

**Physiotherapeutic Assessment and Treatment in  
Cardio-respiratory Processes**

Code: 102968  
ECTS Credits: 6

**2025/2026**

Degree	Type	Year
Physiotherapy	OB	3

## Contact

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## Teachers

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## Teaching groups languages

You can view this information at the [end](#) of this document.

## Prerequisites

Have knowledge of anatomy and physiology of the cardiorespiratory system, necessary to interpret the pathophysiology of cardiopulmonary disorders and decide on the therapeutic approach.

## Objectives and Contextualisation

The aim is to provide students with the theoretical knowledge and practical skills necessary to carry out assessments and interventions in the field of cardiorespiratory physiotherapy, grounded in scientific evidence and best clinical practice.

Over the past decades, respiratory physiotherapy has become a key component in the treatment of numerous respiratory conditions, both acute and chronic, significantly contributing to the improvement of quality of life for affected individuals.

Advancements in healthcare, both in prevention and treatment, have increased life expectancy across the population, including in severe and complex clinical situations. This has led to a rise in respiratory comorbidities, particularly among individuals who are hospitalised, institutionalised, or of advanced age, highlighting the need for specialised physiotherapeutic care.

Moreover, the rise in the number of preterm births and the early diagnosis of various genetic diseases have further strengthened the essential role of respiratory physiotherapy in paediatric and community settings.

Cardiac conditions also benefit from current therapeutic advances and early detection. In this context, cardiac rehabilitation programmes have been shown, according to current scientific evidence, to improve quality of life and increase survival in individuals with heart disease.

## Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Apply quality-assurance mechanisms in physiotherapy practice, in accordance with the recognised and validated criteria.
- Design the physiotherapy intervention plan in accordance with the criteria of appropriateness, validity and efficiency.
- Display knowledge of the physiotherapy methods, procedures and interventions in clinical therapeutics.
- Evaluate the functional state of the patient, considering the physical, psychological and social aspects.
- Integrate, through clinical experience, the ethical and professional values, knowledge, skills and attitudes of physiotherapy, in order to resolve specific clinical cases in the hospital and non-hospital environments, and primary and community care.
- Make a physiotherapy diagnosis applying internationally recognised norms and validation instruments.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Make the most correct decisions in given situations.
- Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.
- Work in teams.

## Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Apply physiotherapy methods, procedures and interventions to treat cardio-respiratory conditions.
3. Communicate using language that is not sexist.
4. Consider how gender stereotypes and roles impinge on the exercise of the profession.
5. Define general and specific objectives when using physiotherapy treatment for cardio-respiratory disorders.
6. Describe and analyse the evidence-based physiotherapy protocols for cardio-respiratory disorders.
7. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the cardio-respiratory system and possible functional repercussions.
8. Describe the circumstances that can influence priorities when using physiotherapy to treat cardio-respiratory disorders.
9. Describe the good clinical practice guides for cardio-respiratory disorders.
10. Enumerate the different types of material and apparatus for using physiotherapy to treat cardio-respiratory disorders.
11. Establish a diagnostic physiotherapy hypothesis based on clinical cases linked to cardio-respiratory conditions.
12. Identify situations in which a change or improvement is needed.
13. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in cardio-respiratory disorders.
14. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
15. Make the most correct decisions in given situations.
16. Propose new methods or well-founded alternative solutions.
17. Propose new ways to measure success or failure when implementing innovative proposals or ideas.

18. Propose projects and actions that incorporate the gender perspective.
19. Propose viable projects and actions to boost social, economic and environmental benefits.
20. Propose ways to evaluate projects and actions for improving sustainability.
21. Use physiotherapy to treat clinical cases involving cardio-respiratory conditions.
22. Weigh up the impact of any long- or short-term difficulty, harm or discrimination that could be caused to certain persons or groups by the actions or projects.
23. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.
24. Work in teams.

## Content

### Content of the Master Classes

1. Review of cardiopulmonary anatomy
2. Review of respiratory physiology
3. Ventilatory mechanics
4. Basic concepts of pathophysiology
5. Assessment in respiratory physiotherapy:
  - 5.1. Anamnesis and physical examination
  - 5.2. Vital signs
  - 5.3. Respiratory auscultation
  - 5.4. Chest radiology
  - 5.5. Basic concepts of pulmonary function tests
  - 5.6. Basic concepts of blood gas analysis
  - 5.7. Basic concepts of functional capacity tests
  - 5.8. Assessment scales
6. General objectives of respiratory physiotherapy
7. Basic concepts of oxygen therapy and aerosol therapy
8. Respiratory physiotherapy techniques:
  - 8.1. Ventilatory re-education techniques
  - 8.2. Secretion clearance techniques
9. Respiratory physiotherapy in obstructive diseases
10. Respiratory physiotherapy in restrictive diseases
11. Cardiorespiratory physiotherapy in surgical patients
12. Cardiorespiratory physiotherapy in cardiac conditions
13. Respiratory physiotherapy in pediatrics

### Content of Supervised Activities

1. Respiratory auscultation and physical examination
2. Respiratory physiotherapy techniques
3. Airway suctioning

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
LABORATORY PRACTICES (PLAB)	15	0.6	
THEORY (TE)	30	1.2	
Type: Supervised			
PRESENTATION / ORAL EXHIBITION OF WORKS / VIRTUAL CLASSES (VIRT) / TUTORIES	0.5	0.02	
Type: Autonomous			
PERSONAL STUDY	33	1.32	
READING ARTICLES AND REPORTS OF INTEREST	19.5	0.78	
WORK PREPARATION	35	1.4	

The subject will be taught through theoretical classes and practical classes.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Assessment

### Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Objective tests of selection of multiple choice items + test test of restricted questions	30% + 20% respectively	1.5	0.06	2, 5, 7, 8, 10, 11, 13, 15, 21
Attendance at classes and seminars and active participation	10%	15	0.6	1, 2, 3, 7, 10, 14, 12, 23, 20, 16, 17, 18, 19, 21, 24, 4, 22
Written work + Oral defense	30% + 10% respectively	0.5	0.02	1, 2, 3, 5, 6, 7, 9, 11, 14, 23, 15, 16, 17, 18, 19, 21, 24, 4

The course assessment is based on a continuous evaluation system, which combines individual and group activities, both written and practical. This system aims to comprehensively assess students' theoretical knowledge, practical skills, and active participation.

A minimum attendance of 80% in directed activities (PLAB) is mandatory to pass the course, as these activities are essential for the development of students' competencies.

Below is the breakdown of the evaluation components, passing criteria, and recovery conditions.

## Assessment system

Minimum mandatory attendance of 80% in directed activities (PLAB) is a requirement to pass the course. Attendance will count for 10% of the final grade.

The group written assignment must be passed with a minimum score of 5 out of 10 and will count for 30% of the final grade. All groups must prepare an oral presentation in poster format, to be defended in class; this will account for 10% of the final grade.

The written exam will consist of a multiple-choice test with four answer options, only one of which is correct. Incorrect answers will penalize 25% of the value of a correct one. The test will be considered passed with a minimum score of 5 out of 10 and will account for 30% of the final grade.

The written exam will also include a short-answer section, based on a clinical case. It will be passed with a minimum score of 5 out of 10 and will account for 20% of the final grade.

To obtain the final grade, it is necessary to pass each of the following parts with a minimum score of 5: the final assignment, the test, and the clinical case.

## Specific cases

- If any of the parts are not passed, the course will be considered failed, even if the weighted average is equal to or above 5. In that case, the final grade recorded in the academic transcript will be the one with the lowest score.
- If the student's weighted average is below 5, that will be the final grade, regardless of the partial results.
- Students must attend all assessment activities to pass the course and, if necessary, be eligible for recovery. Failure to attend any of the assessments will be considered "not assessable", and in such cases, recovery will not be permitted.
- The late submission of assignments, plagiarism, or the improper use of generative artificial intelligence (AI) tools -such as ChatGPT or other platforms- will result in a grade of 0 for that activity and, therefore, failure of the course with no recovery option.
- Students who do not pass the course may take a resit exam only for the failed part(s). If passed, the maximum grade will be 5.
- To obtain a Distinction (Matrícula d'Honor), students must achieve a final grade equal to or higher than 9.5.

## Single assessment

Students opting for this system must be aware that:

- The assessment components will be the same and will carry the same weight as in continuous assessment.
- All components will be assessed on the same day, which will coincide with the official exam date of the course, according to the <strong>data-start="7154" data-end="7179"</strong>UAB academic calendar.
- The same recovery system applies as in continuous assessment.
- The procedure for reviewing the final grade will also be the same as in continuous assessment.

Note on the responsible use of artificial intelligence (AI) tools:

The use of generative AI tools (such as ChatGPT or others) may be permitted as support in academic tasks, provided they are used ethically and transparently. For instance, they may be used to clarify specific doubts, rephrase sentences, or improve writing, but never as a substitute for the student's own critical or reflective work.

Any significant contribution generated by AI must be explicitly acknowledged in the assignment, either in an acknowledgments section or as a footnote. In case of doubt, it is recommended to consult the teaching staff beforehand.

## Bibliography

Basic:

1. Agustí A., Celli, B. *Enfermedad pulmonar obstructiva crónica*. Barcelona: Masson - Elsevier, 2005
2. Antonello M. et al. *Fisioterapia respiratoria. Del diagnóstico al proyecto terapéutico*. Barcelona: Masson, 2002.
3. Bart F., Grosbois, M., Chabrol, J. *Réhabilitation respiratoire. Emc, Kinésithérapie-Médecine physique-Réadaptation* 2007; 26-503-A-10.
4. Blandine, C.-G. (2006). *Anatomía para el movimiento (T. IV): El gesto respiratorio*. La Liebre de Marzo.
5. Bott, J., Blumenthal, S., Buxton, M., Ellum, S., Falconer, C., Garrod, R. et al. Guidelines for the physiotherapy management of the adult, medical, spontaneously breathing patient. *Thorax* 2009; 64 (supl. 1): 118.
6. Cobos Barroso, N. (dir.). *Fibrosis quística*. Zaragoza: Ed. Neumología y Salud SL; 2008.
7. Conference de Consensus Sur Kinesitherapie Respiratoire Lyon 23 December 1994. *KS* 1995; 34457.
8. Congreso Nacional de Fisioterapia XIII. Actualizaciones en Fisioterapia. Barcelona: Editorial Médica Panamericana. 2000.
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11. Ferrer Monreal, M., Torres Martí, A., *Manual de auscultación pulmonar. Imágenes y sonidos en neumología*. 2<sup>a</sup> edición. Hospital Clínic de Barcelona: Edikamed; 2008.
12. Giménez M., Servera E., Vergara P. *Prevención y rehabilitación. Patología respiratoria crónica. Fisioterapia, entrenamiento y cuidados respiratorios*. Madrid: Editorial Médica Panamericana. 2<sup>a</sup> edición, 2004.
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17. Kapandji. *Fisiología articular*. Tomo 3: Tronco y raquis (6<sup>a</sup> edición). Madrid: Panamericana; 2007.
18. Main, E., Denehy, L. (2016). *Cardiorespiratory Physiotherapy: Adults and Paediatrics : formerly Physiotherapy for Respiratory and Cardiac Problems* (5 ed.). Elsevier.
19. Netter. *Sistema respiratorio*. Barcelona: Ed. Masson, 2000.
20. Patiño Restrepo, J. F. *Gases sanguíneos, fisiología de la respiración e insuficiencia respiratoria aguda*. Panamericana; 2005.
21. Postiaux, G. *Kinésithérapie respiratoire et auscultation pulmonaire*. Bruselas: Editions Universitaires, 1990.
22. Postiaux, G. *Fisioterapia respiratoria en el niño*. Madrid: McGraw-Hill; 2000.
23. Pryor, J. A., Prasad, S.A. *Physiotherapy for respiratory and cardiac problems. Adults and pediatrics*. 4<sup>a</sup> ed. Londres: Churchill Livingstone; 2008.
24. Reychker, G., Roeseler, J., Delguste, P. *Kinésithérapie respiratoire*. 2<sup>a</sup> edición. Bruselas: El Servier Masson; 2009.

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#### Complementary reading

The teaching staff will provide references for the complementary and compulsory reading materials throughout the course via the Virtual Campus.

## Software

Teachers could make use of applications like Kahoot or Wooclap for the revitalization of the classes.

## Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	201	Catalan/Spanish	first semester	afternoon
(PLAB) Practical laboratories	202	Catalan/Spanish	first semester	afternoon
(PLAB) Practical laboratories	203	Catalan/Spanish	first semester	afternoon
(PLAB) Practical laboratories	204	Catalan/Spanish	first semester	afternoon
(TE) Theory	201	Catalan/Spanish	first semester	afternoon