



## Teaching Guide

Identifying Data					2021/22
<b>Subject (*)</b>	Advanced Cardiopulmonary Rehabilitation	<b>Code</b>	651516007		
<b>Study programme</b>	Mestrado Universitario en Discapacidade e Dependencia (plan 2015)				
Descriptors					
<b>Cycle</b>	<b>Period</b>	<b>Year</b>	<b>Type</b>	<b>Credits</b>	
Official Master's Degree	2nd four-month period	First	Optional	6	
<b>Language</b>	SpanishGalician				
<b>Teaching method</b>	Face-to-face				
<b>Prerequisites</b>					
<b>Department</b>	Fisioterapia, Medicina e Ciencias Biomédicas				
<b>Coordinador</b>	Gonzalez Doniz, Maria Luz	<b>E-mail</b>	luz.doniz@udc.es		
<b>Lecturers</b>	Crespo Leiro, María Generosa Gonzalez Doniz, Maria Luz Lista Paz, Ana Sanesteban Hermida, Yolanda Souto Camba, Sonia Vilanova Pereira, María	<b>E-mail</b>	maria.generosa.crespo.leiro@udc.es luz.doniz@udc.es ana.lista@udc.es y.sanesteban@udc.es sonia.souto@udc.es maria.vpereira@udc.es		
<b>Web</b>					
<b>General description</b>	The study of this subject pretends that the student purchases advanced knowledge and shows an understanding of the theoretical and practical issues and of the methodology of work in the dysfunctions of the system cardiopulmonar.				
<b>Contingency plan</b>	<p>1. Modifications in the contents</p> <p>2. Methodologies</p> <p>* Teaching methodologies that are maintained</p> <p>BIBLIOGRAPHIC REVIEW CASE STUDY TUTORED WORKS</p> <p>* Teaching methodologies that are modified</p> <p>MAGISTRAL SESSION: The oral presentation is replaced face to face by the use of audiovisual media and the introduction of some questions directed to the students to transmit knowledge and facilitate learning by participative expository classes in real time through the Microsoft Team tool and / or classes with an audio preview. They are complemented with activities aimed at students, to facilitate learning and integrate knowledge.</p> <p>LABORATORY PRACTICES: The face-to-face demonstration sessions are replaced by demonstrative audiovisual material.</p> <p>TEST OBJECTIVE</p> <p>3. Mechanisms for personalized attention to students The personalized attention activities will be intensified, carried out weekly through teams and Moodle and on demand, through institutional email.</p> <p>4. Modifications in the evaluation The objective objective test is replaced by a synchronous test of the type of test developed through a questionnaire using the Moodle tool. It will collect questions about the theoretical content addressed during the master sessions of the subject.</p> <p>* Evaluation observations:</p> <p>5. Modifications of the bibliography or webgraphy</p> <p>Manual de procedimientos separ. Evaluación de la función pulmonar.  <a href="https://issuu.com/separ/docs/procedimientos3?mode=window&amp;backgroundColor=%23222222">https://issuu.com/separ/docs/procedimientos3?mode=window&amp;backgroundColor=%23222222</a> Manual de procedimientos SEPAR. Evaluación de la función pulmonar II.  <a href="https://issuu.com/separ/docs/procedimientos4?mode=window&amp;backgroundColor=%23222222?">https://issuu.com/separ/docs/procedimientos4?mode=window&amp;backgroundColor=%23222222?</a>  <a href="https://www.youtube.com/watch?v=B_zJbMRuZT4">https://www.youtube.com/watch?v=B_zJbMRuZT4</a> <a href="https://www.youtube.com/watch?v=rOvR8ZKxI_M">https://www.youtube.com/watch?v=rOvR8ZKxI_M</a>  <a href="https://www.facebook.com/inhavisol/videos/524466211580082/">https://www.facebook.com/inhavisol/videos/524466211580082/</a></p>				

### Study programme competences / results

Code	Study programme competences / results
------	---------------------------------------



A10	CERF5. Ser capaz de integrar coñecementos avanzados no ámbito da disfunción cardiorrespiratoria
A11	CERF6. Capacidade para deseñar e executar proxectos de investigación nas disfuncións cardiorrespiratorias.
B2	CB7. Que os estudantes saiban aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en ámbitos novos ou pouco coñecidos dentro de contextos máis amplos (ou multidisciplinares) relacionados coa súa área de estudo
B5	CB10. Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que haberá de ser en boa medida autodirixido ou autónomo.
B7	CG2 Identificar, avaliar e resolver os problemas derivados da presenza de discapacidade e dependencia
B9	CG4 Ser capaz de intervir na problemática derivada da discapacidade e da dependencia
B10	CG5 Capacidade para integrar coñecementos científicos de carácter avanzado ligados ao ámbito da discapacidade e a dependencia
C6	CT6. Valorar críticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas aos que deben enfrontarse
C7	CT7. Ser capaz de valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade?

Learning outcomes			
Learning outcomes	Study programme competences / results		
Reach the acquisition of knowledges advanced and show an understanding of the theoretical and practical appearances and of the methodology of work in the dysfunctions of the system cardiopulmonar with a depth that arrive until the avant-garde of the knowledge	AR10 AR11		
Be able of predict and control the evolution of complex situations, realising a systematic approximation to the assessment and treatment of the problems of the complex cardiopulmonar by means of the development of methodologies of work adapted to said field of knowledge, in his scientific slopes/researcher and professional.	AR11	BR2 BR7 BR9 BR10	
Capacity of clinical reasoning applied to the diagnosis capacity that guarantee the taking of safe clinical decisions and based in the evidence, as well as the critical analysis of the existent therapeutic procedures for the handle of the patient with dysfunction cardiorrespiratoria	AR10	BR2 BR7 BR9	CR6
Be able to evaluate and select the suitable scientific theory and the precise methodology to develop, implement and evaluate the plans of attention and/or the guides of clinical practice in patients cardiorrespiratorios	AR10	BR5	CR7
Have developed skills for the multidisciplinary work asistencial and/or of investigation in the dysfunction cardiorrespiratoria	AR11	BR2	

Contents	
Topic	Sub-topic
Module 1: I Handle advanced of the respiratory dysfunction	<ol style="list-style-type: none"> <li>1. Bases of the respiratory pathophysiology and of the assessment of the respiratory patient.</li> <li>2. Integral and multidisciplinary attention of the respiratory patient (control of factors of risk, nutritional support, pharmacology, physiotherapy, other therapeutic boardings).</li> <li>3. Bases of treatment of the chronic pulmonary patient: programs of pulmonary rehabilitation, guides of clinical practice and scientific evidence.</li> <li>4. Bases of treatment of the neuromuscular patient: guides of clinical practice and scientific evidence of the intervention fisioterápica.</li> <li>5. Bases of treatment of the critical patient: guides of clinical practice and scientific evidence of the intervention fisioterápica.</li> <li>6. The disability in the respiratory patient. Evaluation of the quality of life.</li> </ol>



Module 2: I Handle advanced of the cardiovascular dysfunction	<ol style="list-style-type: none"> <li>1. Bases of the pathophysiology cardiovascular and of the assessment of the cardiovascular patient.</li> <li>2. Integral and multidisciplinary attention of the cardiovascular patient: guides of clinical practice and available scientific evidence.</li> <li>3. Programs of cardiovascular rehabilitation: available scientific evidence.</li> <li>4. The disability in the cardiovascular patient. Evaluation of the quality of life.</li> </ol>
---	---

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Critical bibliographical	B5 C6	0	30	30
Laboratory practice	B7 B9	2	0	2
Supervised projects	A10 A11 B5 B10 C6	6	60	66
Objective test	A10 B2 B7	1	6	7
Case study	A10 B2	0	2	2
Guest lecture / keynote speech	A10 A11 B2 B7 B9 B10 C7	24	15	39
Personalized attention		4	0	4

(\*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Critical bibliographical	The bibliographic reviewing supposes a process of critical reading of a book, of an article, of a thesis or of a communication to a congress. As such process comprises the reading of the work, the analysis of his content and a criticism and assessment of the same in relation to the existent literature on the subject. A reviewing does not suppose a summary of the work, neither a mere analysis of the content, as what awards him sense and scientific academic dimension is the criticism that deserves to trial of the author of the reviewing, in relation to other works known of the same field or in relation to his own experience.
Laboratory practice	Methodology that allows that the students learn sure enough through the realisation of activities of practical character, such like demonstrations, exercises, experiments and investigations.
Supervised projects	<p>Methodology designed to promote the autonomous learning of the students, under the tutela of the professor and in stages varied (academic and professionals). It is referred prioritariamente to the learning of the "how do the things". It constitutes an option based in the assumption by the students of the responsibility by his own learning.</p> <p>This system of education bases in two basic elements: the independent learning of the students and the follow-up of this learning by the professor-tutor.</p> <p>Inglés</p> <p>Students in semi-attendance regime must attend three face-to-face classes related to supervised work:</p> <p>The first, during the presentation of the course, in which the framing of these students will be carried out and the topics and members of the supervised work groups will be defined and constituted.</p> <p>The second, in the middle of the semester, for the presentation of the results of the bibliographic search and the presentation of the structured draft of his work.</p> <p>The third, at the end of the semester, for the presentation and defense of group work.</p>
Objective test	Written test used for learning assessment, whose distinctive outline is the possibility of determining whether or not the answers given are correct. It constitutes an instrument of measurement, rigorously elaborated, that allows evaluating knowledge, abilities, skills, performance, aptitudes, attitudes, intelligence, etc. It is applicable for both diagnostic, formative and summative evaluation. Multiple choice questions will be used.



Case study	Methodology where the subject faces the description of a specific situation that poses a problem that must be understood, valued and solved by a group of people, through a process of discussion. The student faces a specific problem (case), which describes a real situation in professional life, and must be able to analyze a series of facts, referring to a particular field of knowledge or action, to arrive at a reasoned decision through a process of discussion in small working groups.
Guest lecture / keynote speech	<p>Oral exhibition complemented with the use of audiovisual means and the introduction of some questions headed to the students, with the purpose to transmit knowledges and facilitate the learning.</p> <p>The masterclass is also known as "conferencia", "método expositivo" or "Clección magistral". This last modality is used to reserve to a special type of lesson given by a professor in special occasions, with a content that supposes an original preparation and based in the almost exclusive use of the word like road of transmission of the information to the audience.</p> <p>During the session magistral will integrate of punctual way the methodologies of discussion directed and aprendizaje based in problems.</p> <p>In the case of semi-presential students, weekly help will be provided through the institutional platform Moodle, the help undertaken in the classroom, as well as the necessary resources for the development of the content addressed in person in the classroom.</p>

### Personalized attention

Methodologies	Description
Objective test	Personalized attention will be developed through institutional tools: Teams, email and Moodle.
Supervised projects	<p>In the case of the student in attendance mode:</p> <p>supervised work: it recommends the personalised attention to help to the student to elaborate his work, from the selection of the bibliographic sources, until his structuring and development.</p> <p>Mixed proof: it recommends the personalised attention to help to the student to resolve the doubts arisen of the preparation of the matter in his group.</p> <p>In the case of the student with reconocimieto of dedication part time and dispenses academician of exemption of asistencia, will realise a tutorización each fifteen days, in base to the reading of texts recommended and the preparation of infomres by part of the student that guarantee the suitable follow-up of the program.</p> <p>n the case of students in a blended system, the actions of personalized attention will be intensified, through Teams and Moodle, they will be carried out weekly and by email at the student's request.</p>

### Assessment

Methodologies	Competencies / Results	Description	Qualification
Objective test	A10 B2 B7	Objective test type multiple choice answer test	40
Critical bibliographical	B5 C6	Assessment of the reviewings contributed by the student along the cuatrimestre.	20
Supervised projects	A10 A11 B5 B10 C6	Assessment of the supervised work presented by the student.	30



Case study	A10 B2	It will be evaluated the reports derived of studied cases, in which the student will show his capacity of integration of the theoretical knowledges in the clinical context. It will put special attention, amongst other, to: <ol style="list-style-type: none"><li>1. The description of the methodologies of evaluation, intervention employed in the real clinical context.</li><li>2. The establishment of the diagnostics and the typification of the dysfunction of origin cardiorrespiratorio.</li><li>3. The connection of the concepts tackled in the classroom and the appearances observed in the real surroundings.</li></ol>	10
------------	--------	---	----

#### Assessment comments

The percentages assigned to each proof can suffer small modifications of a course to another in function of the needs of the subject. Nevertheless, the value of the mixed objective/subjective test will be situated between the 30 and 40%, the critica bibliographical between a 20 and 30%, the supervised projects between a 20 and 30% and the field trip between a 10 and 20%

The criteria of evaluation of first and second opportunity will be the same.

The students enrolled part time will have of personalised attention along the course, with a tutoría twice-weekly. They must demonstrate assistance up to 50% of the presencial activities.

Students in semi-attendance regime will take the objective test in person, in addition to attending classes three times in relation to face-to-face activities related to supervised work.

#### Sources of information



Basic

- Hyatt, Robert E. (2014). Interpretation of pulmonary function test. Philadelphia: Lippincott Williams and Wilkins

- Giraldo Estrada, Horacio (2008). EPOC : Diagnóstico y tratamiento integral con énfasis en la rehabilitación pulmonar. Buenos Aires: Médica Panamericana

- Booth S, Dudgeon D (2006 ). Dyspnoea in advanced disease. Oxford

- Chiappero G, Villarejo F (2010). Ventilación mecánica : libro del Comité de Neumonología Crítica de la SATI. Buenos Aires: Panamericana

- Patiño, JF (2015). Gases sanguíneos, fisiología de la respiración e insuficiencia respiratoria aguda . Bogotá: Panamericana

- West J (2008). Fisiología y fisiopatología pulmonar. Estudio de casos. Philadelphia: Lippincott Williams and Wilkins

- Houg, A (2014). Physiotherapy in respiratory and cardiac care : an evidence-based approach. Stanford : Cengage Learning

- Frownfelter, D (2012). Cardiovascular and pulmonary physical Therapy. St. Louis : Elsevier

- Esteban A, Anzueto DJ (2006). Manejo de pacientes con falla respiratoria basada en la evidencia. Bogotá: Editorial tribuna

- Reid, W D (2004). Clinical Management notes and case histories in cardiopulmonary physical therapy. Thorofare, NJ : Slack

- Badia X, Alonso J (2007). La medida de la salud: guía de escalas de medida en español. Barcelona : Edittec

- Pryor J, Prasad AS (2016). Physiotherapy for respiratory and cardiac problems : adults and paediatrics . Edinburgh : Elsevier

- Harden B (2009). Respiratory physiotherapy : an on-call survival guide. Edinburgh : Churchill Livingstone/Elsevier

- López Chicharro, J (2013). Fisiología del entrenamiento aeróbico : una visión integrada . Madrid: Panamericana

- Seco J (2018). Sistema Respiratorio: Afecciones Médico-Quirúrgicas. Métodos de intervención. Fisioterapia Clínica. Madrid: Editorial Médica Panamericana

- OMS (2001). Clasificación internacional del funcionamiento, de la discapacidad y la salud. Versión abreviada. Inerser

- Ghannouchi I, Speyer R., Doma K, Codier R, Verin E. (2016). Swallowing function and chronic respiratory disease: Systematic review. Respiratory Medicine 2016; 117: 54-64

- Zuercher P, Moret CS, Dziewas R, Schefold J. (2019). Dysphagia in the intensive care unit: epidemiology, mechanism, and clinical management. Critical Care. 2019;23: 103

- Alonso AT. (2016). Prueba broncodilatadora. Revista de Asma 2016; 1 (2): 60-67

- West JB. & LuksAM. (2016). Fisiología Respiratoria. Fundamentos. Barcelona: WoltersKluwer.

GUÍA DE PRÁCTICA CLÍNICA PARA EL DIAGNÓSTICO Y TRATAMIENTO DE PACIENTES CON EPOC - Guía Española de la EPOC (GesEPOC-2012) Grupo de trabajo de GesEPO. Disponible en [http://issuu.com/separ/docs/gu\\_a\\_gesepoc?e=3049452/6072699](http://issuu.com/separ/docs/gu_a_gesepoc?e=3049452/6072699)

DISFUNCIÓN MUSCULAR DE LOS PACIENTES CON ENFERMEDAD PULMONAR OBSTRUCTIVA CRÓNICA (2015) Esther Barreiro, Víctor Bustamante, Pilar Cejudo, Joan B. Gáldiz, Joaquim Egea, Pilar de Lucas, Juana Martínez-Llorens, Francisco Ortega, Luis Puente-Maestu, Josep Roca, José Miguel Rodríguez González Moro. Disponible en [https://issuu.com/separ/docs/normativa\\_67?e=3049452/31015859](https://issuu.com/separ/docs/normativa_67?e=3049452/31015859)

REHABILITACIÓN RESPIRATORIA (2014) María Rosa Güell, Salvador Díaz, Gema Rodríguez, Fátima Morante, Marta San Miguel, Pilar Cejudo, Francisco Ortega, Alejandro Muñoz, Juan Bautista Galdiz, Almudena García, Emilio Servera. Disponible en <https://www.dropbox.com/s/ouhxfcbmb5sdaje/Normativa%2064.pdf?dl=0>

MANEJO DE LAS COMPLICACIONES RESPIRATORIAS DE LOS PACIENTES CON ENFERMEDAD NEUROMUSCULAR (2012) Eva.Farrero, Antonio Antón, Carlos J.Egea, M.José Almaraz, J.Fernando Masa, Isabel Utrabo, Miriam Calle, Héctor Vereá, Emilio Servera, Luis Jara, Emilia Barrot, Vinyet Casolívé Arch Bronconeumol. 2013;49:306-13. Disponible en <http://issuu.com/separ/docs/normativa59?mode=window&backgroundColor=%23222222>

GUÍA CLINICA PARA EL DIAGNÓSTICO Y TRATAMIENTO DE LA EPOC - SEPAR/ALAT (2007) Germán Peces-Barba. Joan Albert Barberá. Alvar Agustí. Ciro Casanova. Alejandro Casas. José Luis Izquierdo. José Jardim. Victorina López Varela. Eduard Monsó. Teodoro Montemayor. José Luis Viejo Arch Bronconeumol. 2008;44:271-81. Disponible en [http://issuu.com/separ/docs/normativa\\_45.?mode=window&backgroundColor=%23222222](http://issuu.com/separ/docs/normativa_45.?mode=window&backgroundColor=%23222222)

TÉCNICAS MANUALES E INSTRUMENTALES PARA EL DRENAJE DE SECRECIONES BRONQUIALES EN EL PACIENTE

ADULTO (2013) Coordinación: Joan-Daniel Martí Romeu, Montserrat Vendrell Relat. Disponible en [http://issuu.com/separ/docs/manual\\_\\_separ\\_27\\_tecnicas\\_manuales\\_?e=3049452/12260872](http://issuu.com/separ/docs/manual__separ_27_tecnicas_manuales_?e=3049452/12260872) TERAPIAS RESPIRATORIAS Y CUIDADOS DEL PACIENTE NEUROMUSCULAR CON AFECTACIÓN RESPIRATORIA (2012) Coordinación: M<sup>a</sup> Jesús Zafra Pires, Emilia Barrot Cortés. Disponible en [http://issuu.com/separ/docs/manual\\_25?mode=window](http://issuu.com/separ/docs/manual_25?mode=window) GLOBAL STRATEGY FOR THE DIAGNOSIS, MANAGEMENT, AND PREVENTION OF COPD (2017). Disponible en [https://goldcopd.org/wp-content/uploads/2017/11/GOLD-2018-v6.0-FINAL-revised-20-Nov\\_WMS.pdf](https://goldcopd.org/wp-content/uploads/2017/11/GOLD-2018-v6.0-FINAL-revised-20-Nov_WMS.pdf) The European Lung White Book. European Respiratory Society. Disponible en <https://www.erswhitebook.org/> An Official American Thoracic Society/European Respiratory Society Policy Statement: Enhancing Implementation, Use, and Delivery of Pulmonary Rehabilitation. Am J Respir Crit Care Med Vol 192, Iss 11, pp 1373-1386, Dec 1, 2015. An official European Respiratory Society statement on physical activity in COPD. Eur Respir J 2014; 44: 1521-1537 An Official American Thoracic Society/European Respiratory Society Statement: Key Concepts and Advances in Pulmonary Rehabilitation. Am J Respir Crit Care Med. 2013; 188: e13-e64



Complementary

## Recommendations

### Subjects that it is recommended to have taken before

Research Methodology/651516001

Multimedia Tools in Research/651516002

### Subjects that are recommended to be taken simultaneously

Resource Management in Health and Social Care in Disability and Dependency Situations/651516009

### Subjects that continue the syllabus

## Other comments

To help to achieve some sustainable immediate surroundings and fulfil with the strategic aims of the Plan Green Campus of the Faculty of Physiotherapy, the documentary works that realise&nbsp; in this matter will be able to request&nbsp; so much in format paper like virtual or computer support. To realise&nbsp; in paper, will be still in&nbsp; the measure of the possible the following general recommendations:- They will not use&nbsp; plastic.- They will realise&nbsp; impressions to double expensive.- It will employ&nbsp; paper recycled.- It will avoid&nbsp; the realisation of drafts

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.