



Information about the subject

Degree: Bachelor of Science Degree in Human Nutrition and Dietetics

Faculty: Faculty of Medicine and Health Sciences

Code: 1310205 **Name:** Physiopathology

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

Module: Nutritional, Dietetic and Health Sciences Module

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

Field of knowledge: Health Sciences

Department: -

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



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	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		
CE30	To know, detect early and evaluate the deviations by excess or defect, quantitative and qualitative, of the nutritional balance.	x		
CE32	To know the physiopathological aspects of nutrition-related diseases.			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		
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

La asistencia a Prácticas de laboratorio es obligatoria.
Se necesita una nota mínima de 4,5 para poder promediar.



Criterio de concesión de matrícula de honor:

Las matrículas de honor podrán ser concedidas a los mejores alumnos, que deberán haber obtenido una nota mínima de 9. Si las circunstancias lo requieren, podrá establecerse una prueba especial para determinar aquellos alumnos merecedores de la matrícula de honor, habida cuenta de la limitación del 5% de los alumnos matriculados. En segunda y posteriores convocatorias solamente podrán otorgarse la matrículas de honor que pudieran restar tras la primera convocatoria.

MENTION OF DISTINCTION:

According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 ("Sobresaliente"). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

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, R4, R5	35,00	1,40
Practice lessons M2	R3, R4, R5	15,00	0,60
Laboratory M3	R3, R4, R5	4,00	0,16
Seminar M4	R2, R4, R5	2,00	0,08
Office Hours M7	R1, R5	2,00	0,08
Evaluation M8	R1, R4	2,00	0,08
TOTAL		60,00	2,40

LEARNING ACTIVITIES OF AUTONOMOUS WORK

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



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
1.ETIOLOGY AND GENERAL PATHOGENESIS	<ul style="list-style-type: none">·Mechanical agents as a cause of disease.·Heat and cold as etiological agents of disease.·Radiation and electricity as causes of disease.·Chemical substances as a cause of disease.·Living agents as a cause of disease.·Genetic mechanisms of the disease.·Immunological mechanisms of the disease.·General pathology of neoplasms.·Fever.
2.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE RESPIRATORY SYSTEM	<ul style="list-style-type: none">·Anatomical and physiological memory. Functional exploration of the respiratory system. Pathophysiology of ventilation.·Pathophysiology of respiratory control. Dyspnoea·Respiratory insufficiency. mechanisms. Consequences: hypoxia, cyanosis, hypercapnia.·Basic pulmonary semiology and examination of the respiratory system.·Pulmonary parenchymal syndromes.·Pleural and mediastinal syndromes.
3.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE CIRCULATORY SYSTEM	<p>Anatomical and physiological memory of the heart. Pathophysiology of the heart. Semiology. Physical and complementary examination of the heart. Pathophysiology of valvular heart disease. • Pathophysiology of heart rate and rhythm disorders. Basic electrocardiography. Pathophysiology of the myocardium and pericardium. Circulatory failure (I). Heart failure. Circulatory failure (II). Acute forms: shock Pathophysiology of the circulation of the extremities. Attention to CRP: BLS.</p>



4. PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE DIGESTIVE SYSTEM

- Anatomical memory of the digestive tract. General pathophysiology of digestive motility.
- Special study of the symptoms and syndromes of altered motility of the digestive tract.
- Pathophysiology of digestive tract secretion. • Pathophysiology of digestion and absorption of the digestive tract.
- Diarrheal syndrome.
- Anatomical and physiological memory of the liver. Manifestations of liver pathology. Liver scan.
- Jaundice and cholestasis.
- Hepatocellular failure syndrome.
- Pathophysiology of the extrahepatic bile duct and pancreas.

5. PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE ENDOCRINE SYSTEM, GROWTH AND SEX DIFFERENTIATION

- General pathophysiology of the endocrine system. Hypothalamus-pituitary block
- Thyroid pathophysiology.
- Pathophysiology of the parathyroid gland and the metabolism of calcium, phosphorus and magnesium.
- Pathophysiology of the adrenal glands
- Pathophysiology of the gonads.
- Pathophysiology of sex differentiation and growth.

6. GENERAL PATHOPHYSIOLOGY AND PATHOGENESIS OF METABOLISM, NUTRITION AND ACID-BASE BALANCE

- Pathophysiology of carbohydrate metabolism.
- Pathophysiology of lipid metabolism.
- Pathophysiology of protein and amino acid metabolism. Amyloidosis.
- Pathophysiology of nucleotide and porphyrin metabolism.
- Pathophysiology of trace element metabolism.
- Pathophysiology of hydrosaline balance and potassium management.
- Pathophysiology of acid-base balance.
- General pathophysiology of nutrition.



7. PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE KIDNEY AND URINARY TRACT

- Anatomical and physiological memory of the kidney. Kidney scan. Urine study. Manifestations of kidney pathology.
- Renal pathology syndromes (I): glomerulonephritic, nephrotic, tubulopathy, interstitial and renal vascular nephropathy.
- Renal pathology syndromes (II): acute renal failure and chronic renal failure.
- Pathophysiology of the urinary tract.

8. PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF BLOOD AND HEMOPOIETIC ORGANS

- General pathophysiology of hemopoiesis. Exploration of the red series.
- Pathophysiology of the red series. Anemic syndrome and polycythemic syndrome.
- General pathophysiology of leukocytes. Leukemic syndrome.
- Pathophysiology of lymphocytes and lymphoid organs.
- General pathophysiology of hemostasis. General principles and examination. Hemorrhagic diathesis. Hypercoagulability.

9. PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE NERVOUS SYSTEM

- General pathophysiology of the brain and the specific functions of the cerebral cortex.
- Pathophysiology of voluntary motility.
- Pathophysiology of sensitivity and sensory systems.
- Special study of pain.
- Pathophysiology of the brainstem, spinal cord and cranial nerves.
- Pathophysiology of the peripheral nervous system and the vegetative nervous system.
- Pathophysiology of motor coordination, balance and walking.
- Pathophysiology of the nuclei at the base of the brain.
- Pathophysiology of consciousness. Epileptic syndrome.
- Pathophysiology of the protective elements and circulation of the central nervous system.



Temporary organization of learning:

Block of content	Number of sessions	Hours
1.ETIOLOGY AND GENERAL PATHOGENESIS	4,00	8,00
2.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE RESPIRATORY SYSTEM	4,00	8,00
3.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE CIRCULATORY SYSTEM	4,00	8,00
4.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE DIGESTIVE SYSTEM	4,00	8,00
5.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE ENDOCRINE SYSTEM, GROWTH AND SEX DIFFERENTIATION	4,00	8,00
6. GENERAL PATHOPHYSIOLOGY AND PATHOGENESIS OF METABOLISM, NUTRITION AND ACID-BASE BALANCE	4,00	8,00
7.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE KIDNEY AND URINARY TRACT	2,00	4,00
8.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF BLOOD AND HEMOPOIETIC ORGANS	2,00	4,00
9.PATHOPHYSIOLOGY AND GENERAL PATHOGENESIS OF THE NERVOUS SYSTEM	2,00	4,00

References

BASIC BIBLIOGRAPHY:

·SISINIO DE CASTRO. Manual de patología general.7ª Edición. Elsevier.2013

FURTHER READING:

·MACLEOD'S. Clinical Examination [Paperback]. Elsevier.

·LASO. Patología General: Introducción a La Medicina Clínica. Editorial Masson.

·HARRISON. Principios de Medicina Interna. 18ª Edición McGraw Hill. - LS Bickley. Guía de exploración física e historia clínica. 10ª Edición Wolters Kluwer. 2010. - F.J. LASO. Introducción a La Medicina Clínica. 2ª Edición. Masson. 2010