

**Clinical Assessment in Physiotherapy of the  
Locomotor System**

Code: 102985  
ECTS Credits: 6

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	2	1

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

## Contact

Name: Albert Alier Fabrego  
Email: Alberto.Alier@uab.cat

## Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

## Teachers

Carlos Lopez Perez  
Gema González Lucena

## Prerequisites

It is necessary that the student has acquired the knowledge and basic competences of the subjects of Human Anatomy and Biomechanics, taught in first.

It is also convenient to have acquired the knowledge and basic competences in the subject of Human Psychology.

## Objectives and Contextualisation

The general objectives of the subject include the evaluation of the locomotor system from the clinical data obtained from the anamnesis, inspection and physical examination, based on the definition of normality or abnormality parameters, which allow to elaborate a first diagnostic approach and a therapeutic orientation.

## Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise.
- 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 critical reasoning skills.

- Display knowledge of the morphology, physiology, pathology and conduct of both healthy and sick people, in the natural and social environment.
- 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.
- Express ideas fluently, coherently and correctly, both orally and in writing.
- 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.
- Organise and plan.
- Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
- Solve problems.
- 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.

## Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse and synthesise.
3. Apply physiotherapy methods, procedures and interventions in the different clinical specialisations that treat conditions of the musculoskeletal system.
4. Apply specific physiotherapy methods to promote a healthy lifestyle, in relation to the musculoskeletal system, through health education.
5. Communicate using language that is not sexist.
6. Consider how gender stereotypes and roles impinge on the exercise of the profession.
7. Critically analyse the principles, values and procedures that govern the exercise of the profession.
8. Define general and specific objectives when using physiotherapy treatment for disorders of the musculoskeletal system.
9. Describe and analyse human movement.
10. Describe and analyse the evidence-based physiotherapy protocols for disorders of the musculoskeletal system.
11. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the musculoskeletal system and possible functional repercussions.
12. Describe clinical practice guidelines applied to disorders of the musculoskeletal system.
13. Describe the circumstances that can influence priorities when using physiotherapy to treat disorders of the musculoskeletal system.
14. Display critical reasoning skills.
15. Enumerate the different types of material and apparatus for using physiotherapy to treat disorders of the musculoskeletal system.
16. Establish diagnostic physiotherapy hypotheses through clinical cases with disorders of the musculoskeletal system.
17. Express ideas fluently, coherently and correctly, both orally and in writing.
18. Identify situations in which a change or improvement is needed.
19. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in disorders of the musculoskeletal system.
20. Identify the principal forms of sex- or gender-based inequality present in society.
21. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
22. Locate the different muscles through surface palpation.
23. Make the most correct decisions in given situations.
24. Organise and plan.
25. Propose new methods or well-founded alternative solutions.

26. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
27. Propose projects and actions that incorporate the gender perspective.
28. Propose viable projects and actions to boost social, economic and environmental benefits.
29. Propose ways to evaluate projects and actions for improving sustainability.
30. Solve problems.
31. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.
32. 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.
33. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

## **Content**

### **CLINICAL ASSESMENT IN PHYSIOTHERAPY OF THE MUSCULOSKELETAL SYSTEM (PMSS). SUBJECTS**

#### **I. INTRODUCTION. TERMINOLOGY (A.Alier).**

- The basic lines of the subject Clinical Assessment in Physiotherapy of the Musculoskeletal System will be explained, in terms of theoretical and practical contents.
- Familiarization with the usual terminology used in the clinical practice

#### **II. THE MUSCULOSKELETAL SYSTEM. Main topics (A.Alier).**

Main characteristics of the locomotor system.

- Osteology
- Miology
- Artrology

#### **III. PILLARS OF THE CLINICAL ASSESMENT IN PMSS ( Dr.Alier)**

- Anamnesis, Inspection and Exploration
- Pain as an indicator symptom
- The alteration of mobility as an indicator sign
- Basic neurological exploration

#### **IV. CLINICAL ASSESMENT AND AGE IN PMSS ( Dr.Alier)**

- Clinical assessment in pediatric population
- Clinical assessment in the elderly

#### **V. WALK EXPLORATION ( Dr.Alier)**

- Walk and gait exploration in clinical assessment
- Study of lameness

#### **VI. COMPLEMENTARY DIAGNOSTIC TECHNIQUES. Diagnostic by the image. ( Dra. Gonzàlez)**

- A list of the main complementary diagnostic tests of clinical and exploratory studies will be presented.

VII. CLINICAL EVALUATION FOR EACH ANATOMO-FUNCTIONAL REGION OF THE LOCOMOTOR SYSTEM. Anatomical and biomechanical reminder. Anamnesis. Inspection. Osteomuscularpalpation. Functional analysis. Main syndromes and pathologies

1. Clinical evaluation of the SPINE

- Cervical Column. (Dra. González)).
- Dorsal Column. (Dra. González)).
- Lumbosacral column. (A.Alier).

2. Clinical evaluation of the LOWER LIMBS.

- Pelvis and hip. (Dra. González).
- Knee. (Dra. González).
- Ankle and foot. (A.Alier).

3. Clinical evaluation of the UPPER LIMBS.

- Shoulder. (A.Alier).
- Elbow. (A.Alier).
- Wrist and hand. (Dra. González).

Part VII, will be complemented with the practices that will affect all aspects related to the osteo-articular palpation, muscle palpation and the main exploration maneuvers, specific to each anatomical region

## Methodology

1. Theoretical classes will not be face-to-face and the following work methodology is proposed:

- Each theoretical class will last 2 hours:

One hour for obtaining and reading the pre-recorded powerpoint of the corresponding theoretical class, which will be posted online in advance.

An hour aimed at resolving doubts, raising questions and providing new complementary materials for the study: it will be an online webinar-type hour where all students can participate.

2. The practices, will be given by the physiotherapist Carlos López and will develop in the classrooms of practices, in accordance with the established calendar and the measures of hygiene imposed by the University in relation to the covid19

It should be remembered that this guide may be subject to change after publication, depending on the events related to the coronavirus pandemic.

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.

## Activities



Title	Hours	ECTS	Learning Outcomes
Type: Directed			
CLASSROOM PRACTICES	9	0.36	7, 1, 3, 4, 5, 8, 9, 10, 11, 13, 15, 16, 21, 20, 18, 24, 33, 23, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32
SEMINARS	10	0.4	7, 1, 3, 4, 5, 9, 11, 16, 21, 20, 18, 22, 33, 29, 25, 26, 27, 28, 31, 6, 32
THEORY	26	1.04	7, 1, 5, 8, 9, 11, 13, 12, 16, 19, 21, 20, 18, 22, 33, 29, 25, 26, 27, 28, 31, 6, 32
Type: Autonomous			
PERSONAL STUDY	19	0.76	7, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 19, 21, 20, 18, 22, 33, 29, 25, 26, 27, 28, 31, 6, 32
READING ARTICLES	30	1.2	7, 2, 1, 3, 4, 5, 9, 10, 11, 12, 16, 19, 21, 20, 18, 33, 29, 25, 26, 27, 28, 31, 6, 32
READING ARTICLES /REPORTS OF INTEREST	50	2	7, 2, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 19, 21, 20, 18, 24, 33, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32

## Assessment

Tipology	Duration	Description of the tests	Evaluation criteria	Minimum grade to pass	% of total grade	Schedule
Written exam	It depends on the number of questions	Clinical casses	each case one score	YES- 2.5 points	50	
Practical exam	8 minutes per pupil	Resolution of practical cases assigned randomly	personalized assessment	NO	30	December
Images exam	It depends on the number of questions	Examination with projected images and test type response. Several possible answers and a trueone	The wrong questions answered will remain in the final evaluation	NO	20	
Recovery exam	Variable	Compendium of the subject  Written test with a mixed format: test response and written answer		5		oficial data on January 2020

It is mandatory to take all three exams in order to assess the student, otherwise the student's record will be recorded as a "non-assessable".

The image exam and the written test - clinical cases, will be carried out at the end of the course and before the practical exam.

The practical exam will be held after the theoretical exams.

The maximum scores that can be obtained from each exam are: Written test - 5 points, Picture exam - 2 points, Practical exam - 3 points

The final mark of the subject will be the sum of the mark of each exam (images + writing + practical), to be able to sum up the scores. Remember that a minimum grade of 2.5 points is required for the written examination of clinical cases in order to take the average. If it is not achieved, the average will not be taken and the subject will be listed as suspended.

The subject will be considered passed with a score equal to or greater than 5 points and suspended with a score equal to or less than 4.9 points.

Students who have not passed the subject will be able to take a resit test, which will be held on the official date of January 2019.

Students who have not taken any of the three assessment exams will not be entitled to the resit test.

The retake test will include all the theoretical and practical content of the subject and will be done in writing, in a mixed format such as test and written answer to a series of questions. In this case there will only be two possible qualifications that will appear in the final act: approved (equal or greater than 5 points) or suspended (equal or less than 4.9 points)

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Practical type evaluation through objective and structured clinical evaluation	30%	4.42	0.18	7, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 19, 21, 20, 18, 24, 33, 23, 29, 25, 26, 27, 28, 31, 30, 6, 32
Written evaluation through objective tests: clinical cases	50%	1.08	0.04	7, 2, 1, 3, 4, 5, 8, 10, 11, 13, 12, 15, 16, 17, 21, 20, 18, 24, 33, 29, 25, 26, 27, 28, 14, 31, 30, 6, 32
Written evaluation through objective tests: multiple choice items (images)	20%	0.5	0.02	7, 1, 3, 4, 5, 8, 9, 10, 11, 13, 12, 15, 16, 17, 21, 20, 18, 22, 24, 33, 23, 29, 25, 26, 27, 28, 31, 30, 6, 32

## Bibliography

- 1- EXPLORACIÓN CLÍNICA PRÁCTICA. Noguera-Balcells. 28 ed. Elsevier. 2016
- 2- FISIOTERAPIA DEL APARATO LOCOMOTOR. Estructuras, funciones, medidas de actuación sobre afecciones. Editorial Ploke-Reichel. 2007
- 3- EVOLUCIÓN HUMANA. Roger Lewin. Salvat-Editores 2000.
- 4- EXPLORACIÓN FÍSICA DE LA COLUMNA VERTEBRAL Y LAS EXTREMIDADES. Stanley Hoppenfeld. 1979
- 5- DIAGNOSTICO FISIOTERÁPICO. CONCEPCIÓN, REALIZACIÓN, APLICACIÓN EN LA PRÁCTICA LIBRE Y HOSPITALARIA. Éric Viel. ED. Masson- 2006
- 6- TÉCNICAS DE BALANCE MUSCULAR. Daniel's y Wothingham Ed. Elsevier. 2014
- 7- PRUEBAS CLINICAS PARA PATOLOGIA OSEA, ARTICULAR Y MUSCULAR. K.Buckup. ED. Masson. 2013

- 8- PROCESO EVALUATIVO MUSCULOESQUELÉTICO. Hazel M.Clarkson. Ed. Paidotribo. 2003
- 9.- THE MUSCLE AND BONE PALPATION MANUAL. Joseph E. Muscolino. Mosby Elsevier 2008
- 10.- MANUAL DE PRUEBAS DIAGNÓSTICAS. TRAUMATOLOGÍA Y ORTOPEDIA. A.Jurado Bueno, Ivan Medina Porqueres Ed Paidotribo- 2002.
- 11.- EXPLORACIÓN Y EVALUACIÓN NEUROMUSCULOESQUELÉTICA. UN MANUAL PARA TERAPEUTAS. Nicola J.Petty, Ann P. Moore. Ed. Mc Graw-Hill-Interamericana. 2003
12. KENDALL'S. MUSCULOS, PRUEBAS, FUNCIONES Y DOLOR POSTURAL. Florence Peterson Kendall, Elizabeth Kendall McCreary, Patricia Geise Provance. Edit. . Marban. 5 ed. 2008
13. ATLAS DE ANATOMIA PALPATORIA. Serge Tixá ( tomus 1 i 2) Ed Elsevier( 3ed) . Barcelona 2014

webbs of interest

[www.efisioterapia.net](http://www.efisioterapia.net)

[www.fisonet.net](http://www.fisonet.net)

[www.aefi.net](http://www.aefi.net)

[www.scfisioterapia.cat](http://www.scfisioterapia.cat)

## **Software**

There is no need for a specific program for the subject

In the case of virtual classes, the TEAMS application will be used, like la: