COURSE DATA

DATA SUBJECT

Code: 44640
Name: Specific aspects of functional recovery in patients with cardiorespiratory conditions
Cycle: Master's Degree
ECTS Credits: 8
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2220 - Master's Degree in Functional Recovery in Physiotherapy	Facultat de Fisioteràpia	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2220 - Master's Degree in Functional Recovery in Physiotherapy	Specific aspects of functional recovery in patients with cardiorespiratory conditions	ELECTIVES

COORDINATION

CEBRIA I IRANZO MARIA DELS ÀNGELS

SUMMARY

This subject deals with the concepts of physical exercise and physical activity, their differences and particularities in the context of cardiorespiratory diseases, and in special population (paediatric and geriatric). Moreover, are introduced the modalities of monitoring the exercise and physical activity programs, as well as current registration systems (telemedicine, accelerometers, etc.).

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

COMPETENCES / LEARNING OUTCOMES

2220 - Master's Degree in Functional Recovery in Physiotherapy

Acquire specific knowledge about the factors influencing adherence to physical activity and appropriate techniques to enhance it.

Apply acquired knowledge and develop the ability to solve problems in new or unfamiliar environments within broader or multidisciplinary contexts related to physiotherapy techniques across different levels of healthcare, specifically in the physical treatment of complex pathologies and injuries requiring a higher level of specialization.

Be able to integrate knowledge and address the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments, while planning a comprehensive approach to patient care.

Develop the ability to effectively use therapeutic physical exercise across all areas of functional recovery intervention.

Develop the ability to prepare and deliver both oral and written reports on the functional status of patients

Develop the ability to promote health education among the various members of the transdisciplinary work team.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

DESCRIPTION OF CONTENTS

1. Physical activity

1.1. Concept, principles and determinants.
1.2. Evaluation and beneficial effects in the cardiorespiratory patient.

2. Preventive and therapeutic physical exercise

2.1. Special features in the cardiac rehabilitation program: objectives, intervention programs, evaluation of

results (effects).
2.2. Special features in the pulmonary rehabilitation program: objectives, intervention programs, evaluation of results (effects).
2.3. Special features in special population: paediatric and geriatric.

3. Monitoring of preventive and therapeutic exercise programs: new technologies and contexts for its application.

3.1. Telemedicine. Monitors of physical activity.
3.2. Street circuits and other contexts in the community.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	20,00
Laboratory	28,00
Total hours	**48,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	10,00
Individual or group project	32,00
Independent study and work	80,00
Preparation of lessons	10,00
Preparation for assessment activities	20,00
Resolution of case studies	0,00
Total hours	**152,00**

TEACHING METHODOLOGY

- Theoretical-practical classes.

- Group work consisting of planning a therapeutic physical exercise programme for a cardiorespiratory patient.

- Individual and/or group tutorials to answer questions about the content treated in the course and the scheduled group activity.

- Autonomous work by the student.

EVALUATION

Evaluation system	Percentage of qualifying
Students individually or in groups will defend an intervention program to promote physical activity under different assumptions and levels of performance, taking into account the issues discussed in classroom. Therefore, this evaluation test will consist of a written part and an oral presentation that the student will perform in order to pass the subject.	**35%**
Student participation and attendance in the classroom.	**25%**
Final written test.	**40%**

The final grade of the subject will be the weighted sum of the marks obtained in each evaluation test, as long as the student has obtained at least 50% of the maximum mark in each of the tests: individual-group activity, participation-attendance in class and written final test.

Class attendance is compulsory and is part of the course evaluation. In this sense, a minimum attendance of 80% of the course hours is required to receive the highest grade in this evaluation category. Likewise, except for reasons of force majeure accredited to the master's degree management, a minimum attendance of 50% of the course hours is required to pass this part of the evaluation. Because face-to-face classes are non-recoverable, failing to attend 50% of the hours of the subject means it is impossible to pass the subject in either of the two calls.

REFERENCES

- Ahmad AM. Essentials of Physiotherapy after Thoracic Surgery: What Physiotherapists Need to Know. A Narrative Review. *Korean J Thorac Cardiovasc Surg*. 2018 Oct;51(5):293-307. doi: 10.5090/kjtcs.2018.51.5.293.
- American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*. 11th ed. Lippincott Williams & Wilkins; 2013. ISBN: 9781451170054.
- Área de asma de SEPAR; Área de enfermería de SEPAR; Departamento de asma ALAT. Consenso SEPAR-ALAT sobre terapia inhalada [SEPAR-ALAT consensus for inhaled therapies]. *Arch*

Bronconeumol. 2013 Jun;49 Suppl 1:2-14. PMID: 23967487.

- Cristancho Gómez W. *Fundamentos de fisioterapia respiratoria y ventilación mecánica.* 3ª ed. Bogotá: Editorial El Manual Moderno; 2014. ISBN: 9789586315077.
- Gómez Garrido A. *Rehabilitación Respiratoria (SORECAR).* Madrid: Editorial Médica Panamericana; 2025. ISBN: 9788491190208.
- Hillegass E. *Essentials of Cardiopulmonary Physical Therapy*. 4th ed. St. Louis (MO): Elsevier; 2017. ISBN: 9780323401766.
- Holland AE, et al. Defining Modern Pulmonary Rehabilitation. An Official American Thoracic Society Workshop Report. *Ann Am Thorac Soc*. 2021 May;18(5):e12-e29. doi: 10.1513 /AnnalsATS.202102-146ST.
- Jiang J, Zhang D, Huang Y, Wu Z, Zhang W. Exercise rehabilitation in pediatric asthma: A systematic review and network meta-analysis. *Pediatr Pulmonol*. 2022 Dec;57(12):2915-2927. doi: 10.1002/ppul.26134. Epub 2022 Oct 19. PMID: 36103241.
- Maltais F, Decramer M, Casaburi R, et al. ATS/ERS Ad Hoc Committee on Limb Muscle Dysfunction in COPD. An official American Thoracic Society/European Respiratory Society statement: update on limb muscle dysfunction in chronic obstructive pulmonary disease*. Am J Respir Crit Care Med.* 2014 May 1;189(9):e15-62. doi: 10.1164/rccm.201402-0226ST.
- Main E, Denephy L. *Cardiorespiratory physiotherapy: adults and paediatrics*. 5th ed. Elsevier; 2017. ISBN: 9780729541467.
- Niebauer J, editor. *Cardiac Rehabilitation Manual*. 2nd ed. Springer; 2017. ISBN: 9783319465643.
- Rochester CL, Vogiatzis I, Holland AE, et al. ATS/ERS Task Force on Policy in Pulmonary Rehabilitation. An Official American Thoracic Society/European Respiratory Society Policy Statement: Enhancing Implementation, Use, and Delivery of Pulmonary Rehabilitation. Am J Respir Crit Care Med. 2015 Dec 1;192(11):1373-86. doi: 10.1164/rccm.201510-1966ST.
- Spruit MA, et al. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. *Am J Respir Crit Care Med*. 2013 Oct 15; 188(8):e13-64. doi: 10.1164/rccm.201309-1634ST.
- Spruit MA, Pitta F, Garvey C, et al. ERS Rehabilitation and Chronic Care, and Physiotherapists Scientific Groups; American Association of Cardiovascular and Pulmonary Rehabilitation; ATS Pulmonary Rehabilitation Assembly and the ERS COPD Audit team. Differences in content and organisational aspects of pulmonary rehabilitation programmes. *Eur Respir J*. 2014 May;43(5): 1326-37. doi: 10.1183/09031936.00003014.
- Spruit MA, Pitta F, McAuley E, ZuWallack RL, Nici L. Pulmonary Rehabilitation and Physical Activity in Patients with Chronic Obstructive Pulmonary Disease. *Am J Respir Crit Care Med.* 2015 Oct 15;192(8):924-33. doi: 10.1164/rccm.201506-1174PP.
- Vogiatzis I, Rochester CL, Spruit MA, Troosters T, Clini EM. ATS/ERS Task Force on Policy in Pulmonary Rehabilitation. Increasing implementation and delivery of pulmonary rehabilitation: key messages from the new ATS/ERS policy statement. *Eur Respir J.* 2016 Nov;47(5):1336-41. doi: 10.1183/13993003.01285-2016.
- Watz H, Pitta F, Rochester CL, et al. An official European Respiratory Society statement on physical activity in COPD. *Eur Respir J.* 2014 Dec;44(6):1521-37. doi: 10.1183/09031936. 00074814.
- Wickerson L, et al. Physical rehabilitation for lung transplant candidates and recipients: An evidence-informed clinical approach. *World J Transplant*. 2016 Sep 24;6(3):517-31. doi: 10.5500 /wjt.v6.i3.517.

Likewise, the books, scientific articles and readings of interest recommended for the preparation of the contents addressed in each topic will be specified at the end of each class.