



IDENTIFYING DATA

(*)Exercicio terapéutico en persoas maiores

Subject	(*)Exercicio terapéutico en persoas maiores			
Code	P05M191V01108			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	#EnglishFriendly Spanish Galician			
Department				
Coordinator	Machado de Oliveira, Iris			
Lecturers	Machado de Oliveira, Iris Mollinedo Cardalda, Irimia Rodríguez Fuentes, Gustavo			
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Web				
General description	In this subject we will try to deepen in the physiological process of aging as well as in its prevalent pathological processes. Based on that and on the current scientific evidence, the main tools for the evaluation of the functional capacity of the elderly will be addressed, as well as the design and application of a prevention/treatment protocol based on therapeutic exercise.			
	English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Training and Learning Results

Code	
A2	That the students know how to apply the knowledge acquired and their ability to solve problems in new or little-known environments within broader (or multidisciplinary) contexts related to their area of study.
A3	That the students are able to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.
B1	Know how to work in teams that are structured in a uni or multidisciplinary and interdisciplinary way as a professional specialized in Therapeutic Exercise in Physiotherapy.
B2	Incorporate the ethical and legal principles of the physiotherapist profession into professional practice, as well as integrate social and community aspects in decision-making in interventions focused on Therapeutic Exercise in Physiotherapy.
B3	Transmit information in a clear way to the users of the health system, as well as with other professionals.
C11	Adapt therapeutic exercise sessions based on the characteristics of the patient, the pathology and the environment.
C12	Apply a protocol for measuring the functional capacity of patients based on their characteristics, as well as the pathology in the different areas of specialization.
C14	Design and apply therapeutic exercise programs in the elderly.
D1	Ability to understand the meaning and application of the gender perspective in the different fields of knowledge and in professional practice with the aim of achieving a fairer and more equal society.
D5	Recognition of diversity and multiculturalism.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D8	Maintain an attitude of learning and improvement.

Expected results from this subject

Expected results from this subject	Training and Learning Results
To know how affects the process of aging to the conditions of health of elderly people.	A3 B1 D1 D5 D8
To know the prevalent pathology in elderly people and its basic characteristics.	A2 A3 B1 D1 D5 D8
To be able to assess the functional capacity of elderly patients that goes to receive treatment based on therapeutic exercise.	A3 B1 B3 C12 D1 D5 D8
To design and apply programs of therapeutic exercise for the prevention and treatment of different pathologies and clinical situations of elderly people.	A2 A3 B2 B3 C11 C14 D1 D5 D6

Contents

Topic

- Aging process and health	The topics related to the physiological, functional and cognitive changes associated with the aging process and how these changes can lead to the appearance of prevalent pathologies in the elderly will be discussed.
- Prevalent pathology in the elderly.	The topics related to the prevalent pathologies among the elderly will be discussed according to the different body systems.
- Instruments for assessing the functional capacity of the elderly linked to different pathological processes.	The main tools currently used for the evaluation of the functional capacity of the elderly will be presented with exemplification according to different pathologies.
- Scientific evidence on therapeutic exercise in the elderly.	Presentation of a compilation of updated evidence on the effect of therapeutic exercise in elderly people with different pathologies.
- Therapeutic exercise programs for the prevention and treatment of pathologies in the elderly.	Presentation, exemplification, design and application of different therapeutic exercise protocols aimed at the prevention and treatment of different pathologies in elderly people depending on their condition, function and clinical condition.

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	12	24	36
Laboratory practical	12	12	24
Portfolio / dossier	0	3	3
Essay	0	10	10
Case studies	0	2	2

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

Methodologies

	Description
Lecturing	Presentation of the contents on Therapeutic Exercise in the Elderly, in addition to discussions on selected case studies.
Laboratory practical	Activities of application of knowledge and concrete situations and acquisition of advanced skills in the functional evaluation of elderly people with different pathological processes and design and application of intervention protocols in Therapeutic Exercise applied to this population.

Personalized assistance

Methodologies	Description
Lecturing	Personalized attention will be focused on solving any doubts regarding the theoretical syllabus that students may have and guiding their efforts in the subject. It can be developed in the form of face-to-face tutorials in the respective offices of the teachers of the subject or virtually through the Remote Campus in the respective virtual offices of the teachers of the subject upon agreement between the interested students and the teacher.
Laboratory practical	Personalized attention will be focused on solving doubts regarding the practical agenda that students may have and guiding their efforts in the subject. It can be developed in the form of face-to-face tutorials in the respective offices of the teachers of the subject or virtually through the Remote Campus in the respective virtual offices of the teachers of the subject upon agreement between the interested students and the teacher.
Tests	Description
Portfolio / dossier	Personalized attention will be focused on solving doubts, guiding the development of the portfolio to be carried out in the subject, and keeping records and assessing what has been done by the students. It can be developed in the form of face-to-face tutorials in the respective offices of the teachers of the subject or virtually through the Remote Campus in the respective virtual offices of the teachers of the subject upon agreement between the interested students and the teacher.
Essay	Personalized attention will be focused on solving doubts, guiding the work to be done in the subject, keeping records, and assessing what has been done by the students of the same group and also individually for each member. It can be developed in the form of face-to-face tutorials in the respective offices of the teachers of the subject or virtually through the Remote Campus in the respective virtual offices of the teachers of the subject upon agreement between the interested students and the teacher.
Case studies	Personalized attention will be focused on solving doubts, guiding the development of the case study report to be carried out on the subject, and keeping records and assessing what has been done by the students. It can be developed in the form of face-to-face tutorials in the respective offices of the teachers of the subject or virtually through the Remote Campus in the respective virtual offices of the teachers of the subject upon agreement between the interested students and the teacher.

Assessment				
Description	Qualification	Training and Learning Results		
Portfolio / dossier	30	A3	B1	C12 D1 B3 D5 D8
Essay	40	A2	B1	C11 D1 A3 B2 C14 D5 B3 D6 D8
Case studies	30	A2	B1	C11 D1 A3 B2 C12 D5 B3 C14 D6 D8

Other comments on the Evaluation

The student must submit and pass each of the parts of the evaluation. In case of failing any of the parts of the evaluation, which means not passing the subject in the ordinary call, the grade of the parts passed will be kept and the part not passed will be taken in the second opportunity call.

The student may request the waiver of the continuous evaluation by informing the coordinator of the subject within the established period. If so, the student will take the global evaluation.

Global Evaluation:

The student must submit the portfolio (with a percentage of 30% of the total evaluation) as indicated in the continuous

evaluation and must take a theoretical exam of development questions on the subject syllabus (with a percentage of 70% of the total evaluation).

Evaluation of 2nd opportunity:

In the second opportunity call, the evaluation will be carried out in the same modality presented for the global evaluation.

In any of the calls, if the student obtains a numerical grade higher than 5, but does not meet the requirements established to pass the subject, he/she will have a grade of 4.5 (fail). In case of lower grades, the grade obtained will be given.

Sources of information

Basic Bibliography

Linguori, **Manual ACSM para la valoración y prescripción del ejercicio**, 2021

Houglum, **Therapeutic Exercise for Musculoskeletal Injuries**, 2016

Rose DJ, **Equilibrio y Movilidad con Personas Mayores**, 2005

Complementary Bibliography

Balachandran et al, **Comparison of Power Training vs Traditional Strength Training on Physical Function in Older Adults**, 2022

Mende et al, **Progressive machine-based resistance training for prevention and treatment of sarcopenia in the oldest old: A systematic review and meta-analysis**, 2022

Kim & Yeun, **Effects of Resistance Training on C-Reactive Protein and Inflammatory Cytokines in Elderly Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials**, 2022

Martins et al, **The Effects of High-Speed Resistance Training on Health Outcomes in Independent Older Adults: A Systematic Review and Meta-Analysis**, 2022

Gallardo-Gómez et al, **Optimal dose and type of exercise to improve cognitive function in older adults: A systematic review and bayesian model-based network meta-analysis of RCTs**, 2022

Lu et al, **Effects of different exercise training modes on muscle strength and physical performance in older people with sarcopenia: a systematic review and meta-analysis**, 2021

Wang et al, **Muscle mass, strength, and physical performance predicting activities of daily living: a meta-analysis**, 2020

Macdonald et al, **Primary care interventions to address physical frailty among community-dwelling adults aged 60 years or older: A meta-analysis**, 2020

Taylor et al, **Active Video Games for Improving Physical Performance Measures in Older People: A Meta-analysis**, 2018

Apóstolo et al, **Effectiveness of interventions to prevent pre-frailty and frailty progression in older adults: a systematic review**, 2018

Tricco et al, **Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis**, 2017

Sherrington et al, **Exercise to prevent falls in older adults: an updated systematic review and meta-analysis**, 2017

Frost et al, **Health promotion interventions for community-dwelling older people with mild or pre-frailty: a systematic review and meta-analysis**, 2017

Dodds et al, **Global variation in grip strength: a systematic review and meta-analysis of normative data**, 2016

Pamoukdjian et al, **Measurement of gait speed in older adults to identify complications associated with frailty: A systematic review**, 2015

Barry et al, **Is the Timed Up and Go test a useful predictor of risk of falls in community dwelling older adults: a systematic review and meta-analysis**, 2014

Giné-Garriga et al, **Physical Exercise Interventions for Improving Performance-Based Measures of Physical Function in Community-Dwelling, Frail Older Adults: A Systematic Review and Meta-Analysis**, 2014

Cadore et al, **Effects of Different Exercise Interventions on Risk of Falls, Gait Ability, and Balance in Physically Frail Older Adults: A Systematic Review**, 2013

Savva et al, **Using Timed Up-and-Go to Identify Frail Members of the Older Population**, 2013

Guralnik et al, **A short physical performance battery assessing lower extremity function: association with self-reported disability and prediction of mortality and nursing home admission**, 1994

Pedregal-Canga, **Pilates para la tercera edad**, 2021

Williamson, **Ejercicios para poblaciones especiales**, 2020

Cifu et al, **Rehabilitación Geriátrica**, 2019

Kisner et al, **Therapeutic Exercises: foundations and techniques**, 2018

Hall & Brody, **Ejercicio terapéutico: Recuperación funcional**, 2006

Ministerio de Sanidad, **Documento de consenso sobre prevención de fragilidad y caídas en la persona mayor**, 2014

Ministerio de Sanidad, **Actualización del documento de consenso sobre prevención de la fragilidad en la persona mayor**, 2022

Unión Europea, **Vivifrail**, 2022

Recommendations

Subjects that continue the syllabus

(*)Prácticas externas/P05M191V01207

Subjects that are recommended to be taken simultaneously

(*)Bases anatomofuncionais no exercicio terapéutico/P05M191V01101

(*)Exercicio terapéutico no tratamento de enfermidades neurodexenerativas e na diversidade funcional/P05M191V01107

(*)Fundamentos do exercicio terapéutico e deseño de programas/P05M191V01102
