
DOUBLE BACHELOR'S DEGREE IN PHYSIOTHERAPY / PHYSICAL ACTIVITY AND SPORT SCIENCES

22021 - ENG/FISIOTERAPIA MÚSCULOESQUELÉTICA

General information

- Type of subject : Obligatory
- Coordinator : Jorge Castizo Olier
- Course: Second
- Trimester: Third
- Credits: 10
- Teachers:
 - Juan José García Tirado <jjgarciat@tecnocampus.cat>
 - Jordi Calvo Sanz <jcalvo@tecnocampus.cat>
 - Luciana Moizé Arcone <lmoize@tecnocampus.cat>

Languages

- Catalan
- Spanish

Competences

Basic

- B3_ Que els estudiants tinguin la capacitat de reunir i interpretar dades rellevants (normalment dins de la seva àrea d'estudi), per emetre judicis que incorporin una reflexió sobre temes rellevants de caire social, científic i ètic

Specific

- E2_Conpeixer i comprendre les ciències, els models, les tècniques i els instruments sobre els que es fonamenta, articula i desenvolupa la fisioteràpia
- E3_Conèixer i comprendre els mètodes, procediments i actuacions fisioterapèutiques, encaminades tant a la terapèutica pròpiament dita a aplicar en la clínica per a la reeducació o recuperació funcional, com la realització d'activitats dirigides a la promoció i manteniment de la salut
- E5_Valorar l'estat funcional del pacient, considerant els aspectes físics, psicològics i socials
- E7_Dissenyar el pla d'intervenció de fisioteràpia atenent a criteris d'adequació, validesa i eficiència

Transversal

- T2_Demostrar capacitat d'organització i planificació

Description

The subject of Physiotherapy Skeletal muscle is compulsory training of the Degree of Physiotherapy.

It will develop the main physical therapies for the treatment and intervention of musculoskeletal conditions.

This subject is constituted by 5 theoretical-practical blocks, specific to the different intervention procedures in Physiotherapy:

- Electrotherapy
- Proprioception
- Therapeutic Exercise / Active Kinesitherapy
- Stretching
- Manual therapy

If necessary for reasons related to Covid-19, the modus operandi for teaching this subject will change from in-person face-to face to telematic screen-to screen mode using the appropriate methodological and digital resources to make its continuity possible. In this way, the same knowledge and skills goals that are specified in the subject teaching plan will be ensured. This will facilitate the achievement of the knowledge and skills that are specified in this teaching plan. However, in relation to those practical contents of the subject in which the acquisition of is essential procedural and attitudinal skills on the part of students, can be considered, yes the health situation requires it, the partial and temporary suspension of this with the consequent postponement in its continuity until the health situation allows it.

Results

- Identifies the main physical agents used in physiotherapy interventions. Classify them according to their effect and importance and establish order of priorities in their therapeutic application
- Analyze the patient's expectations regarding their evolution, demands and needs
- Establish an intervention protocol based on the joint negotiation between therapist and patient.

Working methodology

Methodolgy	Hours
Team work	20
Group tutoring	3
Individual work	15
Regulatory Practices	87.5
Personal study	124.5
Total	250

Contents

Electrotherapy:

- Topic 1. Introduction to electrotherapy. Ways to apply electrotherapy. Types of electrodes. Types of application
- Topic 2. Continuous flows. Galvanism. Iontophoresis.
- Topic 3. Low frequency currents. Electroanalgesia
- Topic 4. Low frequency currents. Excitomotor currents
- Topic 5. Medium frequency currents.
- Topic 6. High frequency currents.
- Topic 7. Ultrasonotherapy.

Therapeutic Exercise / Active Kinesitherapy:

- Topic 1: What is therapeutic exercise / active kinesitherapy? Classification, physiological effects, indications and contraindications.
- Topic2: Types of muscle contraction. Kinetic chains. Strength and endurance.
- Topic 3: Bases of motor control. Neutral joint area. Rigidity / Relative Flexibility. Influence of pain on motor control.
- Topic 4: Active EEE Kinesitherapy (Lumbopelvic Region / Hip / Knee / Foot)
- Topic 5: EESS active kinesitherapy (shoulder girdle / shoulder / elbow / wrist-hand)
- Topic 6: Active Raquischines (Cervical / Thoracic / Lumbar Spine)

Propioception:

- Topic 1: Introduction to proprioception.
- Topic 2: Valuation of proprioceptive system.
- Topic 3: Proprioceptive Neuromuscular Facilitation (PNF) Kabat diagonals.
- Topic 4: Locomotive Apparatus Rebalancing Therapy (TRAL)
- Topic 5: Advanced proprioception. Unstable plans.
- Topic 6: Spinal proprioception.
- Topic 7: Presentation of different proprioceptive treatment proposals (cervical, shoulder, elbow, wrist, back, pelvis, hip, knee, ankle, soles) by students. Team work.
- Topic 8: Monographic workshop on proprioceptive reeducation in shoulder injuries.
- Topic 9: Monographic workshop on proprioceptive reeducation in knee injuries. Post IQ RHB Protocol for Anterior Cruciate Ligament (ACL).
- Topic 10: Monographic workshop on proprioceptive reeducation in ankle injuries. Approach to injuries of lateral ligaments of the ankle.

Stretching:

- Topic 1: Theoretical bases of musculotendinous stretching (definition, classification, indication)
- Topic 2: Practical applications of musculotendinous self-stretching
- Topic 3: Practical applications of assisted musculotendinous stretching

Manual Therapy:

- Topic 1: Principles of application, indications and contraindications of Manual Therapy
- Topic 2: Application of specific passive mobilizations in the Lower Extremity.
- Topic 3: Application of specific passive mobilizations in Upper Extremity.

Topic 3: Aplicació de les mobilitzacions passives específiques en l'extremitat superior

Activities

Activity	Methodology
Group work	Realization of treballs in group. Activitats d'aprenentatge cooperatiu, analysis of lectures, stimulation of the discussion and study of cases.
Group tutoring	Classroom tutoring to the classroom.
Individual work	Realization of individual treballs.
Seminaris Teòric Pràctics	Sessions expositives based on the explanation of the professor followed by practical exercises in specific areas.
Personal study	bibliographical research and personal study.

Evaluation system

Evaluation Activity	Weighing
Working Group	30%
Individual Work	30%
Regulated Practice	40%

It will be essential to obtain a grade equal to or greater than 5 in the average of the evaluation activities proposed in each of the blocks (Group T, Individual T and Regulated Practice). Taking into account this requirement, the subject will be passed when the final average is equal to or greater than 5.

It will be an essential requirement to attend 80% of each of the practical blocks. Failure to comply with this requirement will have the consequence that the subject will be suspended and must be taken the next course.

Recovery period

Students will have the option of making up the subject when the evaluated activities have been presented. In each of the blocks, the teachers will determine the type of evaluation that will be carried out in this period.

The total or partial copying by students of any of the learning activities will automatically mean a " Exam not submitted" grade for the subject, without the option of taking the second resit exam and notwithstanding the opening of disciplinary proceedings for this reason.

Resources

Basics

Audiovisuals

- Igual, C.; Muñoz, E.; Aramburu, C; Fisioterapia general: cinesiterapia. Madrid. Ed. Síntesis

Bibliographies

- Esnault, M. Columna vertebral y Stretching; Barcelona: Paidotribo; 2009
- Esnault, M. Viel, E. Stretching 8estiramientos miotendinosos). Automantenimiento muscular y articular. Barcelona; Masson, 1999
- Fernández de las Peñas, C; Meilán Ortiz, A. Cinesiterapia. Bases fisiológicas y aplicación práctica. Elsevier
- Floyd RT. Manual de cinesiología estructural. Ed. Paidotribo; 2008.
- Genot, Neiger. Pierron, Péniou. Kinesioterapia. Tomos I, II, III, IV. Madrid. Ed. Panamericana. 1988
- H. Cameron M. Agentes físicos en rehabilitación. Ed. Elsevier; 2013
- Kisner C. Allen L. Ejercicio Terapéutico: Fundamentos y técnicas. Ed. Panamericana; 2010
- Mottram S, Comford MJ, Uncontrolled Movement. In: Kinetic Control the Management of uncontrolled movement. Australia. Elsevier, 2012
- Neiger H. Leroy A, Dufour M, Péniou G, Pierro G, Génot C. Kinesioterapia. Principios. Miembros inferiores. Evaluaciones. Técnicas pasivas y activas del aparato locomotor. Editorial Médica Panamericana; 2010.
- Neiger, H. Estiramientos analíticos manuales. Técnicas pasivas. Madrid; Panamericana, 1998
- Rueda M. Podología. Los desequilibrios del pie. Ed. Paidotribo: 2012
- Sharmann SA, Diagnóstico y tratamiento de las alteraciones del movimiento. Ed. Paidotribo; 2006
- Watson T. Electroterapia. Práctica basada en la evidencia. Ed. Elsevier; 2009

Complementaries

Bibliographies

- Alter, M. Los estiramientos. Desarrollo de ejercicios. Barcelona, Ed. Paidotribo, 1992
- Balias R. Pedret C. Lesiones musculares en el deporte. Ed. Panamericana; 2013
- Butler D. Mosley G. Explicando el Dolor. Ed Noigroup; 2010
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- Dvorak, J.; Dvorak, V. Medicina manual: Diagnóstico (vol. 1) Tratamiento (vol. 2). Ed. Scriba, 2ª Edición.1993
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Geoffroy C. Guía práctica de los estiramientos. Barcelona: Paidotribo; 2012.

- Geoffroy, C. Guide des étirements sportifs. Paris: Ed. Vigot; 2000.
- Hainaut, K. Introducción a la biomecánica. Editorial Jims, Barcelona, 1976
- Jull G. Moore A. Falla D. Lewis J. McCarthy C. Sterling M. Grievé's Modern Musculoskeletal Physiotherapy. 4ª ed. Elsevier; 2015. Medina I. Jurado A. Manual de pruebas diagnósticas. Traumatología y ortopedia. Ed. Paidotribo; 2015
- Kapandji, I. A. Cuadernos de fisiología articular I. Barcelona: Ed. Masson, 6ª edición. 2006
- Kapandji, I. A. Cuadernos de fisiología articular II. Barcelona: Ed. Masson, 6ª edición. 2006
- López Cubas C. Cuentos analgésicos. Herramientas para una saludable percepción del dolor. Zerapi; 2011
- Medina I. Jurado A. Manual de pruebas diagnósticas. Traumatología y ortopedia. Ed. Paidotribo; 2015.
- Montané R. Valoración Estático-dinámica global. 2ª ed. Bellaterra: Universitat autònoma de Barcelona, Servei de publicacions; 2008.
- Plaja J. Analgesia por medios Físicos. Ed McGraw_hill. Interamericana; 2002
- Rodrigo, C. Miralles, M. Biomecánica clínica del aparato locomotor. Barcelona: ed. Masson, 1998
- Romero D. Tous J. Prevención de lesiones en el deporte. Claves para un rendimiento deportivo óptimo. Ed Panamericana; 2011.
- Viel E. La marcha humana, la carrera y el salto. Biomecánica, exploraciones, normas y alteraciones. Ed. Masson; 2002.
- Ylinen, JJ. Estiramientos terapéuticos en el deporte y en las terapias manuales. Barcelona: Masson; 2009.