

**COURSE DATA****Data Subject**

Code	44638
Name	Specialised aspects of cardiorespiratory function and its alterations
Cycle	Master's degree
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
2220 - M.U. en Recuperación Funcional en Fisioterapia	Faculty of Physiotherapy	1	First term

Subject-matter

Degree	Subject-matter	Character
2220 - M.U. en Recuperación Funcional en Fisioterapia	7 - Specialised aspects of cardiorespiratory function and its alterations	Optional

Coordination

Name	Department
CEBRIA I IRANZO, MARIA DELS ÀNGELS	191 - Physiotherapy

SUMMARY

This subject introduces the main aspects of the cardiovascular and respiratory systems' anatomy and function, as well as the pathophysiology of major diseases and cardio-respiratory syndromes, in which functional recovery is based on scientific evidence and clinic experience. Moreover, it includes the most relevant aspects of cardiorespiratory exploration related to functional recovery in cardiorespiratory pathology.

PREVIOUS KNOWLEDGE



Relationship to other subjects of the same degree

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

Other requirements

OUTCOMES

2220 - M.U. en Recuperación Funcional en Fisioterapia

- 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 demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Ser capaz de elaborar informes orales y escritos acerca de la situación funcional de las/os pacientes.
- Profundizar en la fisiopatología de las lesiones y enfermedades más frecuentes.
- Diferenciar específicamente la estructura afectada en una imagen diagnóstica y su implicación en recuperación funcional.
- Ser capaces de aplicar correctamente las diferentes metodologías disponibles basadas en la evidencia en el tratamiento de las patologías y lesiones que nos ocupa.
- Establecer específicamente los factores de riesgo, etiología y características de las patologías y lesiones más frecuentes según su entorno clínico.

LEARNING OUTCOMES

Study this subject will enable the student to:

- Know the parameters of proper functioning of the cardiovascular and respiratory systems.
- Know which are the functional changes in major cardiorespiratory diseases, in order to adapt the rehabilitation program
- Assess the specific semiotics of heart and/or respiratory diseases.
- Know and interpret the main functional and complementary tests in the context of cardiorespiratory diseases.

DESCRIPTION OF CONTENTS

**1. Physiological fundamentals as the basis for functional recovery in cardiorespiratory diseases.**

- 1.1. Integration of the respiratory, cardiovascular and systemic metabolism.
- 1.2. Pathophysiology of major cardio-respiratory diseases and syndromes.

2. Evaluation and diagnosis of cardiac patient.

- 2.1. Assessment of the main signs and symptoms in cardio-respiratory diseases and syndromes.
- 2.2. Pulmonary and cardiac outcrowding.
- 2.3. Exploration of the ventilatory mechanics.
- 2.4. Assessment of the respiratory and peripheral muscles strength.
- 2.5. Respiratory functional exploration. Gasometry.
- 2.6. Basic electrocardiography and major alterations.
- 2.7. Diagnostic imaging in the cardiac and/or respiratory disorders: radiography, magnetic resonance imaging, medical ultrasonography, etc.
- 2.8. Assessment of exercise tolerance: heart and/or respiratory failure.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	24,00	100
Laboratory practices	12,00	100
Study and independent work	80,00	0
Readings supplementary material	26,00	0
Resolution of case studies	8,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

- Lecture participatory
- Practical Case
- Tutorials
- Autonomous work student

EVALUATION



Evaluation system	Percentage of qualifying
Development of a clinical case proposed by the teacher.	15%
Student participation and attendance in the classroom	30%
Final written test to assess both the conceptual and procedural contents related to functional recovery in the cardiorespiratory patient.	55%

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 activity (clinical case), participation-attendance in class and written final test.

REFERENCES

Basic

- Henri Rouvière, André Delmas. Anatomía humana: descriptiva, topográfica y funcional. Barcelona: Masson, 2005.
- John E. Hall, Arthur C. Guyton. Tratado de fisiología médica. Barcelona: Elsevier, cop. 2011.
- José López Chicharro, Almudena Fernández Vaquero. Fisiología del ejercicio. Madrid: Médica Panamericana, D.L. 2008.
- Wasserman K, Hansen JE, Sue DY, Casaburi R, Whipp BJ. Principles of Exercise Testing and Interpretation. Third edition. Baltimore (USA): Lippincott Williams and Wilkins, 1999.
- J. Garcia-Conde, J. Merino Sánchez, J. González Macías. Patología general: semiología clínica y fisiopatología. Madrid: McGraw-Hill/Interamericana de España, 2003.