Information about the subject

Degree: Bachelor of Science Degree in Medicine

Faculty: Faculty of Medicine and Health Sciences

Code: 340306 **Name:** Medicine and Surgery of the Respiratory System

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

Module: Human Clinical Training

Subject Matter: Human Pathology **Type:** Compulsory

Field of knowledge: Health Science

Department: Surgical Specialities

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

343A	Jose Belda Ramirez **(Responsible Lecturer)**	jose.belda@ucv.es
	Eva Garcia Del Olmo	eva.delolmo@ucv.es
343B	Jose Belda Ramirez **(Responsible Lecturer)**	jose.belda@ucv.es
	Eva Garcia Del Olmo	eva.delolmo@ucv.es

Module organization

Human Clinical Training

Subject Matter	ECTS	Subject	ECTS	Year/semester
Human pathology basis	6,00	General Pathology I	3,00	3/1
		General Pathology II: Analysis by Problems	3,00	3/2
Psychology	6,00	Medical Psychology and Psychopathology	6,00	3/2
Human Pathology	102,00	Clinical Allergology and Immunology	3,00	3/2
		Dermatology	6,00	5/1
		Endocrinology and Nutrition	6,00	5/2
		Haematology	3,00	3/2
		Infectious Diseases	3,00	3/2
		Medical Oncology and Radiotherapy	3,00	5/2
		Medicine and Surgery of the Cardiocirculatory System	9,00	4/2
		Medicine and Surgery of the Digestive System	6,00	4/1
		Medicine and Surgery of the Musculoskeletal System	9,00	4/2
		Medicine and Surgery of the Nephro-Urological System	6,00	5/1

Human Pathology	Medicine and Surgery of the Nervous System	9,00	5/2
	Medicine and Surgery of the Respiratory System	6,00	3/2
	Obstetrics and Gynaecology	9,00	4/2
	Ophthalmology	3,00	3/2
	Otorhinolaryngology	3,00	4/2
	Paediatrics	9,00	5/2
	Palliative Medicine	3,00	6/1
	Psychiatry	3,00	5/1
	Rheumatology	3,00	4/2

Recommended knowledge

Students will achieve the necessary knowledge about respiratory diseases to:· Recognize the differences between normal and pathological functioning of the respiratory system.For this, it is necessary to know previously the functioning of the normal respiratory system, as well asknow the anatomical, clinical, radiological and functional aspects that allow the identification of theelementary syndromic disorders, which constitute the main bases of the diseasesmost frequent respiratory diseases in our environment.·To review the basic knowledge (anatomy, physiology, epidemiology, pharmacology, etc.,studied in previous courses) of the most common respiratory diseases in our environment.·Know the minimum content of a clinical history addressed to the respiratory patient. recognize theguide or main symptom to guide the specific problem that it presents, formulating a hypothesisReasoned diagnosis. Use this hypothesis to request, in a justified way, the testsmost convenient complementary methods, selecting them according to their criteria and the clinical significance andtherapy in each case.Knowing how to differentiate the acute and urgent patient from the chronic in respiratory diseasesbased on the clinical data obtained from the anamnesis and physical examination. Identifywhen the patient presents a terminal situation and when not and, therefore, theneed for transfer to hospital or ICU. Differentiate the limits of clinical research according to itstherapeutic utility in the clinical picture of the patient. In short, knowing how to look for interventionsdiagnostic-therapeutic that are really useful for the patient in his clinical situation andconsider, where appropriate, other options such as palliative treatments, symptomatic treatments,psychological support etc.Knowing how to identify which patients and/or which pathology requires the consultation of a specialist, that is,know how far a doctor can go individually in the control of the patient and knowrecognize their own limitations in daily clinical practice.· To know, briefly, the raison d'être of medical specialties.

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	Up-to-date knowledge of the etiology, mechanisms and symptoms of cardiovascular disease.
R2	Correctly guide medical and surgical treatment of cardiovascular diseases.
R3	Witness and collaborate in the elaboration of the patient's medical history with the data obtained from anamnesis, complementary physical examination
R4	Know the social conditions involved in patient relationships and therapeutic diagnostic decision-making.
R5	Know the main pharmacological and non-pharmacological therapeutic means.
R6	Know the interrelationships with other medical and surgical specialties.
R7	Know how to make a complete anamnesis, centered on the patient and oriented to respiratory pathology, interpreting its meaning. Know how to perform a physical scan by devices and systems. Establish an action plan, focused on the needs of the patient and the family and social environment, consistent with the symptoms and signs of the patient.
R8	Assess the risk/benefit ratio of diagnostic and therapeutic procedures. Know the indications of biochemical, haematological, immunological, microbiological, anatomopathological, functional and imaging tests.
R9	Know how to obtain and process a biological respiratory sample for study using the different diagnostic procedures. Know how to interpret the results of laboratory diagnostic tests.
R10	Know the physiopathology of chest wounds. Surgical bleeding and embolic thrombus prophylaxis.
R11	Recognize, diagnose and guide the management of the main pathologies of the respiratory system.
R12	Know how to make a medical history oriented to respiratory pathology.
R13	Recognize by physical examination the normality and abnormality of pulmonary auscultatory and its meaning.

R14	Interpret from a clinical and physiological point of view the different basic tests of lung function.
R15	Know the normal values of a gasometry and interpret in the clinical context of the patient the main gasometric disorders.
R16	Identify chest x-ray and chest CT abnormalities.
R17	Be able to establish diagnosis, prognosis and treatment by applying principles based on the theory studied.
R18	Formulate hypotheses, collect and critically assess problem-solving information, following the scientific method.
R19	Obtain and develop a medical history that contains all the information relevant from a surgical point of view without forgetting the holistic concept of the disease.
R20	Having the ability to develop an initial diagnostic judgment and establish a reasoned diagnostic strategy, based on the axiom "primun non noncere"
R21	Recognize and treat life-threatening situations immediately, and those that require immediate attention.
R22	Learn to be in the operating room, know the techniques in anesthesia and surgery involved in chest surgery.
R23	Clinical management of chest drains.
R24	Being able to search for bibliographic information from different sources and knows how to analyze it in a critical spirit
R25	Knowing how to use different diagnostic techniques in the clinic
R26	Search for information in bibliographic sources and know how to analyze them

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 have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study				x
CB2	Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences 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 collect and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical topics				x
CB4	Students can pass on information, ideas, problems and solutions to both a specialized and non-specialized audience				x
CB5	Students have developed the learning skills needed to undertake further studies with a high degree of autonomy				x

GENERAL		Weighting			
		1	2	3	4
CG4	Developing professional practice with respect to patient autonomy, beliefs and culture		x		
CG5	Recognizing the limitations themselves and the need to maintain and update their professional competence, giving special importance to the autonomous learning of new knowledge and techniques and to the motivation for quality		x		
CG6	Developing professional practice with respect for other health professionals, acquiring teamwork skills			x	

CG9	Understanding and recognizing the effects, mechanisms and manifestations of the disease on the structure and function of the human body			x
CG11	Understanding and recognizing the effects of growth, development and aging on the individual and their social environment			x
CG12	Understanding the basis of action, indications and efficacy of therapeutic interventions, based on available scientific evidence			x
CG13	Getting and writing a medical history containing all relevant information			x
CG14	Perform a physical exam and mental assessment			x
CG15	Having the ability to make an initial diagnostic judgment and establish a reasoned diagnostic strategy			x
CG16	Recognizing and treating life-threatening situations and those that require immediate attention			x
CG17	Establishing all diagnosis, prognosis and treatment, applying principles based on the best possible information and clinical safety			x
CG18	Indicating the most appropriate therapeutics of the most prevalent and chronic acute processes, as well as terminally ill patients			x
CG19	Raising and proposing appropriate preventive measures for each clinical situation		x	
CG20	Acquiring enough clinical experience in hospital institutions, health centers or other health institutions, under supervision, as well as basic knowledge of patient-centered clinical management and appropriate use of tests, medicines and other health system resources			x
CG21	Listening to carefully, obtain and synthesize relevant information about the problems afflicting the patient and understand the content of this information			x
CG22	Writing medical histories and other medical records in an understandable way to outsiders			x
CG23	Communicating effectively and clearly, both orally and in writing, with patients, family members, media workers and other professionals			x
CG24	Establishing good interpersonal communication that enables patients, family members, media workers and other professionals to address patients, families, media and other professionals with efficiency and empathy			x

CG33	Maintaining and using records with patient information for further analysis, preserving data confidentiality				x
CG36	Being able to formulate hypotheses, critically collect and evaluate information for problem solving, following the scientific method				x

SPECIFIC		Weighting			
		1	2	3	4
CE43	Recognizing, diagnosing and guiding the management of the main pathologies of the respiratory system				x
CE55	Recognizing, diagnosing and guiding the management of life-threatening situations				x
CE56	Knowing how to make a complete anamnesis, patient-centered and oriented to the various pathologies, interpreting its meaning				x
CE57	Knowing how to do a physical examination by devices and systems, as well as a psychopathological examination, interpreting its meaning				x
CE59	Establishing an action plan, focused on the needs of the patient and the family and social environment, consistent with the symptoms and signs of the patient				x
CE60	Knowing how to do basic and advanced life support				x

TRANSVERSAL		Weighting			
		1	2	3	4
CT1	Analytical and synthesis capacity				x
CT2	Planification and organization capacity				x
CT3	Oral and written communication in mother language				x
CT7	Solving problems				x
CT8	Making decisions				x
CT9	Team work				x

CT14	Critical reasoning			x
CT15	Ethical commitment			x
CT16	Individual learning			x
CT26	Knowing how to value personal action and know your own skills and limitations			x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R2, R4, R6, R7, R8, R9, R10, R13, R14, R16, R17, R20, R21, R23, R24	70,00%	Tests
R1, R3, R4, R5, R6, R7, R11, R12, R13, R14, R15, R17, R18, R19, R20, R21, R22, R23, R24	5,00%	Participation in class
R1, R2, R3, R4, R5, R6, R7, R8, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24	25,00%	Practice exam

Observations

All the exam questions will be multiple-choice and WILL BE SET OUT AS CLINICAL CASES with corresponding radiological images or complementary tests. The assessment will be made up of two parts with the corresponding differentiated exam: 1.- Clinical case exam: 25 points. Exam with 5 clinical cases, each with 5 interlinked questions about the case with multiple-choice options (4 options) and only one correct option. Each correct answer +1 and each incorrect answer -.33 (every 3 deducts 1 point). The cases can be medical or surgical (at least one of the second). Total 25 points. 2.- Theory exam: 65 points. The exam consists of 75 multiple-choice questions (4 answers) with only one correct option. Each correct answer +1 and each incorrect answer -.33 (every 3 deduct 1 point). The questions can be medical or surgical (without any pre-established proportion) and all themes are in random order. 3.- Participation in class: 10 points (voluntary): The presentation of clinical cases in class will add up to 10 points for each member of the group that has given the presentation, according to the quality of the work presented (minimum 5 points). These points will be added to the case and theory exam grade. At the end of every case, the group will present the class with 5 multiple-choice questions. Sending the argued answers to 100% of the questions asked to the subject website, will count for 5 points in the exam (normally approximately 10 or 11 cases are presented a year which entails from 50 to 55 questions). These points will be complementary, meaning that if the student has 20 points in the case exam and has answered 100% of the case questions he/she will have 5 points more 20+5025 points. In no case will the

complementary points increase the grade for this part to over 25 points. The students who DO NOT present any case and/or do not answer the questions will have ONLY the grade of the Case and Theory exams, out of a maximum of 90 points. The final grade will be the sum of the three parts (25+10+65/10) and optional complementary +(5). The students will be distributed according to the grade obtained. Distinction with honours will be awarded to the 4 who obtain the 4 best grades in the class (minimum for distinction with honours being 9). In the case of an equal result, the student with the highest number of points including complementary points will be awarded it.

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	Masterclass
M2	Problems resolution and practical cases
M3	Virtual simulations
M4	Content presentations by teacher
M5	Knowledges and skills explanation
M7	Oral presentation by student

M8	Group activities supervised by professor
M9	Knowledge acquirance through student interaction and activity
M11	Personalised attention by professor
M12	Tests to understand the level of knowledge acquirance and skills
M13	Written work
M14	Online activity on e-learning
M15	Personal study
M16	Information research
M17	Discussion and solving issues in group
M18	Work in team
M19	Group work for searching, discussion and information research
M21	Supervision of clinical histories
M22	Clinical practices

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theory class M1, M4, M5, M9	R2, R5, R6, R7, R8, R9, R15, R16, R20, R21, R22	28,00	1,12
Seminar and group practices M2, M7, M8, M9, M16, M17, M18, M19	R1, R3, R4, R6, R10, R11, R12, R13, R14, R15, R17, R19, R23, R24	30,00	1,20
Tutoring M5, M11	R17, R24	12,00	0,48
Evaluation M5, M12, M13	R10	5,00	0,20
TOTAL		**75,00**	**3,00**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
No attendance M2, M7, M15, M16	R4, R6, R10	75,00	3,00
TOTAL		**75,00**	**3,00**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
INTRODUCTION PNEUMOLOGICAL PATHOLOGY. RESPIRATORY INSUFFICIENCY AND ADULT RESPIRATORY DISTRESS.	Unit 0. Introduction to Pulmonology and Thoracic Surgery (pathologies). Semiology and exploration. Respiratory Clinical History. Respiratory physiology and diagnostic studies. Unit 1. Respiratory insufficiency. Adult respiratory distress syndrome. Acute Pulmonary Edema.
OBSTRUCTIVE PATHOLOGY OF THE AIRWAY	Unit 2. Asthma.Unit 3. Chronic Obstructive Pulmonary Disease.Unit 4. Bronchiectasis. Cystic fibrosis.
INFECTIOUS PULMONARY PATHOLOGY	Unit 5. Upper tract infections. Flu and SARS-CoV2 (COVID).Unit 6. Community acquired pneumonia.Unit 7. Pneumonia associated with health care. In-hospital pneumonia. Infections in the immunosuppressed.Unit 8. Pulmonary tuberculosis. Other lung infections.
BLOCK IV. RESPIRATORY PATHOLOGY OF SLEEP	Unit 9. Sleep apnea and hypopnea syndromeUnit 10. Alterations of the rib cage. Neuromuscular. Obesity and hypoventilation syndrome
INTERSTICIAL AND ALVEOLAR PATHOLOGY	Unit 11. Diffuse interstitial or infiltrative lung diseases (ILD). Of unknown cause: Idiopathic interstitial pneumonias.Unit 12. Of unknown cause: Sarcoidosis. Eosinophilic pneumonia. Histiocytosis X, pulmonary vasculitis and others.Unit 13. Known cause: Hypersensitivity pneumonitis (formerly extrinsic allergic alveolitis). Associated with connective tissue diseases. Radiotherapy. Drugs.
OCCUPATIONAL, ENVIRONMENTAL PULMONARY PATHOLOGY AND TOBACCO	Unit 14. Pneumoconiosis: silicosis and asbestosisUnit 15. Environmental pollution. Smoking and inhaled drugs. Altitude. Diving. Fires.

PATHOLOGY OF THE PULMONARY CIRCULATION	Unit 16. Venous thromboembolic disease: pulmonary thromboembolism. TEP.Unit 17. Pulmonary arterial hypertension and Cor Pulmonale.
PULMONARY NEOPLASTIC PATHOLOGY	Unit 18. Lung cancer. Benign tumors and lung metastases.Unit 19. Primitive and metastatic pleural tumors
SURGICAL PATHOLOGY OF THE THORAX.	Unit 20. Evaluation and care in the perioperative period in Thoracic Surgery. Postoperative complications.Unit 21. Surgical pathology of the thoracic wall: Thoracic trauma.Unit 22. Surgical pathology of the mediastinumUnit 23. Surgical pathology of the pleura: Pneumothorax. Pleural effusion. Empyema Chylothorax.Unit 24. Lung transplantation and volume reduction surgery.
SEMINARS OF BASIC DIAGNOSTIC-THERAPEUTIC TECHNIQUES IN MEDICINE AND SURGERY OF THE RESPIRATORY SYSTEM	1.- Respiratory therapy: Inhaled medication: aerosols and nebulizers. Oxygen therapy, CPAP and invasive and non-invasive mechanical ventilation.2.- Basic techniques I: fiberoptic bronchoscopy and pulmonary function (spirometry, flow or maximum expiratory peak and other pulmonary function laboratory tests).4.- Basic techniques II: arterial blood gas and pulse oximetry.5.- Techniques in thoracic surgery: thoracentesis and pleural drainage.
CLINICAL CASES IN RESPIRATORY SYSTEM PATHOLOGY	Resolution and public presentation of clinical cases. Delivery of the written work. Answer to test questions.

Temporary organization of learning:

Block of content	Number of sessions	Hours
INTRODUCTION PNEUMOLOGICAL PATHOLOGY. RESPIRATORY INSUFFICIENCY AND ADULT RESPIRATORY DISTRESS.	2,00	4,00
OBSTRUCTIVE PATHOLOGY OF THE AIRWAY	3,00	6,00
INFECTIOUS PULMONARY PATHOLOGY	2,00	4,00
BLOCK IV. RESPIRATORY PATHOLOGY OF SLEEP	3,00	6,00
INTERSTICIAL AND ALVEOLAR PATHOLOGY	3,00	6,00
OCCUPATIONAL, ENVIRONMENTAL PULMONARY PATHOLOGY AND TOBACCO	3,00	6,00
PATHOLOGY OF THE PULMONARY CIRCULATION	2,00	4,00
PULMONARY NEOPLASTIC PATHOLOGY	2,00	4,00
SURGICAL PATHOLOGY OF THE THORAX.	7,00	14,00
SEMINARS OF BASIC DIAGNOSTIC-THERAPEUTIC TECHNIQUES IN MEDICINE AND SURGERY OF THE RESPIRATORY SYSTEM	2,50	5,00
CLINICAL CASES IN RESPIRATORY SYSTEM PATHOLOGY	8,00	16,00

References

BIBLIOGRAFÍA FUNDAMENTAL

Farreras & Rozman. Medicina Interna. 19ª edición. Barcelona: Ed Elsevier; 2020.

Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson J. Harrison Principios de Medicina Interna. McGraw-Hill. 21th Edition. 2022.

En cada tema se expondrá en la intranet de la UCV la bibliografía específica como son la guía internacional y nacional para el manejo del asma (GIINA y GEMA), de la EPOC (GOLD y GESEPOC), de las neumonías, HTP, etc.

BIBLIOGRAFÍA COMPLEMENTARIA

Albert RK, Spiro SG, Jett JR. Clinical Respiratory Medicine. 2nd edition. Philadelphia: Ed Mosby Inc.; 2004.

Álvarez-Sala, J.L., Casan Clarà, P., Rodríguez De Castro, F., et al. Neumología Clínica. 2ª edición. España. Ed. Elsevier; 2016.

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Álvarez-Sala, J.L., García Río, F., González Aragoneses, et al. Manual de aparato respiratorio y cirugía torácica. Majadahonda. Madrid. Ed. Ergón; 2015.

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Muller NL & Silva CI. Imaging of the Chest. Philadelphia: Ed Saunders; 2008.

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Light RW. Textbook of pleural disease. 2nd edition. London: Ed Hodder Arnold; 2008.

Hood RM. Traumatismos torácicos. Mexico: Ed McGraw Hill; 1999.

Kaiser LR, Jamieson GG. Operative thoracic surgery. London: Ed Hodder Arnold; 2006.

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: