UNIVERSIDADE DA CORUÑA

Teaching Guide

Identifying Data				**2020/21**
Subject (*)	Multidisciplinary Approach in Pain: Neurobiology, Pain and Disability, Evaluation Systems, New Parad		**Code**	651516006
Study programme	Mestrado Universitario en Discapacidade e Dependencia (plan 2015)			
Descriptors				

Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Optional	6

Language	Spanish
Teaching method	Hybrid
Prerequisites	
Department	Fisioterapia, Medicina e Ciencias Biomédicas

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Web	
General description	En esta asignatura se profundiza en los aspectos neurobiológicos del dolor crónico; se revisan los conceptos actuales sobre la fisiopatología del dolor más relevantes en su manejo clínico; se estudian las implicaciones del dolor, especialmente, en la esfera sensitiva y motora; y se analizan las diferentes pruebas de valoración y las estrategias de tratamiento del dolor crónico más actuales y basados en la evidencia disponible.
Contingency plan	1. Modifications to the contents 2. Methodologies *Teaching methodologies that are maintained *Teaching methodologies that are modified 3. Mechanisms for personalized attention to students 4. Modifications in the evaluation *Evaluation observations: 5. Modifications to the bibliography or webgraphy

Study programme competences / results	
Code	**Study programme competences / results**
A8	CERF3. Ser capaces de entender a fisiopatoloxía da dor relevante na práctica clínica así como as súas implicacións dende un punto de vista sensitivo-perceptivo-motora
A9	CERF4. Capacidade para deseñar e executar proxectos de investigación na problemática bio-psico-social da dor
B1	CB6. Posuír e comprender coñecementos que acheguen unha base ou oportunidade de ser orixinais no desenvolvemento e/ou aplicación de ideas, a miúdo nun contexto de investigación
B7	CG2 Identificar, avaliar e resolver os problemas derivados da presenza de discapacidade e dependencia
B9	CG4 Ser capaz de intervir na problemática derivada da discapacidade e da dependencia
B10	CG5 Capacidade para integrar coñecementos científicos de carácter avanzado ligados ao ámbito da discapacidade e a dependencia
C6	CT6. Valorar críticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas aos que deben enfrontarse
C7	CT7. Ser capaz de valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade?

Learning outcomes			
Learning outcomes		**Study programme competences / results**	
To describe the clinical and socioeconomic impact of chronic pain.	AR9	BR1	CR6
To delve into the neurobiological aspects of pain.	AR8	BR1 BR10	CR6
To compare the paradigms used to explain pain.	AR8 AR9	BR10	CR7
To identify the characteristics and clinical manifestations of different types of pain.	AR8	BR7 BR9	
To review the current concepts on the physiopathology of pain to clinical management.	AR8 AR9	BR1 BR7 BR9	
To study the implications of pain from a sensitive-perceptive-motor point of view.	AR8	BR7 BR9 BR10	
To identify the common characteristics of chronic pain syndromes.		BR1 BR7 BR9 BR10	
To review and be able to apply different pain assessment tests.	AR9	BR1 BR7 BR9	CR7
To analyze new strategies for the treatment of chronic pain, to study its evidence and to know the recommendations for its use in clinical practice.	AR9	BR1 BR7 BR9 BR10	CR6 CR7

Contents	
Topic	**Sub-topic**
1. Epidemiology of pain	1.1. Epidemiology of musculoskeletal pain. Basic concepts.
	1.2. Epidemiology of low back pain
	1.3. Epidemiology of cervical pain
	1.4. Epidemiology of osteoarthritis
	1.5. Epidemiology of chronic widespread pain and fibromyalgia
2. Paradigms in pain management: pain as a multidimensional experience	2.1. Pathoanatomical model
	2.2. Biopsychosocial model
	2.3. Model of the neuromatrix
3. Neurobiological aspects of pain	3.1. Definitions of pain
	3.2. Characteristics and clinical manifestations of pain
	3.3. Cellular and molecular properties of primary afferent neurons
	3.4. Inflammatory mediators and pain modulators
	3.5. Mechanisms modulating the painful response: neuroplasticity
	3.6. Brain and pain
	3.7. Genetics and pain

4. Pathophysiology of chronic pain	4.1. Definition of the phenomenon of centralization
	4.2. Wind-up phenomenon
	4.3. Changes in neurotransmitters
	4.4. Functional alteration of excitatory and inhibitory connections
	4.5. Creation of new connections
	4.6. Supraspinal neuroplastic changes: reorganization of somatosensory and motor cortical maps
	4.7. Modification of the response pattern of cortical and subcortical areas
	4.8. Impact of emotional and cognitive-behavioral factors
	4.9. Pain as a multisystem response: involvement of the SNA, neuroendocrine and immune
5. Chronic pain syndromes	5.1. Fibromyalgia
	5.2. Chronic Fatigue Syndrome
	5.3. Complex regional syndrome type I
	5.4. Others
6. Pain assessment methods	6.1. Clinic history
	6.2. Scales of pain intensity measurement
	6.3. Scales to measure "yellow flags"
	6.4. Scales of functional disability
	6.5. Quality of Life Scales Related to Health
	6.6. Other scales of measurement
	6.7. Physical tests
7. Analysis and review of the evidence on new pain treatment strategies	7.1. Pain pedagogy
	7.2. Therapeutic exercise
	7.3. Gradual motor imagination
	7.4. Other methods

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Introductory activities	C7	0	2	2
Guest lecture / keynote speech	A8 A9 B1 B7 B9 B10 C6 C7	18	36	54
Case study	A8 B1 B7 B9 B10	0	25	25
Document analysis	A9 A8 B1 B9 B10 C7 C6	0	25	25
Directed discussion	B1 C7 C6	4	12	16
Multiple-choice questions	A8 B1 B9 B10	1	21	22
Personalized attention		6	0	6
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Introductory activities	The study programme competencies, learning aims, contents, planning, methodologies, personalized attention and assessment will be presented. The student will be given the possibility of sending the coordinator the interests and motivations related to the subject in order to facilitate the learning proces
Guest lecture / keynote speech	The magisterial sessions correspond to two types of classes: (i) the face-to-face theoretical classes taught in the classroom; (ii) to the asynchronous classes that will be delivered to students in various formats (video-lessons, notes in pdf format, etc.) and that will be posted in Moodle. They will be intended primarily for the purposes of knowledge or knowledge. It will be primarily intended for the purposes of knowledge.

Case study	The students, divided into small groups, will work on a clinical case (real or supposed) characterized by the presence of chronic pain, with the aim of proposing questions that contribute to identify the pathogenic, to study their characteristics and relate them to the painful syndromes studied in the subject, propose alternatives for exploration, evaluation and / or therapeutic approaches in a reasoned way. The student will work on clinical cases (real or supposed) characterized by the presence of chronic pain, with the aim of proposing questions that contribute to identifying the etiopathogenic, to study their characteristics and to relate them to the painful syndromes studied in the subject, propose reasons for exploration, evaluation and / or therapeutic approaches..
Document analysis	It will consist of two parts: (i) Search and analysis of multimedia documents (blogs, videos, web page, Twitter accounts, etc.) relevant to the subject. Each student will analyze two documents and explain why their choice and why the recommendation of their reading, viewing or monitoring. (ii) From an article related to the subject, the metric characteristics of its publication journal, and an analysis of the different sections of the article will be analyzed. In addition, a search for 2 articles published in the last 5 years related to the topic of such article and a general summary of each of them will be added.
Directed discussion	Through this technique of group dynamics, students will freely discuss a topic previously selected by one of the teachers. Students will be coordinated by a moderator.
Multiple-choice questions	The exam will consist of 30 simple choice questions, where each 2 incorrect answers will subtract 1 right answered one. The exam will have a value of 40% of the total mark of the subject.

Personalized attention	
Methodologies	**Description**
Case study Multiple-choice questions Directed discussion Guest lecture / keynote speech Document analysis	The doubts and difficulties that arise to the student related to the master sessions or the didactic material that is deposited in Moodle can be solved during the sessions themselves, through virtual tutorials, or through the Teams chat. For the realization of the different tasks, such as - the analysis of documentary sources and the case study-a virtual tutorial will be scheduled prior to each one of the tasks to guarantee the understanding of the aspects required for its realization. During the period assigned to its realization, virtual tutorials will be held on demand, preferably group-oriented; and you can use the Teams chat for specific questions.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Case study	A8 B1 B7 B9 B10	The student's ability to carry out the clinical reasoning process on real or fictitious cases is evaluated, as well as the discussion on their proposed solution, by answering the questions asked about such cases.	20
Multiple-choice questions	A8 B1 B9 B10	Multiple choice test with a total of 30 questions. Every 2 wrong answers will subtract one right.	40
Directed discussion	B1 C7 C6	Attendance and active participation in the two scheduled face-to-face sessions are evaluated.	20
Document analysis	A9 A8 B1 B9 B10 C7 C6	The student's ability to carry out the clinical reasoning process on real or fictitious cases is evaluated, as well as the discussion on their proposed solution, by answering the questions asked about such cases.	20

Assessment comments
The evaluation criteria will be maintained for all the summons of the academic course.

Sources of information	
Basic	- Zamorano Zárate E. (2013). Movilización neuromeníngea: tratamiento de los trastornos mecanosensitivos del sistema nervioso. Madrid: Panamericana
	- Butler D (2010). Explicando el dolor. Adelaida, Australia: Noigroup
	- Enriquez-Blanco, H., Schneider, R., Rodríguez, J. T. (2010). Síndrome del intestino irritable y otros trastornos relacionados.. Madrid: Panamericana
	- Iannetti, G.D., Mouraux, A. (2010). From the neuromatrix to the pain matrix (and back). Exp Brain Res
	- Sengupta, J.N. (2009). Visceral Pain: the neurophysiological mechanism. Handb Exp Pharmacol
	- Nijs, J., Van Houdenhove, B. (2009). From acute musloskeletal pain to chronic widespread pain and fibromyalgia: application of pain neurophysiology in manual therapy practice. Manual Therapy
	- Serra Catafau J. (2007). Tratado de dolor neuropático. Madrid: Médica Panamericana
	- Stephen B. McMahon, Martin Koltzenburg (2006). Wall y Melzack tratado del dolor. Madrid: Elsevier. 5ª ed.
	- Moseley, G.L., Hodges, P.W. (2006). Dolor crónico y control motor. Barcelona: Masson
Complementary	

Recommendations	
Subjects that it is recommended to have taken before	
Subjects that are recommended to be taken simultaneously	
Subjects that continue the syllabus	
Other comments	

To help achieve

a sustainable environment and meet the strategic objectives

of the Green Campus Plan of the Faculty of Physiotherapy, the

documentary work carried out in this subject may be requested in paper or

virtual format or computer support. If they are done on paper, the following general recommendations will be followed as far as possible:- Plastics will

not be used.- Double-sided prints will be made.- Recycled paper will be used.- Drafting will be avoided.