COURSE DATA

DATA SUBJECT

Code: 44633
Name: Innovations in image diagnosis and clinical assessment and application to functional recovery
Cycle: Master's Degree
ECTS Credits: 4
Academic year: 2026-27

STUDY (S)

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

SUBJECT-MATTER

Degree	Subject-matter	Character
2220 - Master's Degree in Functional Recovery in Physiotherapy	Innovations in image diagnosis and clinical assessment and application to functional recovery	COMPULSORY

COORDINATION

INGLES DE LA TORRE MARTA

MORENO SEGURA NOEMI

SUMMARY

This subject will address the essential aspects of the different imaging techniques (i.e. radiology, nuclear magnetic resonance and ultrasound), as well as the different clinical evaluation techniques, for application in the functional recovery of the patient with musculoskeletal, cardiorespiratory or neurological condition.

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

Be able to integrate knowledge and deal with the complexity of forming judgements based on incomplete or limited information including reflections on the social and ethical responsibilities linked to the application of knowledge and judgements.

Being able to obtain and select specific information and relevant sources for problem-solving, strategy development and action plans, advising and implementing different physiotherapy interventions in the areas of functional recovery.

Deepening Knowledge of Clinical Assessment Methods and Systems in Functional Recovery

Differentiate specifically the affected structure in a diagnostic image and its implications for functional recovery.

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

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

To promote, in academic and professional contexts in the field of economic policy, technological, social or cultural advancement within a society based on knowledge and respect for: a) fundamental rights and equal opportunities between men and women, b) the principles of equal opportunities and universal accessibility for people with disabilities and c) the values ¿¿of a culture of peace and democratic values.

DESCRIPTION OF CONTENTS

1. Musculoskeletal, neurological and cardiorespiratory clinical assessment techniques

a. Clinical evaluation of pain mechanisms in patients with musculoskeletal, neurological or cardiorespiratory pathology.
b. Clinical evaluation in life-risk situations (i.e. cardiorespiratory arrest, hypoglycemia, epileptic seizures, cranial traumatisms in the brain).
c. Graded exercise tests and cardiovascular resistance evaluation

2. Basics image for diagnosis and clinical assessment: radiology, Magnetic Resonance Imaging (MRI), ultrasound

a. MRI and radiology.
b. Ultrasound.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	14,00
Classroom practices	10,00
Total hours	**24,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	6,00
Independent study and work	70,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**76,00**

TEACHING METHODOLOGY

1. Face-to-face theoretical-practical classes in which the contents of the subjects will be worked on. In addition, discussion sessions and activities will be carried out by using different teaching resources.

2. Individual and group works of a cooperative nature, aimed at solving clinical cases.

3. Individual and group tutorials to coordinate students in individual and group tasks.

EVALUATION

Evaluation system	Percentage of qualifying
Theoretical and practical final test.	**80%**
Assistance and participation at class	**20%**

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.

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

- Gámez J, Garrido D, Montaner C, Alcántara E. Aplicaciones tecnológicas para el análisis de la actividad física para el rendimiento y la salud. En: Izquierdo M, editor. *Biomecánica y bases neuromusculares de la actividad física y el deporte*. Madrid: Editorial Médica Panamericana; 2008. p. 173–97. ISBN: 9788498350234.
- Iriarte I, Pedret C, Balius R, Cerezal L. *Ecografía musculoesquelética: exploración de la anatomía y la patología*. 1ª ed. Madrid: Editorial Médica Panamericana; 2020. ISBN: 9788498359817.
- Seco Calvo J, Arana Fernández de Moya E. *Diagnóstico por la imagen para fisioterapeutas: conceptos esenciales*. 1ª ed. Madrid: Editorial Médica Panamericana; 2024. ISBN: 9788491108580.

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.