



Teaching Guide

Identifying Data					2017/18	
Subject (*)	Digital Orthopedics and Footwear Therapy			Code	750G02020	
Study programme	Grao en Podoloxía					
Descriptors						
Cycle	Period	Year	Type	Credits		
Graduate	2nd four-month period	Third	Obligatoria	6		
Language	Galician					
Teaching method	Face-to-face					
Prerequisites						
Department	Ciencias da Saúde					
Coordinador	López López, Daniel	E-mail	daniel.lopez.lopez@udc.es			
Lecturers	López López, Daniel	E-mail	daniel.lopez.lopez@udc.es			
Web	moodle.udc.es/					
General description	<p>A asignatura de ortesioloxía dixital e calzadoterapia posee unha clara importancia de cara a que o alumnado desenrole coñecementos, habilidades e destrezas importantes no proceso ensinanza ? aprendizaxe do seu proceso formador para mellorar a saúde das persoas.</p> <p>O valor é moi significativo para o futuro podólogo, de cara a comprender, actuar e profundizar no campo terapéutico da ortoprótesis, no uso e a indicación de produtos sanitarios podolóxicos, proporcionándolle unha formación básica de coñecementos teóricos e destrezas prácticas, co fin de que adquira as competencias básicas relacionadas ca prescripción, deseño e obtención das principais orteses dixitais e próteses do pe e coñeza a súa relación co resto do membro inferior.</p> <p>Mediante a prescripción de dispositivos orto-protésicos a medida ou prefabricados, numerosos estudos demostraron a eficacia destes dispositivos tanto na redución da sintomatoloxía, como na recuperación da funcionalidade de diversas situacións patolóxicas debidas a alteracións estruturais ou funcionais do pe ou dalgunha outra estrutura do membro inferior.</p>					

Study programme competences / results

Code	Study programme competences / results
A22	Deseñar, obter e aplicar mediante diferentes técnicas e materiais os ortesis plantares e ortesis dixitais, próteses, férulas. Ortesiología plantar e dixital. Estudo do calzado e calzadoterapia. Prescripción de tratamentos ortopédicos da extremidade inferior.
B7	Comunicarse de maneira efectiva nun entorno de traballo.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.

Learning outcomes

Learning outcomes	Study programme competences / results		
Design, procure and implement using different techniques and the orthotics digital.	A22	B7	C7
Prescribe and implement plantar and digital orthoses on podiatric conditions Morphological and functional.	A22	B7	C7
Designing, obtaining and applying different techniques and materials by the orthotics and digital orthoses, prostheses, splints. Plantar and digital orthotics . Study of footwear and therapy shoes. Orthotic treatment prescription lower extremity.	A22	B7	C7
Meet and develop scanning techniques, to make a diagnosis and prognosis, and plan deseñar orthosis treatment of lower extremity pathology. Skeletal muscle injury and ligament. Pathology of the forefoot and hindfoot. Congenital deformities. Neurological injuries. Amputations. Asymmetries.	A22	B7	C7



Contents	
Topic	Sub-topic
1. Fundament Digital Orthotics	a) Introduction to digital orthotics. b) Current frame digital orthotics.
2. Materials needed for a development of orthoses.	a) Silicone. b) Catalyst. c) Additives or fillers. d) Auxiliary materials and accessories.
3. Making silicone orthoses.	a) Preparation: considerations. b) Protocol. c) Recommendations and rules of use for the patient. d) Handling and working times. e) Evaluation of Silicone orthotics. f) Failures in Silicone orthotics.
4. Therapeutic elements Silicone orthotics.	a) Description of elements comprising silicone orthoses. b) Frequent digital orthotics.
5. Therapeutic Application of Digital Orthotics	a) Biomechanical effect. b) Therapeutic Application.
6. Nail Orthotics.	a) Introduction to the nail orthotics. b) Development of the nail orthotics. c) Therapeutic Application.
7 Introduction to therapy shoes.	a) Parts shoe: sole and cut. b) Lasts footwear.
8. Therapeutic devices in the Shoes.	a) External modifications: heels, wedges, increases. b) Set the shoe. Gradation chart and numbering systems.
9. Properties footwear according to different population groups.	a) Conventional footwear for adults. b) Children conventional shoes. c) domestic footwear. d) Work Shoes. e) Special Shoes for orthotics. f) Child Special footwear. g) Special shoes for deformed feet or geriatric / peripheral vascular disease. h) Postoperative shoes.
10. Types of shoes.	a) Bootie or shoe salon. b) Moccasin. c) Derby or Oxford dress shoe. d) Boots. Booties. e) Slippers, slippers and sandals.
11. Accessories and footwear.	a) With and without compression socks. b) Stockings, Pantyhose and graduations. c) Ankles with and without stabilization. d) Pinkis.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Mixed objective/subjective test	A22	2	18	20
Guest lecture / keynote speech	A22 B7 C7	16	32	48
Seminar	B7 C7	16	16	32



Online forum	C7	0	9	9
Laboratory practice	A22 B7 C7	18	18	36
Personalized attention		5	0	5

(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Mixed objective/subjective test	Exam with 30 questions and 3 short objective test questions. The review will include questions related to the contents developed in both keynote sessions, and seminars and labs.
Guest lecture / keynote speech	The master class sessions consist of master-participatory exhibition of basic contents of the subject, supported by images, video, etc classes. The keynote sessions will focus on the main contents of the syllabus.
Seminar	Students will be provided the agenda with the basic theoretical contents of the subject, as well as material to work in the classroom or outside it. All material will be accessible to students in distance learning platform Moodle https://campusvirtual.udc.es/moodle/ .
Online forum	Ferramenta de comunicación asíncrona (foro) está destinada ao tratamento das cuestións que se formulan a través dun contorno virtual de aprendizaxe, poñendo interese en xerar empatía e solucionar as tarefas que se proporcionen no proceso de ensinanza-aprendizaxe.
Laboratory practice	Lab The labs are specifically targeted: 1 - Knowing scan protocol and digital deformities performance. 2 - Accurately diagnose the condition of the forefoot. 3 - Apply ortesiolóxico timely treatment, as appropriate. 4 - Mastering methodology making silicone orthoses. 5 - Evaluate and adapt the general footwear citizenship. 6 - Prescribe special shoes and customized for different population groups.

Personalized attention	
Methodologies	Description
Online forum Laboratory practice Mixed objective/subjective test Guest lecture / keynote speech Seminar	The personalized service will run on a scheduled basis in times of teacher attention to students, to face service; and virtually, through email and other electronic means to enable the virtual platform. The personalized service is designed to solve any issue related to the different methodologies and / or contents of the subject

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Online forum	C7	As actividades relacionadas co foro virtual son optativas e non poden recuperarse ou ser substituídas por outras actividades da materia. A puntuación no foro virtual (FV) especificarase o día da presentación da asignatura e estará a disposición do alumnado no FV da asignatura.	10



Laboratory practice	A22 B7 C7	Attendance at labs is mandatory in its entirety to pass the subject. The last 2 hours of practice will be used for a practical test with theoretical and practical questions about the contents of the material developed in practice. For the fit in the labs, you must answer / successfully complete 50% of the activities and / or exam questions, in addition to attending all practices.	15
Mixed objective/subjective test	A22	On the written test score information in the questions provided.	60
Seminar	B7 C7	The seminar related activities are mandatory and can not be recovered or replaced by other activities of the course. The rating of each activity of the seminar will be specified with each activity.	15

Assessment comments

The presentation of the topic Digital Orthotics and Therapy Shoe succinctly explain the curriculum and course standards for the evaluation of the same, which will be available to students in the distance learning platform Moodle, be indispensable condition for approving subject to: 1 REGULAR FIRST CALL OPPORTUNITY;

1.1 assist to 80% of the seminars and complete the proposed activities and get a total score on a numerical scale from 1 to 10 of 5 (suitable), which has only in the case of pass the test completely mixed.

1.2 assist to 80% of the laboratories, and to carry out the proposed activities and get a total score on a numeric scale of 1 to 10 of 5 (suitable), which has only in the case of passing the tests completely mixed.

1.3 The written exam mixed (Test and short Questions) and separately (a score on a numeric scale of 1 to 10) of 5 (suitable) in each of the two parts of which comprises the mixed test test test and short questions .

2 REGULAR SECOND CALL, AND FUTURE MEETINGS EARLY OPPORTUNITY:

2.1 Get in the mixed test (Test and short Questions) and separately (a score on a numerical scale from 1 to 10), from 5 Suitable in each of two parts.

2.2 The scores of seminars and laboratories do not count as necessary to overcome the efforts to pass the course in successive calls.

3. PARTIAL TUITION CLASS:

3.1 Get in the mixed event (and brief essay questions) and separately (a score on a numerical scale from 1 to 10), from 5 Suitable for every two parts that make up the test set, the percentage of rating gives 60% of the final mark.

3.2 Perform laboratory practice test and get a total score on a numeric scale of 1 to 10, 5 (suitable), the percentage of the grade 40% of the final mark, calculated only in the case of fully overcome the mixed test.

Sources of information



Basic

- Alonso, F., Alvarez-Calderón, O., Munuera, P.M., Vergés, C (2007). Ortopodología en el pie geriátrico. Revista española de podología, 18 (6)282-289
- Álvarez-Calderón, O., Alonso, F., López, D., Gómez, B., & Sánchez, R. (2008). Análisis del calzado en una población mayor de 60 años. . Revista Internacional de Ciencias Podológicas, 2 (1), 19-26.
- Blain, H., & Jeandel, C. (2007). Podología Geriátrica. Badalona : Paidotribo.
- Donatelli R, Wooden M. (1996). Biomechanical orthotics. In: Donatelli R. Coordinador. Biomechanics of the foot and ankle. 2ª ed. . Philadelphia: F.A. Davis Company
- Janeiro, J.M., Alonso, F., Bouzas, M.C., Calleja J., López, L (2002). Orígenes de las Siliconas. El Peu Vol. 22 (1) 32-35
- Jones L. (1996). Prescription writing for functional and acomodative foot orthoses. In: Valmassy R. Coordinador. Clinical biomechanics of the lower extremities. . Missouri: Mosby
- Huerta, J. (2003). Estudio comparativo de los criterios biomecánicos en la ortesiología del pie. En A.E. Levy & J.M, Cortes (Eds), Ortopedia y Aparato locomotor.. Madrid: Masson.
- Kerrigan, D.C., Franz, J.R., Keenan, G.S., Dicharry, J., Della Croce, U., Wilder, R.P., (2009). The effect of running shoes on lower extremity joint torques.. Journal American Academy of Physical Medicine and Rehabilitation, 1(12), 1058-63.
- Kirby K. (1996). Troubleshooting functional foor orthoses. In: Valmassy R. Coordinador. Clinical biomechanics of the lower extremities. . Missouri: Mosby
- Levy AE, Cortés JM. Coordinadores. (2003). Ortopodología y Aparato Locomotor. Ortpedia de pie y tobillo.. Barcelona: Masson
- López, D., Cosín, J., Alvarez-Calderón, O., Cosín, E., Barriuso, M., López, L (2006). Aplicación de un tratamiento ortesiológico en una malformación del miembro inferior: a propósito de un caso. Revista española de podología, 17 (4) 170-176
- López, D., Alonso, F., Rosende, C., López, L. (2011). Síndrome de Apert: Tratamiento Ortopédico.. Revista Internacional de Ciencias Podológicas 5(1), 29-35.
- López, D. (2011). Podología y Salud: Un análisis de las representaciones sociales de las enfermedades del pie desde una perspectiva psicosocial.. A Coruña: Universidade da Coruña.
- López, D., Ramos, J., Alonso, F., García, R. (2012). Manual de Podología. Conceptos, Organización Psicológica y Práctica Clínica. . Madrid: CERSA.
- Losito J. (1996). Impression casting techniques. In: Valmassy R. Coordinador. Clinical biomechanics of the lower extremities. . Missouri: Mosby
- Martínez, A., Rosende, C., García, F.M., Hidalgo, S (2005). Estudio de la altura recomendada del tacón. El Peu, 25 (2) 76-78
- Munuera, P. V. (2009). El primer radio biomecánica y ortopodología. Santander: Exa Editores S.L.
- Olson W. (1996). Orthotic materials. In: Valmassy R. Coordinador. Clinical biomechanics of the lower extremities.. Missouri: Mosby
- Philips JW. (1995). The functional foot orthosis.. New York: Churchill Livingstone
- Prat J. Coordinador (1999). Introducción a la Ortoprotésica. Guía de uso y prescripción de productos ortoprotésicos a medida.. Valencia: Instituto Biomecánico de Valencia
- Prat J. Coordinador (1999). Ortesis plantares y calzado ortopédico a medida. Guía de uso y prescripción de productos ortoprotésicos a medida.. Valencia: Instituto Biomecánico de Valencia
- Queralt Mª. Editora. (2004). Manual de Técnicas en Ortopodología.. Barcelona: Ediciones Especializadas Europeas
- Pratt D, Tollafield D. (2007). Una introducción a las terapéuticas mecánicas. En: Turner WA, Merriman LM. Habilidades clínicas para el tratamiento del pie. . Madrid: Elsevier
- Ribes R, Ros P. (2010). Inglés Médico. Madrid: Panamericana
- Richie D. (2007). Orthotics. In: Di Giovanni C, Greisberg J. Coordinadores. Foot & Ankle: Core Knowledge in Orthopaedics. . Philadelphia: Elsevier; 2007.
- Vázquez B. Editor. (2009). Manual de Ortopodología.. Barcelona: Ediciones Especializadas Europeas
- Whitney A, Whitney K. (2006). Padding and Tapping Therapy. In: Levy L, Hetherington V. Editors. Principles and practice of Podiatric Medicine.. Maryland: Data Trace PC

- (1997). Casting Techniques. In: Michaud T. Foot Orthoses and other forms of conservative foot care. . Newton: Massachusetts
- (1997). Laboratory preparation and orthotic fabrication. In: Michaud T. Foot Orthoses and other forms of conservative foot care.. Massachusetts: Hardcover
- (1997). Orthotic dispensing, shoe gear, and clinical problem-solving. In: Michaud T. Foot Orthoses and other forms of conservative foot care. . Massachusetts: Hardcover
- (2006). Fabricación a medida de productos sanitarios ortopodológicos en la Comunidad Valenciana.. Valencia: Generalitat Valenciana, Consellería de Sanitat-Agencia Valenciana de Salut
- -



Complementary	<ul style="list-style-type: none">- Kirby K. (1998). Foot and lower extremities biomechanics: A ten year collection of precision intricast newsletters.. Arizona: Precision Intricast Inc- Kirby, K. A. (2000). Biomechanics of the normal and abnormal foot. . JAPMA, 90 (1), 30-35.- Kirby K. (2003). Foot and lower extremities biomechanics II. Precision intricast newsletters, 1997-2002.. Arizona: Precision Intricast Inc- Kirby K. (2009). Foot and lower extremities biomechanics III. Precision intricast newsletters, 2002-2008.. Arizona: Precision Intricast Inc- Williams A, Nester C (2010). The pocket podiatry guide: footwear and foot orthoses.. London: Churchill Livingstone Elsevier
----------------------	---

Recommendations

Subjects that it is recommended to have taken before

Specific Anatomy of the Lower Limb/750G02002
General Podiatry/750G02012
Biomechanics of the Lower Limb/750G02013
Preventive Podiatry/750G02015
Podiatric Orthopedics 1/750G02017
Podiatric Orthopedics 2/750G02018
Podiatric Orthopedics 3/750G02019
Podiatric Pathology 1/750G02021

Subjects that are recommended to be taken simultaneously

Podiatric Pathology 2/750G02022
Physical Podiatry/750G02023
Practicum 1/750G02033

Subjects that continue the syllabus

Sports Podiatry/750G02025
Diabetic Foot/750G02031
Practicum 2/750G02034
Practicum 3/750G02035

Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.