Information about the subject

Degree: Bachelor of Science Degree in Physiotherapy

Faculty: Faculty of Medicine and Health Sciences

Code: 240322 **Name:** Cardiocirculary and Respiratory Physiotherapy

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

Module: MODULE 2: SPECIFIC

Subject Matter: Specific Methods of Intervention in Physical Therapy **Type:** Compulsory

Field of knowledge: Health Sciences

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

Module organization

MODULE 2: SPECIFIC

Subject Matter	ECTS	Subject	ECTS	Year/semester
Fundamentals of Physical Therapy	6,00	Fundamentals of Physiotherapy	6,00	1/1
Assessment in Physiotherapy	6,00	Assessment in Physiotherapy	6,00	1/2
General Procedures for Intervention in Physiotherapy	12,00	General Procedures of Intervention I	6,00	2/1
		General Procedures of Intervention II	6,00	2/2
Physiotherapy in clinical specialties	6,00	Medical-Surgical Conditions and their Treatments	6,00	2/2
Specific Methods of Intervention in Physical Therapy	30,00	Cardiocirculary and Respiratory Physiotherapy	6,00	3/1
		Physiotherapy of the Locomotive System I	6,00	2/2
		Physiotherapy of the Locomotive system II	6,00	3/1
		Physiotherapy of the Nervous System	6,00	2/2
		Sports Physiotherapy	6,00	3/1
Kinesitherapy	6,00	Kinesitherapy	6,00	2/1
Legislation, Public Health and Health Administration	12,00	Community Physiotherapy and Public Health	6,00	3/1

Legislation, Public Health and Health Administration	Social Morality. Ethics	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	Knows the pulmonary physiology, the dynamics of the thoracic cage and the cardiocirculatory system.
R2	Knows the normal cardio-respiratory function, and its alterations in the pathology.
R3	Knows the different techniques of cardio-respiratory treatment and to distinguish correctly their choice.
R4	Knows how to use the equipment for evaluating respiratory and cardiac function.
R5	Knows how to interpret clinical reports, sounds and images of the cardio-respiratory system.
R6	Knows the specific characteristics of the main respiratory and cardiocirculatory diseases.
R7	The student is able to make a diagnosis based on the evaluation of the cardio-respiratory function.
R8	Knows the fundamentals of the different disciplines and knowledge of health sciences applied to the environment of cardiac and respiratory physiotherapy.
R9	Distinguishes the different hierarchies and priorities in the health care of cardiological and chronic respiratory patients.

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
CB1	Students demonstrate knowledge and understanding in an area of study that is at the core of general secondary education, and is often at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.			x	
CB2	Students know how to apply their knowledge to their work or vocation in a professional way and possess the skills usually demonstrated by developing and defending arguments and solving 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 judgments that include reflection on relevant social, scientific or ethical issues.				x
CB4	Students can convey information, ideas, problems and solutions to both specialized and non-specialized audiences.				x
CB5	Students develop those learning skills necessary to undertake further studies with a high degree of autonomy.				x

SPECIFIC		Weighting			
		1	2	3	4
CE1	Students learn human anatomy and physiology, highlighting the dynamic relations between structure and function, especially of the locomotive system and the nervous and cardio-respiratory systems.				x
CE2	Students identify the physiological and structural changes that can occur as a result of the application of physiotherapy.				x
CE8	The psychological and social factors that influence the health/disease status of the individual, family and community.				x

CE9	Students assimilate theories of communication and interpersonal skills.	x	
CE12	The general aspects of pathology of endogenous and exogenous etiology related to physiotherapy of all devices and systems with their medical, surgical, physiotherapeutic and orthopedic treatments.		x
CE13	The structural, physiological, functional and behavioral changes that occur as a result of the intervention of physiotherapy.		x
CE14	Students identify the theoretical bases of Physiotherapy as a science and profession. The models of action in Physiotherapy. The theoretical bases of the assessments, tests and functional verifications: knowledge of their modalities and techniques as well as the scientific evaluation of their utility and effectiveness. The diagnosis of Physiotherapy. Methodology of the research applied to Physiotherapy.		x
CE15	General physiotherapeutic procedures: Kinesitherapy, Massage and Massage Therapy, Electrotherapy, Magnetic Therapy, Ergotherapy, Hydrotherapy, Balneotherapy, Climatotherapy, Thalassotherapy; Thermotherapy, Cryotherapy, Vibrotherapy, Phototherapy, Pressotherapy, and the derivatives of other physical agents		x
CE16	Physiotherapeutic Procedures based on specific Methods and Techniques of physiotherapeutic actions to be applied in the different pathologies of all the apparatuses and systems, and in all the specialties of Medicine and Surgery, as well as in the promotion and conservation of the health, and in the prevention of the disease.		x
CE21	Students give proof of the criteria and indicators that guarantee the quality in the provision of the physiotherapy service, through the use of good clinical practice guidelines and professional standards.		x
CE28	Students prepare and systematically fill in the complete Physiotherapy Clinical History, where all the steps followed from the reception of the patient/user to the report at the discharge of Physiotherapy are properly and efficiently recorded.		x
CE29	Students assess the functional state of the patient/user, considering the physical, psychological and social aspects.		x
CE30	Students determine the Physiotherapy Diagnosis according to the internationally recognized standards and international validation instruments. This competency includes prioritizing the needs of the patient/user to attend with priority to those that most compromise the recovery process.		x

CE31	Students know how to design the Physiotherapy Intervention Plan. To elaborate a specific Physiotherapy Intervention Plan using problem-solving skills and clinical reasoning: in line with the available resources; formulating the intervention objectives with the user and, if appropriate, with the significant people in his environment, collecting his expectations regarding care; selecting the protocols or procedures most appropriate to the planned care, attending to criteria of appropriateness, validity and efficiency.				x
CE41	Students keep the foundations of the knowledge, skills and attitudes of the professional competences updated, through a process of continuous training (throughout life); to critically analyse the methods, protocols and treatments of the care in Physiotherapy and to ensure that they are adapted to the evolution of scientific knowledge.				x
CE47	Students maintain an attitude of learning and improvement. This includes expressing interest and acting in a constant search for information and professional improvement, committing to contribute to professional development in order to improve practice competence and maintain the status that corresponds to a qualified and regulated profession.				x
CE51	Show respect, appreciation and sensitivity to the work of others.				x
CE52	Develop the ability to organize and lead work teams effectively and efficiently.			x	
CE55	Show its orientation towards the patient/user, making it clear in its actions that the citizen and his/her needs are the axis around which its decisions revolve. As can be seen, some of the competencies that we have gathered as specific coincide in their denomination and contents with certain transversal competencies, but we have decided to incorporate them as specific competencies, given the extraordinary importance that national and international Professional Associations and Colleges confer on them				x

TRANSVERSAL		Weighting			
		1	2	3	4
CT1	Decision-making			x	
CT2	Problem solving.				x

CT3	Capacity for organization and planning.			x
CT4	Analysis and synthesis capacity.		x	
CT5	Oral and written communication in the native language.		x	
CT6	Information management capacity.			x
CT7	Computer skills related to the field of study.		x	
CT8	Knowledge of a foreign language.	x		
CT9	Ethical commitment.			x
CT10	Teamwork.			x
CT11	Interpersonal relationship skills.			x
CT12	Work in an interdisciplinary team			x
CT13	Critical Reasoning			x
CT14	Work in an international context.	x		
CT15	Recognition of diversity and multiculturalism		x	
CT16	Motivation for quality			x
CT17	Adaptation to new situations.			x
CT18	Creativity		x	
CT19	Autonomous learning			x
CT20	Initiative and entrepreneurship		x	
CT21	Leadership.		x	
CT22	Knowledge of other cultures and customs	x		

CT23	Sensitivity to environmental issues.	x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5, R6, R7	20,00%	OPEN QUESTIONS: Written exam in which theoretical knowledge and the student's ability to relate, integrate and express it coherently in written language are evaluated. It allows the following generic or transversal skills to be assessed: 4 Capacity for analysis and synthesis. 3 Capacity for organisation and planning. 5 Oral and written communication in the native language. 8 Knowledge of a foreign language. 2 Problem-solving 19 Autonomous learning.
R1, R2, R3, R4, R5, R6, R7, R8	30,00%	TEST TYPE: Multiple choice test with one correct answer out of five possible ones. It allows the student to know in greater detail the contents acquired by him/her. It allows the following generic or transversal competences to be assessed: 2 Problem solving 1 Decision making 13 Critical thinking
R1, R2, R3, R5, R6, R7	10,00%	PRACTICES: Oral test in which the student is asked to solve practical exercises, clinical cases or problems about the knowledge of the different subjects. It assesses the following generic or transversal competences: 4 Analysis and synthesis capacity. 3 Capacity for organisation and planning. 7 IT Knowledge. 6 Information management skills. 2 Problem-solving 1 Decision-making. 13 Critical thinking. 19 Self-directed learning.

	0,00%	WORKS: The student, individually or in a group, elaborates a revision or research topic and presents it, in writing, for the evaluation by the teacher. The following generic or transversal competences are valued: 4 Capacity for analysis and synthesis. 3 Capacity for organisation and planning. 7 Computer skills. 6 Information management skills. 10 Teamwork. 14 Working in an international context. 11 Interpersonal skills. 13 Critical thinking. 19 Autonomous learning. 18 Creativity. 21 Leadership. 20 Initiative and entrepreneurship. 16 Motivation for Quality. 70 Maintaining an attitude of learning and improvement. 72 Knowing one's own skills and limitations.
R3, R4, R5, R6, R7	30,00%	PRACTICAL EXAM: The student is faced with a test in which s/he must demonstrate through practical application the acquisition of certain knowledge. For example, histological or anatomopathological diagnosis, image interpretation or diagnostic tests. This test evaluates the following generic or transversal skills: 13 Critical reasoning. 19 Autonomous learning.
R3, R4, R5, R6, R7	10,00%	PRESENTATION: The student develops, through an oral presentation, supported or not by audiovisual means, a subject or work commissioned by the teacher. This is the method of evaluation of the Final Degree's Project. At the end of the presentation, the teacher or the audience can ask questions.
	0,00%	ATTENDANCE AND PARTICIPATION IN CLASS: The teacher evaluates the participation, involvement and progression of the student's acquisition of knowledge and skills during the theoretical and practical classes. It will not exceed 5% of the final grade.

Observations

The evaluation of the written test will be carried out in two parts: (50%final mark)

-Test-type exam 30% -Test-type exam 30% -Test-type exam The multiple-choice test will consist of 4 answer options (A-D) with only one true answer.

- One correct answer will be deducted for every 4 wrong answers, without subtracting the proportional part. The date of the multiple-choice test will be established by the

academic calendar. -Open questions 20%. -5 questions related to a clinical case of a patient with a cardiac pathology will be asked.-This test will take place once the syllabus belonging to Unit 2 has been completed. The date of the exam will be given on the first day of the course.In order to be able to take the practical exam, the written test (multiple-choice test + open questions) must be passed with a minimum of 5. This mark will be obtained from the sum of the multiple-choice test (30%) + the open questions (20%).If the written test is not passed in the ordinary exam session, both tests (multiple-choice test and open questions) will be repeated in the second session. -Practical exam (40% final mark). -Performance of a manual lymphatic drainage technique (15%). -Performance of a respiratory physiotherapy technique (15%). -Solution and performance of a practical case study related to a specific technique (15%).

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	Master class Problem solving Exposition of contents by the teacher. Explanation of knowledge and skills
M2	Case resolution: Analysis of sample realities - real or simulated - that allow the student to connect theory with practice, to learn from models of reality or to reflect on the processes used in the cases presented.
M4	Personalized attention. Period of instruction and/or guidance by a tutor with the aim of analyzing with the student their work, activities and their evolution in learning the subjects.
M5	Set of tests carried out to know the degree of acquisition of knowledge and skills of the student.
M11	Oral presentation

M12 Group work: Group work sessions supervised by the teacher. Knowledge construction through student interaction and activity.

M14 Group work to search, discuss and filter information about the subjects

M15 Seminar, supervised monographic sessions with shared participation

M16 Student's study: Individual preparation of readings, essays, problem solving, seminars.

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical lessons M1	R1, R2, R3, R4, R5, R6, R7, R8, R9	32,00	1,28
Practice lessons M2	R3, R4, R7	14,00	0,56
Seminar M15	R1, R2, R3, R4, R5, R6, R7, R8, R9	6,00	0,24
Office Hours M4	R8	5,00	0,20
Assessment M5, M16	R1, R2, R3, R4, R5, R6, R7, R8, R9	3,00	0,12
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work M16	R1, R2, R3, R4, R5, R6, R7, R8, R9	62,00	2,48
Group work M11, M12, M14	R1, R2, R3, R4, R5, R6, R7, R8, R9	28,00	1,12
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
UNIT 1: CIRCULATORY SYSTEM	Topic 1: Anatomy and physiology of the lymphatic system. Topic 2: Introduction to DLM. Topic 3: Edemas. Practice 1: Basic movements of the DLM. Practice 2: DLM MMII sequence. Practice 3: Treatment of lymphedema of the MMII. Practice 4: MMII multilayer bandage.
UNIT 2: CARDIAC SYSTEM	Topic 1: Introduction to Cardiac Rehabilitation. Topic 2: Assessment of the cardiac patient. Topic 3: Phases of Cardiac Rehabilitation. Topic 4: Cardiac Rehabilitation in patients with ischemic heart disease. Topic 5: Cardiac Rehabilitation in patients with heart failure. Topic 6: Cardiac Rehabilitation in heart transplant patients.
UNIT 3: PHYSICAL THERAPY IN RESPIRATOY PATIENT	Topic 1: Anatomy and Physiology of the Respiratory System. Topic 2: Assessment of the respiratory patient. Topic 3: Oxygen therapy and non-invasive mechanical ventilation. Topic 4: Pulmonary rehabilitation. Topic 5: Respiratory physiotherapy in obstructive pathologies. Topic 6: Respiratory physiotherapy in restrictive pathologies. Practice 1: Ventilatory reeducation techniques. Practice 2: Aerosol therapy and slow exhalation techniques. Practice 3: Forced expiration techniques and instrumental techniques for respiratory physiotherapy.

WORK GROUP	- A group work will be carried out where Physiotherapy treatment in a group of pathologies of the cardio-circulatory and respiratory system will be addressed. Students will prepare a written report and will make an oral defense of the assigned topic.

Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT 1: CIRCULATORY SYSTEM	7,00	14,00
UNIT 2: CARDIAC SYSTEM	9,00	18,00
UNIT 3: PHYSICAL THERAPY IN RESPIRATOY PATIENT	11,00	22,00
WORK GROUP	3,00	6,00

References

UNIT 1:Basic reference:
1-Fernández Domenech, A; Lozano Celma C. DRENAJE LINFÁTICO MANUAL.MÉTODO ORIGINAL Dr VODDER .Barcelona: Nueva Estética, 20082-Wittlinger h, Wittlinger D, Wittlinger A, Wittlinger M..DRENAJE MANUAL SEGÚN ELMÉTODO DEL DR VODDER. Madrid: Panamericana, 2009
Complementary reference:1-Ferrandez, J.C; Theys S; Bouchet JY. REEDUCACIÓN DE LOS EDEMAS EN LOSMIEMBROS INFERIORES. Barcelona:Panamericana, 20022-Ferrandez J.C. EL SISTEMA LINFÁTICO: HISTORIA, ICONOGRAFÍA EIMPLICACIONES FISIOTERAPÉUTICAS .Madrid: Panamericana, 20063-Földi M; Strossenreuther R. FOUNDATIONS OF MANUAL LYMPH DRAINAGE. EdElsevier Mosby, 20054-Vinyes F. LA LINFA Y SU DRENAJE MANUAL.Barcelona Integral, 2012
UNIT 2:Basic reference:1-Maroto Montero J.M; De Pablo Zarzosa C, Artiago Ramirez R, Morales Diran.REHABILITACIÓN CARDIOVASCULAR.Madrid: Panamericana.2-Seco Calvo, J.SISTEMA CARDIOVASCULAR. MÉTODOS, FISIOTERAPIA CLÍNICAY AFECCIONES PARA FISIOTERAPEUTAS. Madrid: Panamericana, 20183-Plegueguezuelos E, Miranda G, Gómez A, Capellas,L. PRINCIPIOS DEREHABILITACIÓN CARDIACA. Madrid: Panamericana, 2010.
UNIT 3:Basic reference:1-Güell R, De Lucas P. TRATADO DE REHABILITACIÓN RESPIRATORIA. Ars Médica,2005.2-Seco Calvo, J. SISTEMA RESPIRATORIO. MÉTODOS, FISIOTERAPIA CLÍNICA YAFECCIONES PARA FISIOTERAPEUTAS. Panamericana, 2018.3-Giménez M, Servera E, Vergara P. PREVENCIÓN Y REHABILITACIÓN EN PAPrevención y rehabilitación en patología respiratoria crónica. Madrid: Panamericana,20044-Antonello M, Delplanque D. FISIOTERAPIA RESPIRATORIA: DEL DIAGNNÓSTICOAL PROYECTO TERAPÉUTICO. Barcelona: Masson, 20025-Página Web SEPAR (http://www.separ.es/biblioteca-1/Biblioteca-para-Profesionales).Manuales y normativas SEPAR.
Complementary reference:-West J. FISIOLOGÍA RESPIRATORIA.Barcelona: Woltwersklwer,2009-Netter FH. ATLAS DE ANATOMÍA HUMANA. Barcelona: Masson. 3ª Ed, 2003