutrition & Metabolism
Nutrition, Metabolism and Cardiovascular Diseases
Nutritional Neuroscience
Nutrition Research reviews
Nutrition reviews
Obesity Journal
Proceedings of the Nutrition Society
The Lancet

Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

[X] Microsoft Teams

[ ] Kaltura

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

- [X] Microsoft Teams
- [ ] Kaltura

Explanation about the practical sessions:

2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

[X] The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

[ ] The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System: