



## (\*)Facultade de Fisioterapia

### (\*)Presentación

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As guías docentes recollen información relevante das materias que compoñen o plan de estudos do Grao en Fisioterapia.

### (\*)Equipo Decanal Centro e Directivo dos Departamento

(\*)

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### **(\*)Páxina web**

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<http://fisioterapia.uvigo.es/>

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### **(\*)Localización**

<b>Subjects</b>			
<b>Year 1st</b>			
Code	Name	Quadmester	Total Cr.
P05M191V01101		1st	3
P05M191V01102		1st	3
P05M191V01103		1st	9
P05M191V01104		1st	3
P05M191V01105		1st	3
P05M191V01106		1st	3
P05M191V01107		1st	3
P05M191V01108		1st	3
P05M191V01201		2nd	3
P05M191V01202		2nd	3
P05M191V01203		2nd	3
P05M191V01204		2nd	3
P05M191V01205		2nd	3
P05M191V01206		2nd	3
P05M191V01207		2nd	9
P05M191V01208		2nd	9

<b>IDENTIFYING DATA</b>				
<b>(*)Bases anatomofuncionais no exercicio terapéutico</b>				
Subject	(*)Bases anatomofuncionais no exercicio terapéutico			
Code	P05M191V01101			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Padín Iruegas, María Elena			
Lecturers	Durán Barbosa, Rafael Justo Cousiño, Lorenzo Antonio Padín Iruegas, María Elena			
E-mail	mepadin@uvigo.es			
Web				
General description	In this subject will tackle the implications that has the exercise in the anatomy and in the Physiology of the human body			

### Training and Learning Results

Code	
A5	That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
B6	Develop learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C1	Incorporate scientific research and evidence-based practice as a professional culture in the practice of therapeutic exercise.
C9	Understand the complexity of the effects of therapeutic exercise at the cardiovascular, respiratory, endocrine, neurological and skeletal muscle levels in different population groups.
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.
D4	Knowledge of statistics applied to Health Sciences, or to the field of study related to the field of study.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Knowledges the concepts advanced of Kinesitherapy and therapeutic exercise.	A5 B6 C1 C9 D1 D4 D8
Know the effects that the exercise has on the device locomotor.	A5 B6 C1 C9 D1 D4 D8
Identify the morphology and physiology changes induced by the exercise.	A5 B6 C1 C9 D1 D4 D8

Know the clinical applications of the exercise and his pathological limitations	A5 B6 C1 C9 D1 D4 D8
Know apply properly the knowledges of the anatomy of the knee, the anatomy of the shoulder and the anatomy of the vertebral column for the prescription of the therapeutic exercise.	A5 B6 C1 C9 D1 D4 D8
Study the physiological mechanisms of adaptation to the physical exercise, as well as the energetic answers, muscular, cardiovascular and respiratory.	A5 B6 C1 C9 D1 D4 D8

## Contents

Topic	
Anatomy and Exercise	1- Concepts advanced. 2- Effects of the physical exercise in the device locomotor 3- anatomical Changes-physiological induced by the physical exercise 4- The shoulder 5- The knee 6- Column
Physiology	7- Introduction: The Physiology and the Exercise 8-metabolic Appearances of the exercise. 9-muscular Answers to the exercise. 10-cardiovascular Answer to the exercise. 11-respiratory Answer to the exercise. 12-Other sistematic answers to the exercise. 13-Other appearances related with the exercise.

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	15	21	36
Problem solving	5	10	15
Objective questions exam	1	5	6
Essay	1	10	11
Objective questions exam	1	5	6
Systematic observation	1	0	1

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

## Methodologies

	Description
Lecturing	The lecturers structures and/or explains the contents of the subject.
Problem solving	Activity in which they formulate tasks related with the subject of individual way and/or collective

## Personalized assistance

Methodologies	Description
Lecturing	Orientation to the students and resolution of doubts on the contents of the matter by means of tutorships face-to-face way, email and/or remote campus.
Problem solving	Orientation to the students and resolution of doubts on the contents of the matter by means of tutorships face-to-face way, email and/or remote campus.
Tests	Description
Essay	Orientation to the students and resolution of doubts on the work of the matter by means of tutorships face-to-face way, email and/or remote campus.

Assessment						
	Description	Qualification	Training and Learning Results			
Objective questions exam	Exam of objective questions of 5 options without negative qualification. To pass the theoretical exam it is necessary to obtain 70% of the correct answers	40	A5	B6	C1 C9	D1 D4 D8
Essay	Realisation of a work of individual form or in group	10	A5	B6	C1 C9	D1 D4 D8
Objective questions exam	Exam of objective questions in which every two wrong answers will be deducted one point.	40				
Systematic observation	Class attendance and participation in them will be valued. Attendance at 80% of classes is required.	10	A5	B6	C1 C9	D1 D4 D8

### Other comments on the Evaluation

Evaluation systems:

Part Anatomy and Exercise: the theoretical knowledge acquired by the students will be evaluated by means of an exam of objective questions of 5 options without negative qualification. To pass the theoretical exam it is necessary to obtain 70% of the correct answers; It is necessary to pass the theoretical exam to pass the subject. Carrying out a job will be 10%. It is necessary to present it to pass the subject.

Physiology Part: Exam of objective questions in which every two wrong answers will be deducted one point.

The work will consist of the following parts: introduction, problem statement, descriptive analysis and conclusions. It can be done individually or in a group

The same criteria will be maintained in successive calls.

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given

### Sources of information

#### Basic Bibliography

-Jürgen Weineck:, **Anatomía Deportiva**, 5ª,  
 Mario Lloret Riera, **Anatomía Aplicada a la Actividad Física y Deportiva**,  
 -Michel Dufour, **Biomecánica Funcional. Miembros, Cabeza, Tronco**, 2ª, 2018  
 Ken Ashwell, **Manual de Anatomía del Ejercicio**., Paidotribo., 2013  
 Hamill:, **Biomecánica. Bases del Movimiento Humano**, Wolters Kluwer España, 2021  
 Andrew Biel, **Guía del Cuerpo Humano en Movimiento**, 2ª, Panamericana, 2021  
 Michel Dufour, **Los Músculos. Anatomía Clínica de las Extremidades**, Paidotribo., 2021  
 John Brewer, **Anatomía del Cuerpo En Movimiento**, Librero, 2018  
 Alberto Manuel Ángeles Castellanos, **Morfología Humana**, Panamericana, 2022  
 Neumann D. A. & Serra A, **Cinesiología del sistema musculoesquelético : fundamentos para la rehabilitación**, 3, 2022  
 López Chicharro J. & Fernández Vaquero A, **Fisiología del ejercicio**, 4, Panamericana, 2023  
 Hall S., **Biomecánica básica**, 9, McGraw Hill., 2022  
 Kraemer W. J. Fleck S. J. & Deschenes M. R, **Fisiología del ejercicio: teoría y aplicación práctica**, 3, Wolters Kluwer., 2022  
 McArdle W. D. Katch F. I. & Katch V. L, **Fisiología del ejercicio: nutrición rendimiento y salud**, 8, Wolters Kluwer Health Espan&#771;a., 2015  
 Barbany J. R, **Fisiologi&#769;a del ejercicio fi&#769;sico y del entrenamiento**, 7ª reimp. de la 2ª, Paidotribo., 2018  
 Hall J. E. Guyton A. C. & Hall M. E, **Tratado de fisiología médica**, 14, Elsevier., 2021  
 Costanzo L. S, **Fisiología**, 8, Wolters Kluwer., 2023  
 Boron W. F. & Boulpaep E. L., **Manual de fisiología médica**, Elsevier España., 2022

Uchida T. K. Delp S. & Delp D. B., **Biomechanics of movement : the science of sports robotics and rehabilitation**, MIT Press, 2020

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López-Chicharro, J.; Fernández-Vaquero, A., **Fisiología del Ejercicio**, 4, Elsevier., 2022

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Kraemer, **Fisiología del Ejercicio**, Lippincott Williams & Wilkins, 2022

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Mora Rodríguez R.; García Pallarés J., **Fisiología del deporte y el ejercicio**, 2, Panamericana, 2021

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McArdle, William D., **Fisiología del ejercicio: Nutrición, rendimiento y salud**, Lippincott, 2015

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Keeney, **WILMORE. Fisiología del Deporte y del Ejercicio**, 5, Human Kinetics, 2014

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Åstrand, Per-Olof, **Manual de fisiología del ejercicio**, Paidotribo,, 2010

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**Complementary Bibliography**

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## Recommendations

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### Other comments

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Give of high in \*MOOVI (is the first time that does , the name of user and the password is the \*DNI). Have a direction of direction-and, as every time that it give a warning, go up documentation, etc., will communicate by this road the all the users of the matter (students and educational).

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IDENTIFYING DATA				
(*)Fundamentos do exercicio terapéutico e deseño de programas				
Subject	(*)Fundamentos do exercicio terapéutico e deseño de programas			
Code	P05M191V01102			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Abalo Núñez, María del Rocío			
Lecturers	Abalo Núñez, María del Rocío Martín Orive, Francisco José			
E-mail	rocioabalo@uvigo.es			
Web				
General description	With this subject the students will learn to design and schedule a program of therapeutic exercise in different populations and contexts			

### Training and Learning Results

Code	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
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.
A4	That the students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
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.
B6	Develop learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
C11	Adapt therapeutic exercise sessions based on the characteristics of the patient, the pathology and the environment.
D2	Ability to communicate orally and in writing in the Galician language.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Know all the appearances related with the therapeutic exercise	A4 B3 D8
Know design programs of therapeutic exercise	A1 A2 B2 B3 C4 C11 D2



Adapt the exercises to the person in function of the previous evaluations

A1  
B6  
C4  
C6  
C11  
D2  
D8

## Contents

### Topic

- Bases of the therapeutic exercise -
- Design of a program of therapeutic exercise -
- Therapeutic exercise and physical capacities -
- Evaluation of the patient -
- Control engine and therapeutic exercise -

## Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	8	16	24
Case studies	5	12	17
Problem solving	6	12	18
Mentored work	1	10	11
Essay	2	0	2
Case studies	1	0	1
Systematic observation	1	0	1

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

## Methodologies

	Description
Introductory activities	Activity directed the presentation of the matter as well as gather information of the students
Lecturing	Exhibition of the contents by part of the/the educational. Theoretical classes-participatory employing the debate where boost the active participation of the students employing half audiovisual
Case studies	Analysis of cases proposed by the teacher
Problem solving	Activities in which the students resolves a situation
Mentored work	

## Personalized assistance

Methodologies	Description
Introductory activities	The personalised attention will be centred in the resolution of doubts that can have the students in relation to organisation of the subject
Lecturing	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorships face-to-face, email and/or remote campus.
Tests	Description
Essay	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the work of face-to-face way or through the remote campus
Case studies	The personalised attention will be centred in the resolution of doubts that can have the students in the sessions of collective way and/or individual

## Assessment

	Description	Qualification	Training and Learning Results			
Essay	(*)O alumnado terá que desenvolver de xeito individual o traballo e facer a entrega na data establecida.	40	A1 A4	B2 B3 B6	C4	D2
Case studies	(*)Durante as sesións teóricas o alumnado en grupo resolverá algún estudio de caso	20	A2 A4	B2 B3 B6	C4 C6 C11	D8
Systematic observation	(*)O alumnado terá que acudir ao 80% das sesión	40	A1 A2	B2 B3 B6	C4 C6	D2 D8

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## Other comments on the Evaluation

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Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the global evaluation will be: 40% the work and 60% in an exam.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

### Evaluation of 2nd opportunity:

The students can examine 100% of the subject through 40% work and 60% in an exam.

To pass the subject, both parts (work and exam) must have been passed independently.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given

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## Sources of information

### Basic Bibliography

Moore GE, Durstine JL, Painte PL, **ACSM's Exercise Management for Persons with chronic diseases and disabilities.**, Human Kinetics, 2016

American College of Sports Medicine, **ACSM's Guidelines for Exercise Testing and Prescription (American College of Sports Medicine)**, 10, Lippincott Williams and Wilkins, 2017

American College of Sports Medicine, **ACSM's Resources for the Personal Trainer**, 5, Lippincott Williams and Wilkins, 2017

Armando E., Pancorbo Sandoval, **Medicina y ciencias del deporte y actividad física**, Ergon, 2008

### Complementary Bibliography

Kisner, C., **Ejercicio terapéutico: Fundamentos y técnicas.**, Panamericana, 2010

Spring, H, **Teoría y práctica del ejercicio terapéutico : (movilidad, fuerza, resistencia, coordinación)**, Paidotribo, 2000

Garber CE, Blissmer B, Deschenes MR, Franklin BA, Lamonte MJ, Lee IM, Nieman DC, Swain DP, **Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise**, Med Sci Sports Exerc, 2011

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## Recommendations

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<b>IDENTIFYING DATA</b>				
<b>(*)Metodoloxía da investigación</b>				
Subject	(*)Metodoloxía da investigación			
Code	P05M191V01103			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	9	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	González Represas, Alicia			
Lecturers	González Represas, Alicia Maceiras García, María Lourdes Seoane Pillado, María Teresa			
E-mail	alicia@uvigo.es			
Web				
General description	The Research Methodology course describes the context and legislation in clinical-epidemiological research, the methodology to be followed in the design of clinical-epidemiological research, development of research projects, data analysis and communication of results.			

### Training and Learning Results

Code	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
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.
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.
B4	Acquire advanced scientific training in research in Therapeutic Exercise in Physiotherapy.
B6	Develop learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C1	Incorporate scientific research and evidence-based practice as a professional culture in the practice of therapeutic exercise.
C2	Apply the ethical and legal bases of the profession in the field of research.
C7	Evaluate and select the appropriate scientific theory and the precise methodology to design a research project based on therapeutic exercise.
C8	Know how to use methods and models of statistical analysis, interpret and communicate the results of clinical research to specialized audiences through different media (face-to-face, online or social networks).
D2	Ability to communicate orally and in writing in the Galician language.
D4	Knowledge of statistics applied to Health Sciences, or to the field of study related to the field of study.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
LO1: Know how to design and carry out a clinical-epidemiological research study.	A1 A2 A3 B2 B4 C1 C2 C7 C8 D2 D4 D8

LO2: Know how to write a clinical research project.

A1  
A2  
A3  
B2  
B4  
B6  
C1  
C2  
C7  
C8  
D2  
D4  
D8

LO3: Know how to interpret and communicate the results of clinical research.

A1  
A2  
A3  
B4  
B6  
C1  
C7  
C8  
D2  
D4  
D8

## Contents

Topic	
Theoretical content:	1.1. Epidemiology and health-related phenomena.
1. Advanced methods in epidemiology.	1.2. Measures of frequency and effect of the disease.
	1.3. Biases and confounding factors.
2. Clinical-epidemiological studies.	2.1. Descriptive.
	2.2. Analytics.
	2.3. Intervention
3. Advanced methods and models of Statistical Data Analysis.	3.1. Preparation of data in clinical research
	3.1.1. Sources and Instruments for obtaining data
	3.1.2. Sampling. Different sampling techniques. Assignment of subjects to treatments
	3.2. Linear models
	3.2.1. Linear, simple and multiple regression models
	3.2.2. ANOVA models. ANCOVA models
	3.2.3. Logistic regression models
	3.3. Introduction to Meta-analysis
	3.3.1. General concepts. effect size
	3.3.2. Fixed Effects and Random Effects Model
	3.3.3. The problem of heterogeneity
	3.3.4. Publication bias
5. Ethics and legislation in health research.	5.1. Basic ethical principles.
	5.2. Ethical requirements in research.
	5.3. Research ethics committee.
	5.4. Ethics and scientific publication.
	5.6. Health research regulations
6. Design and clinical research projects.	6.1. Design and planning of the research project.
	6.2. Resources to develop a research project.
	6.3. Research project management.
7. Communication of clinical research.	7.1. Scientific communication.
	7.1.1. Scientific communication media.
	7.1.2. Language in scientific communication.
	7.1.3. Resources.
	7.2. Scientific publication.
Practical contents	1.1. Analysis and interpretation of results
1. Advanced methods of epidemiology.	
2. Clinical-epidemiological studies.	2.1. Design of clinical-epidemiological studies
3. Advanced statistical data analysis methods and models.	3.1. Linear models. Interpretation of results.
	3.2. Meta-analysis. Interpretation of results.
4. Design and clinical research projects.	4.1. Design of research projects.
	4.2. Management of research projects.
5. Communication of clinical research.	5.1. Scientific communication.

<b>Planning</b>			
	Class hours	Hours outside the classroom	Total hours
Lecturing	24	50	74
Case studies	15	10	25
Collaborative Learning	6	0	6
Discussion Forum	0	4	4
Practices through ICT	12	60	72
Problem solving	9	10	19
Mentored work	0	19	19
Objective questions exam	2	0	2
Problem and/or exercise solving	3	0	3
Essay	1	0	1

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

<b>Methodologies</b>	
	Description
Lecturing	Presentation by the teacher of the contents on the subject object of study, theoretical bases and / or guidelines of a work, exercise that the student has to develop.
Case studies	Analysis of a fact, problem or real event in order to know it, interpret it, solve it, generate hypotheses, test data, reflect, complete knowledge, diagnose it and train in alternative solution procedures.
Collaborative Learning	It includes a group of teaching procedures that start from the organization of the class in small mixed and heterogeneous groups where the students work in a coordinated way with each other to develop academic tasks and delve into their own learning.
Discussion Forum	Activities developed in a virtual environment in which diverse and current topics related to the academic and / or professional field are discussed.
Practices through ICT	Knowledge application activities in a specific context and the acquisition of basic and procedural skills in relation to the subject, through ICT.
Problem solving	Activity in which problems and / or exercises related to the subject are formulated. The student must develop the analysis and resolution of problems and / or exercises independently.
Mentored work	The student, individually or in groups, prepares a document on the subject or prepares seminars, research, reports, essays, summaries of readings, lectures, etc.

<b>Personalized assistance</b>	
Methodologies	Description
Lecturing	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.
Case studies	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.
Collaborative Learning	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.
Practices through ICT	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.
Mentored work	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.

Discussion Forum	In addition to the attention to students in the established tutorials and depending on the topic to be addressed, students will also be served via email and the remote campus platform at the times available and agreed by both parties. The aim of personalized attention will be to answer any questions that may arise regarding the subject and / or to advise in academic and professional matters in those cases that so request.
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Assessment							
	Description	Qualification	Training and Learning Results				
Objective	The exam will consist of a set of clear and precise questions, to which the questions exam student must respond by choosing an option from a series of alternatives.	40	A1 A3	B2 B4 B6	C1 C7 C8	D2 D4 D8	
Problem and/or exercise solving	The student must be able to recognize, describe, organize and analyze the constitutive elements of the problems posed to devise strategies that allow obtaining, in a reasoned way, a contrasted solution and according to certain pre-established criteria. The student's ability to analyze and solve problems and/or exercises autonomously will be assessed.	40	A2	B2 B4 B6	C1 C7 C8	D2 D4 D8	
Essay	The student must carry out a work in which the contents of the subject will be integrated.	20	A1 A3	B2 B4 B6	C1 C2 C7 C8	D2 D4 D8	

### Other comments on the Evaluation

Problem solving will account for 40% of the final grade and will consist of solving practical exercises that will be structured in two blocks and must be approved independently.

The objective test represents 40% of the final grade and will consist of a multiple choice test that is structured in two blocks and must be passed independently.

To pass the subject it is necessary to pass the resolution of problems, the objective test and the work of the subject independently.

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be 50% Problem solving and 50% objective test.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

### 2nd chance

The students can examine 100% of the subject having two tests: 50% Problem solving and 50% objective test.

To pass the subject, students must independently pass the theoretical and practical exam.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given.

Problem solving will account for 50% of the final grade and will consist of solving practical exercises that will be structured in two blocks and must be approved independently.

The objective test represents 50% of the final grade and will consist of a multiple choice test that is structured in two blocks and must be passed independently.

Considerations:

Students who take this subject are required to conduct themselves responsibly and honestly. Any form of fraud (i.e. copying and / or plagiarism) aimed at falsifying the level of knowledge or skill achieved by a student in any type of test, report or work designed for this purpose is considered inadmissible. Fraudulent conduct may result in the subject being suspended for a full course. will keep an internal record of these actions so that, in the event of recidivism, the opening of a disciplinary case can be requested in the rectory.

Ethical commitment:

The student must exhibit appropriate ethical behavior. In the event of unethical behavior (copying of seminars, plagiarism of work, and use of unauthorized electronic equipment, etc.) that impede the proper development of teaching activities, the student will be considered not to meet the requirements necessary to pass the subject, and in this case your qualification in the current academic year will be suspended (0.0). The use of any electronic device during the assessment tests will not be permitted unless expressly authorized. The fact of introducing an unauthorized electronic device in the examination room will be considered a reason for not passing the subject in the current academic year and the overall grade will be suspended (0.0).

Image and / or audio recording: Unless expressly authorized by the teacher, it will not be allowed to record, in whole or in part, both sound and image, the master classes, seminars or practices of the subject, in accordance with the provisions of the Property Law Intellectual, the Organic Law for the Protection of Personal Data and the Organic Law for the Civil Protection of the Right to Honor, Personal and Family Privacy and Self-Image. Depending on the subsequent use, the non-consensual recording may give rise to civil, disciplinary, administrative and, eventually, criminal liability.

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## Recommendations

**IDENTIFYING DATA****(\*)Ejercicio terapéutico na prevención e tratamento de enfermidades cardiovasculares**

Subject	(*)Ejercicio terapéutico na prevención e tratamento de enfermidades cardiovasculares			
Code	P05M191V01104			
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	González Represas, Alicia			
Lecturers	González Represas, Alicia			
E-mail	alicia@uvigo.es			
Web				
General description	The subject Therapeutic exercise in the prevention and treatment of cardiovascular diseases is structured in two fundamental parts. In a first part, the cardiovascular responses in exercise as well as in cardiovascular diseases as well as in the evaluation of the cardiovascular system are delved into, to then address in a second part the prescription of therapeutic and functional exercise in the prevention and treatment of diseases cardiovascular.			

**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.
A4	That the students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
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.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
C9	Understand the complexity of the effects of therapeutic exercise at the cardiovascular, respiratory, endocrine, neurological and skeletal muscle levels in different population groups.
C10	Design and apply therapeutic exercise programs in the prevention and treatment of pathologies or musculoskeletal, cardiovascular, respiratory, endocrine, neurodegenerative diseases, in urogynecological and obstetric dysfunctions, and oncological processes.
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.
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.
D8	Maintain an attitude of learning and improvement.

**Expected results from this subject**

Expected results from this subject	Training and Learning Results
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LO1: Know the cardiovascular effects of exercise.	A2 B3 C9 D1 D5 D8
LO2: Carry out and/or interpret the results of the cardiovascular assessment.	A2 A4 B1 B2 B3 C6 C9 C12 D1 D5 D8
LO3: Know and apply risk stratification systems.	A4 B1 B3 C12 D8
LO4: Design and apply therapeutic exercise programs in prevention and treatment of pathologies and cardiovascular diseases.	A2 A4 B1 B2 B3 C4 C6 C9 C10 D1 D5 D8
LO5: Know and apply safety, control and cardiovascular monitoring systems.	A2 A4 B1 B2 B3 C4 C6 C10 D8

## Contents

### Topic

Theoretical content:	1.1. Structure and function of the cardiovascular system.
1. Functional anatomy and cardiovascular hemodynamics.	1.2. cardiovascular hemodynamics.
	1.3. heart disease
	1.4. Cardiovascular response to exercise.
3. Cardiovascular evaluation.	3.1. Cardiovascular clinical examination.
	3.2. Cardiovascular tests.
	3.3. Risk factor.
4. Prescription of cardiovascular therapeutic exercise.	4.1. Therapeutic exercise prescription.
	4.2. Safety, control and cardiovascular monitoring during exercise.
	4.3. emergency action.
5. Design of therapeutic and functional exercise programs in the prevention and treatment of pathologies or cardiovascular diseases.	5.1. Design of programs for the prevention and promotion of cardiovascular health.
	5.2. Design of therapeutic and functional exercise programs in the treatment of pathologies or cardiovascular diseases.
Practical content:	1.1. Risk stratification systems.
1. Cardiovascular evaluation	1.2. Cardiovascular evaluation.
2. Prescription of therapeutic exercise in the prevention and treatment of cardiovascular diseases.	2.1. Design of therapeutic and functional exercise programs in the prevention and treatment of pathologies or cardiovascular diseases.

## Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	6	12	18
Problem solving	2	4	6
Case studies	2	4	6
Previous studies	0	4	4
Collaborative Learning	4	0	4
Laboratory practical	6	10	16
Mentored work	0	17	17
Systematic observation	2	0	2
Presentation	1	0	1

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

## Methodologies

	Description
Introductory activities	Activities aimed at making contact and gathering information about students, as well as presenting the subject.
Lecturing	Presentation by the teacher of the contents on the subject object of study, theoretical bases and / or guidelines of a work, exercise that the student has to develop.
Problem solving	Activity in which problems and / or exercises related to the subject are formulated. The student must develop the appropriate or correct solutions through the exercise of routines, the application of formulas or algorithms, the application of procedures for the transformation of available information and the interpretation of results. It is usually used as a complement to the master class.
Case studies	Analysis of a real fact, problem or event in order to know it, interpret it, solve it, generate hypotheses, test data, reflect, complete knowledge, diagnose it and train in alternative solution procedures.
Previous studies	Search, reading and work of documentation, previous to the classes or practices of laboratory, that realizes the alumnado of autonomous form.
Collaborative Learning	It includes a group of teaching procedures that start from the organization of the class in small mixed and heterogeneous groups where the students work in a coordinated way with each other to develop academic tasks and delve into their own learning.
Laboratory practical	Activities of application of the knowledge to concrete situations and of acquisition of basic and procedural abilities related to the matter object of study. They are developed in special spaces with specialized equipment (Laboratories, computer rooms, etc ...)
Mentored work	The student, individually or in groups, prepares a document on the subject or prepares seminars, research, reports, essays, summaries of readings, lectures, etc.

## Personalized assistance

Methodologies	Description
Lecturing	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.
Case studies	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.
Problem solving	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.
Previous studies	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.

Collaborative Learning	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.
Laboratory practical	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.
Mentored work	In addition to the attention to students in the established tutorials and depending on the topic to be dealt with, students will also be attended through email and the remote campus platform (online) at the times available and agreed by both parties. Personalized attention will aim to answer any questions that may arise regarding the subject and/or advise on academic and professional matters in those cases that so request.

## Assessment

	Description	Qualification	Training and Learning Results			
Case studies	Analysis of a fact, problem or real event in order to know it, interpret it, solve it, generate hypotheses, compare data, reflect, complete knowledge, diagnose it and train in alternative solution procedures: RA1, RA2, RA3, RA4.	10	A2 A4	B1 B2	C4 C6 C9 C10 C12	D1 D5 D8
Mentored work	Students in small groups prepare a document on a relevant and interesting topic related to the subject. Learning outcomes: LO1, LO2, LO3, LO4, LO5.	40	A2 A4	B1 B2 B3	C4 C6 C9 C10 C12	D1 D5 D8
Systematic observation	A systematic record of knowledge, skills, attitudes and values that students have in different activities/contexts will be made. The observation criteria will be defined and explained in the presentation of the subject. All this information will also be published on the virtual platform of the subject. Students will receive information about their progress throughout the process. Learning outcomes: LO1, LO2, LO3, LO4, LO5.	30	A2 A4	B1 B2 B3	C4 C6 C10 C12	D1 D5 D8
Presentation	Presentation and defense of the supervised work will be valued. Learning outcomes: LO1, LO2, LO3, LO4, LO5.	20	A2 A4	B1 B2 B3	C4 C6 C9 C10 C12	D1 D5 D8

## Other comments on the Evaluation

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be 60% work, 40% exam of objective questions.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

### 2nd chance

The students can examine 100% of the subject having two tests: 60% work, 40% exam of objective questions.

To pass the subject, students must independently pass the different parts of the evaluation.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given.

Considerations:

Students taking this course are required to behave in a responsible and honest manner. Any form of fraud (i.e. copying and/or plagiarism) tending to falsify the level of knowledge or skill achieved by a student in any type of test, report

or work designed for that purpose is considered inadmissible. Fraudulent conduct may result in the subject being suspended for an entire course. It will keep an internal record of these actions so that, in case of recidivism, the opening of a disciplinary file can be requested at the rectory.

Ethical commitment:

The student must exhibit appropriate ethical behavior. In case of unethical conduct (copying of seminars, plagiarism of works, use of unauthorized electronic equipment, etc.) that prevent the correct development of the teaching activity, it will be considered that the student does not meet the necessary requirements to pass the subject, and in this case your grade will be suspended in the current academic year (0.0). The use of any electronic device during the evaluation tests will not be allowed unless expressly authorized. The fact of introducing an unauthorized electronic device in the exam room will be considered a reason for not passing the subject in the current academic year and the overall grade (0.0) will be suspended.

Image and/or audio recording: Unless expressly authorized by the professor, total or partial recording, both of sound and image, of the lectures, seminars or practices of the subject will not be allowed, in accordance with the provisions of the the Law on Intellectual Property, the Organic Law on the Protection of Personal Data and the Organic Law on Civil Protection of the Right to Honour, Personal and Family Privacy and Own Image. Depending on the subsequent use, recording without consent may give rise to civil, disciplinary, administrative and, where appropriate, criminal responsibilities.

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## Recommendations

### Subjects that continue the syllabus

(\*)Prácticas externas/P05M191V01207

(\*)Traballo fin de máster/P05M191V01208

### Subjects that are recommended to be taken simultaneously

(\*)Metodoloxía da investigación/P05M191V01103

### Subjects that it is recommended to have taken before

(\*)Bases anatomofuncionais no exercicio terapéutico/P05M191V01101

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

IDENTIFYING DATA				
(*)Exercicio terapéutico no tratamento de patoloxía musculoesquelética e recuperación do deportista				
Subject	(*)Exercicio terapéutico no tratamento de patoloxía musculoesquelética e recuperación do deportista			
Code	P05M191V01105			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Alonso Calvete, Alejandra			
Lecturers	Alonso Calvete, Alejandra Mollinedo Cardalda, Irimia			
E-mail	alejalonso@uvigo.es			
Web				
General description	Mandatory subject of 3 credits in the that will board the pathologies but frequent in the sportsmen and the treatment by means of therapeutic exercise for his recovery			

### 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.
C9	Understand the complexity of the effects of therapeutic exercise at the cardiovascular, respiratory, endocrine, neurological and skeletal muscle levels in different population groups.
C10	Design and apply therapeutic exercise programs in the prevention and treatment of pathologies or musculoskeletal, cardiovascular, respiratory, endocrine, neurodegenerative diseases, in urogynecological and obstetric dysfunctions, and oncological processes.
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.
C13	Design, execute and direct injury prevention and recovery programs for athletes based on therapeutic exercise.
D3	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources.
D7	Develop leadership and organization skills.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Know all the appearances related with the therapeutic exercise in musculoskeletal pathologies.	A2 B2 C9 D3
Know design programs of therapeutic exercise in musculoskeletal pathologies.	A2 A3 B1 C10 C11 C12 D8

**Contents**

## Topic

- Therapeutic exercise and alterations of the spine. -
- Exercises in different clinical specialitys related with the musculoskeletal system. -
- Therapeutic exercise in the injuries musculoskeletal -
- Recovery and injury prevention prevention -

**Planning**

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	6	19	25
Laboratory practical	8	19	27
Portfolio / dossier	0	4	4
Systematic observation	8	0	8
Essay	1	9	10

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

**Methodologies**

	Description
Introductory activities	Activity directed the presentation of the subject as well as gather information of the students
Lecturing	Exhibition of the contents by part of the/the educational. Theoretical classes-participatory where boost the active participation of the students.
Laboratory practical	Collaborative activities and of resolution of problems

**Personalized assistance**

Methodologies	Description
Introductory activities	The personalised attention will be centred in the resolution of doubts that can have the students in relation to organisation of the subject
Lecturing	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.
Laboratory practical	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the practical contents of collective or/individual way of face-to-face way or through the remote campus
Tests	Description
Essay	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the work.

**Assessment**

	Description	Qualification	Training and Learning Results		
Portfolio / dossier	(*)O alumnado terá que elaborar un cartafol das sesións prácticas	20	B2	C10 C12	D3
Systematic observation	(*)O alumnado será avaliado nas actividades que se propoñan nas sesións prácticas e teóricas	40	A2	B1 C9 C10 C11 C12 C13	D7 D8
Essay	(*)O alumnado realizará o traballo proposto polo docente	40	A2 A3	B2 C9 C10 C11 C13	D3 D7

**Other comments on the Evaluation**

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be: 60% the work and 40% exam of objective questions.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

## **2nd chance**

The students can examine 100% of the subject on this occasion, through 60% the work and 40% objective questions exam.

To pass the subject, both evaluation tests must be passed independently

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given

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## **Sources of information**

### **Basic Bibliography**

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## **Recommendations**

IDENTIFYING DATA				
(*)Exercicio terapéutico no tratamento de patoloxías no sistema endocrino e respiratorio				
Subject	(*)Exercicio terapéutico no tratamento de patoloxías no sistema endocrino e respiratorio			
Code	P05M191V01106			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Lantarón Caeiro, Eva María			
Lecturers	Lantarón Caeiro, Eva María			
E-mail	evalantaron@uvigo.es			
Web				
General description	Among the distinct forms of intervention in endocrine and respiratory pathologies stands out the implementation of programs of therapeutic exercise. In this subject will know in depth the peculiarities that underling in each one of these illnesses with the end that the practice of the exercise be safe and effective according to the needs of each person.			

### 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.
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.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
C9	Understand the complexity of the effects of therapeutic exercise at the cardiovascular, respiratory, endocrine, neurological and skeletal muscle levels in different population groups.
C10	Design and apply therapeutic exercise programs in the prevention and treatment of pathologies or musculoskeletal, cardiovascular, respiratory, endocrine, neurodegenerative diseases, in urogynecological and obstetric dysfunctions, and oncological processes.
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.
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.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D7	Develop leadership and organization skills.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Know fundamental appearances related with the therapeutic exercise in the pathologies of the endocrine system.	C9
Know fundamental appearances related with the therapeutic exercise in the respiratory pathologies.	C9



Know design programs of therapeutic exercise in the different endocrine pathologies.	A2 B1 C4 C6 C9 C10 C12 D6
Know design programs of therapeutic exercise in the different respiratory pathologies.	A2 B1 C4 C6 C9 C10 C12 D6
Adapt the exercises to the person and/or pathology.	A2 B1 B2 C4 C6 C9 C10 D1 D6 D7 D8

## Contents

Topic	
Metabolic alterations.	Diabetes, dyslipidemia, and obesity. Exercise prescription. Sarcopenia associated with chronic respiratory pathology.
Therapeutic exercise in patients with metabolic alterations.	Incremental exercise tests. Field tests Incremental: Shuttle Test; 6MWT; ISWT; Sit to stand; Chester test; dynamometry.
Pathophysiology modifications of the respiratory system.	Peripheral and respiratory muscle dysfunction in a critically ill patient. Peripheral and respiratory muscle dysfunction in a chronic patient.
Assessment of the respiratory function	Interpretation of respiratory function tests: Spirometry, Volumes, Diffusion. Spirometry practice. Resolution of cases. Interpretation of arterial and venous gasometry. Ultrasound in the evaluation of the respiratory patient. Diaphragmatic ultrasound.
Therapeutic exercise in prevention and treatment respiratory pathology	Principles of training in chronic respiratory patients. Aerobic exercise prescription. Peripheral muscle strength exercise prescription. Respiratory muscle strength exercise prescription

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	12	24	36
Laboratory practical	10	10	20
Mentored work	0	9	9
Essay	0	8	8
Presentation	1	0	1
Systematic observation	1	0	1

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

## Methodologies

	Description
Lecturing	Exhibition of the contents by the lecturer. Theoretical classes-participatory where boost the active participation of the students
Laboratory practical	Demonstration by the lecturer of contents (technical, exercises, etc) that the students will make by couples with the supervision of the lecturer.
Mentored work	Activity directed to the design of programs of therapeutic exercise in patients with pathologies in the endocrine or respiratory system

Personalized assistance	
Methodologies	Description
Lecturing	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.
Laboratory practical	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.
Mentored work	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.

Assessment						
	Description	Qualification	Training and Learning Results			
Essay	The work will develop mainly during the practical classes	40	A2	B1 B2	C4 C6 C9 C10 C12	D1 D6 D7 D8
Presentation	It will make a presentation of the work/ program made.	20	A2	B1 B2	C4 C6 C9 C10 C12	D1 D6 D7 D8
Systematic observation	During the practices will carry out a systematic observation to evaluate the aptitude, attitude, skills and knowledges.	40	A2	B1 B2	C4 C6 C9 C10 C12	D1 D6 D7 D8

### Other comments on the Evaluation

Students may request the waiver of the continuous evaluation by informing the coordinator of the subject within the established period.

If so, the evaluation will be 100% the resolution of a clinical case that will consist of the description of the evaluation to a patient and the development of a therapeutic exercise program for a pathology.

In order to pass the subject in continuous evaluation mode, the student must have passed all the evaluation sections independently and have attended 80% of the

evaluation and have attended 80% of the practical classes. Failure to attend the practical classes means the loss of the continuous evaluation.

### 2nd opportunity

The student will be able to take the exam for 100% the resolution of a clinical case that will consist of the description of the evaluation to a patient and the development of a therapeutic exercise program for a pathology.

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 (failure). In case of having lower grades, the grade obtained will be given as a failing grade.

### Sources of information

#### Basic Bibliography

Gary Liguori; American College of Sports Medicine, **ACSM's Guidelines for Exercise Testing and Prescription**, Wolters Kluwer, 2021

Klaus Peter Valerius, Astrik Frank, Bernard C. et al, **For The 2018 Physical Activity Guidelines Advisory Committee\* Physical Activity and the Prevention of Weight Gain in Adults: A Systematic Review**, Medicine & Science in Sports & Exercise, 2019

Antonio Pelliccia, et al, **For The 2018 Physical Activity Guidelines Advisory Committee\* Physical Activity and the Prevention of Weight Gain in Adults: A Systematic Review**, European Heart Journal, 2021

#### Complementary Bibliography

American Diabetes Association Professional Practice Committee. 10., **Cardiovascular disease and risk management: Standards of Medical Care in Diabetes** 2022, Diabetes Care, 2022

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Blackstock FC, et al, **An Official American Thoracic Society/Thoracic Society of Australia and New Zealand/Canadian Thoracic Society/British Thoracic Society Workshop Report.**, Ann Am Thorac Soc., 2018

American Thoracic Society; American College of Chest Physicians., **ATS/ACCP Statement on cardiopulmonary exercise testing.**, Am J Respir Crit Care Med., 2003

Spruit MA, et al, **ATS/ERS Task Force on Pulmonary Rehabilitation. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation.**, Am J Respir Crit Care Med., 2014

Radtke T, et al, **ERS statement on standardisation of cardiopulmonary exercise testing in chronic lung diseases.**, Eur Respir J., 2019

Vogiatzis I, et al, **Effect of pulmonary rehabilitation on peripheral muscle fiber remodeling in patients with COPD in GOLD stages II to IV.**, chest, 2011

Levine S, et al, **COPD elicits remodeling of the diaphragm and vastus lateralis muscles in humans.**, J Appl Physiol, 2012

Caron MA, et al, **Comparative assessment of the quadriceps and the diaphragm in patients with COPD.**, J Appl Physiol, 2009

## Recommendations

### Subjects that are recommended to be taken simultaneously

(\*)Fundamentos do exercício terapêutico e desenho de programas/P05M191V01102

### Subjects that it is recommended to have taken before

(\*)Bases anatomofuncionais no exercício terapêutico/P05M191V01101

IDENTIFYING DATA				
(*)Exercicio terapéutico no tratamento de enfermidades neurodexenerativas e na diversidade funcional				
Subject	(*)Exercicio terapéutico no tratamento de enfermidades neurodexenerativas e na diversidade funcional			
Code	P05M191V01107			
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	Monge Pereira, Esther			
Lecturers	González González, Yoana Monge Pereira, Esther			
E-mail	esther.monge@uvigo.es			
Web				
General description	<p>This subject is focused to the learning of the theoretical knowledges-practical that owes to have a *fisioterapeuta specialized in *implementar programs of therapeutic exercise in people that suffer the consequences of a dysfunction of the system *neuromusculosquelético.</p> <p>They Will board the profits of the suitable practice of therapeutic exercise in those patients with dysfunctions *neuromusculosqueléticas, since so that *ésta *sea beneficial, owes to be adjusted to the capacities of the person, *respetando his limitations and favouring his functionality.</p> <p>Stop this, the students will purchase the training and the knowledge that allow them value the state of the patient and allow them propose the exercise adjusted to the his functional level, taking into account those practices of exercise that can be counterproductive. *Ademáis, they will purchase competitions to guide the practice of therapeutic exercise.</p>			

### 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.
C10	Design and apply therapeutic exercise programs in the prevention and treatment of pathologies or musculoskeletal, cardiovascular, respiratory, endocrine, neurodegenerative diseases, in urogynecological and obstetric dysfunctions, and oncological processes.
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.
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
New	A3 C11 C12

**Contents**

Topic	
(*)Valoración funcional.	(*)Coñecer a importancia clínica da avaliación funcional do paciente con trastornos neuromusculares.
(*)Medición estandarizada das capacidades funcionais.	(*)Utilizar a avaliación funcional como unha ferramenta útil para adecuar o exercicio terapéutico ao estado funcional do paciente. Utilizar a avaliación funcional para analizar a evolución do paciente que practica exercicio terapéutico.
(*)Consideracións de problemáticas específicas de cada enfermidade neurodegenerativa.	(*)Consideracións a ter en conta ao implementar programas de exercicio terapéutico tras ictus, traumatismos craneoencefálicos, lesións medulares, etc.
(*) Desenvolvemento de programas específicos de exercicio terapéutico segundo trastornos específicos.	(*)Deseño e aplicación de programas específicos de exercicio terapéutico segundo o obxectivo terapéutico exposto.

**Planning**

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	6	12	18
Laboratory practical	15	24	39
Presentation	1	2	3
Essay	1	7	8
Portfolio / dossier	1	4	5
Systematic observation	1	0	1

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

**Methodologies**

	Description
Introductory activities	The guidelines of the methodologies that the students must develop during the realisation of the subject will be indicated.
Lecturing	Participatory theoretical classes using case studies and previous study.
Laboratory practical	Demonstration by part of the lecturers of the contents and student participation solving the proposed case study exercises.
Presentation	The students present the work of the subject.

**Personalized assistance**

Tests	Description
Essay	The work will be monitored and the students will be informed of the criteria that will be taken into account for the evaluation.
Portfolio / dossier	Answers will be given to the queries made by the students about their dossier and the criteria that will be taken into account for the evaluation will be announced.
Systematic observation	The handling of the students with the practical contents will be supervised in the classroom, responding to their queries.

**Assessment**

	Description	Qualification	Training and Learning Results	
Essay	The presentation and defense of the work will be evaluated.	40	A2 A3	D1 D5 D6 D8

Portfolio / dossier	The presentation and defense of the dossier will be evaluated.	40	C10 C11 C12	D1 D5 D6 D8
Systematic observation	The handling of the students with the practical contents will be evaluated in the classroom.	20	C10 C11 C12	

### Other comments on the Evaluation

**The work and the postfolio may be delivered up to one week after the end of the course.**

#### **Ordinary call:**

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be: a job for 40% of the grade and an exam of the practical content that will account for the remaining 60%. To pass the subject, both parties must have passed independently.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. Then non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

#### **2nd chance:**

Students can take the 100% exam in the 2nd call in the same way as if they renounce continuous assessment.

To pass the subject, students must independently pass the theoretical and practical exam.

**\*In any of the calls, if the student obtains a numerical grade greater than 5, but does not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given.**

### Sources of information

#### **Basic Bibliography**

Marta Bisbe Gutiérrez, Carmen Santoyo Medina, Vicenç Tomàs Segarra i Vidal., **Fisioterapia en Neurología: Procedimientos para restablecer la capacidad funcional.**, Medica Panamericana, 2012

Rodríguez, M<sup>a</sup> & Cano de la Cuerda, Roberto & Collado-Vázquez, Susana & Casas, Patricia, **Apps en neurorrehabilitación**, Dykinson, 2016

Kisner y Colby, **Ejercicio Terapéutico: Fundamentos y técnicas**, Editorial Medica Panamericana, 2010

de Maria Stokes, Emma Stack, **Fisioterapia En La Rehabilitación Neurológica**, 3<sup>a</sup> Edición, Elsevier, 2013

ANNE SHUMWAY-COOK, **CONTROL MOTOR DE LA INVESTIGACION A LA PRACTICA CLINICA: De la investigación a la práctica clínica**, LIPPINCOTT WILLIAMS & WILKINS, 2019

Marta Bisbe Gutiérrez, Carmen Santoyo Medina, **Fisioterapia en neurología: Procedimientos para restablecer la capacidad funcional**, Médica Panamericana, 2021

#### **Complementary Bibliography**

Roberto Cano de la Cuerda, Rosa M<sup>a</sup> Martínez Piédrola, Juan Carlos Miangolarra Page, **Control y Aprendizaje Motor**, Medica Panamericana, 2015

Roberto Cano de la Cuerda, Susana Collado Vázquez., **Neurorrehabilitación: Métodos específicos de valoración y tratamiento**, Medica Panamericana, 2012

Paeth Rohfs, Bettina, **Experiencias con el concepto Bobath**, Editorial Medica Panamericana, 2012

Duane E. Haines, Gregory A. Mihailoff, **Principios de neurociencia - 5<sup>a</sup> edición: Aplicaciones básicas y clínicas**, Elsevier, 2019

### Recommendations

<b>IDENTIFYING DATA</b>				
<b>(*)Exercicio terapéutico en persoas maiores</b>				
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, Irinia Rodríguez Fuentes, Gustavo			
E-mail	irismacoli@uvigo.es			
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.			

<b>Training and Learning Results</b>	
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.

<b>Expected results from this subject</b>	
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	Students must write a portfolio in which they describe one of the tools for measuring the functional capacity of the elderly, providing at least three bibliographic evidences (publications) of its use in elderly people and a final commentary in which they present the strengths of the tool and its limitations, with reference to its application or the results it generates. The instructions about the elaboration and deadlines for the delivery of this Portfolio will be published in the Moovi teaching platform in the specific space of the subject.	30 A3 B1 C12 D1 B3 D5 D8
Essay	The students in groups of 4-5 students should choose a prevalent pathology among the elderly and carry out a search of at least 3 clinical studies that use some form of therapeutic exercise in that pathology. They will deliver a PPT file with associated audio in which the results of the selected studies and their main characteristics will be presented graphically, as well as a summary of the conclusions of the analysis.	40 A2 B1 C11 D1 A3 B2 C14 D5 B3 D6 D8
Case studies	In groups of 2-3 students and following an example of a clinical case developed in the classroom sessions, the students must present a different proposal for a functional capacity evaluation strategy or a differentiated proposal for a therapeutic exercise protocol aimed at reducing or slowing down the functional limitations presented by the patient. More detailed guidelines for the development of the case and the form of delivery will be published on the Moovi teaching platform in the specific area of the subject.	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 exercício terapêutico/P05M191V01101

(\*)Exercício terapêutico no tratamento de enfermidades neurodegenerativas e na diversidade funcional/P05M191V01107

(\*)Fundamentos do exercício terapêutico e design de programas/P05M191V01102



IDENTIFYING DATA				
(*)Exercicio terapéutico en pacientes oncológicos e/ou sobreviventes de cancro				
Subject	(*)Exercicio terapéutico en pacientes oncológicos e/ou sobreviventes de cancro			
Code	P05M191V01201			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Abalo Núñez, María del Rocío			
Lecturers	Abalo Núñez, María del Rocío Gómez Nicolás, Marta			
E-mail	rocioabalo@uvigo.es			
Web				
General description	Subject oriented to the therapeutic exercise in patients oncological or patients that surpassed the illness.			

### 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.
A4	That the students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
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.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
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.
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.
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
Be able to value the functional capacity of a patient with process oncological that goes to receive treatment based in therapeutic exercise.	A2 B3 C12 D1 D8

**Contents**

## Topic

Physiotherapy in the processes oncological	Classification of the cancer Treatment of the cancer New approach in physiotherapy
Therapeutic exercise in the patient oncological	Functional assessment Design of programs of therapeutic exercise
Indications of the exercise in processes oncological	-
Contraindications of the exercise in processes oncological	-

**Planning**

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	10	24	34
Laboratory practical	10	11	21
Mentored work	1	14	15
Systematic observation	2	0	2
Case studies	1	0	1
Simulation or Role Playing	1	0	1

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

**Methodologies**

	Description
Introductory activities	Activity directed the presentation of the matter as well as gather information of the students
Lecturing	Exhibition of the contents by part of the/the educational. Theoretical classes-participatory where boost the active participation of the students by means of debates and studies of case.
Laboratory practical	Demonstration by part of the teacher of the technicians that the students will make by couples with the supervision of the/the educational.
Mentored work	Realisation work based in clinical cases that will propose the educational

**Personalized assistance**

Methodologies	Description
Introductory activities	The personalised attention will be centred in the resolution of doubts that can have the students in relation to organisation of the subject
Lecturing	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.
Laboratory practical	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the practical contents of collective or/individual way of face-to-face way or through the remote campus
Mentored work	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the work through tutorship face-to-face, email and/or remote campus.

**Assessment**

	Description	Qualification	Training and Learning Results			
Systematic observation	The students will be valued during the session by his participation in the activities of the theoretical and practical classes	20	A4	B3	C6 C12	D1 D6
Case studies	The students will have to give solution to the cases that propose him the *profesorado	40	A2 A4	B1 B2	C4 C11 C12	D1 D6 D8

Simulation or Role Playing	The students will have to carry out a session to a patient *oncológico or *superviviente of cancer	40	A4	B3	C4 C6 C11 C12	D6
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### Other comments on the Evaluation

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be: 50% resolution of clinical cases and 50% examination of objective questions.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

### Evaluation of 2nd opportunity:

The students can take a 100% exam on the subject: 50% resolution of clinical cases and 50% examination of objective questions.

To pass the subject, both evaluation tests must be passed independently.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given

### Sources of information

#### Basic Bibliography

Stubblefield, M, **Cancer Rehabilitation: Principles and Practice**, 2, Springer Publishing, 2018

Schmitz, K, **Exercise Oncology: Prescribing Physical Activity Before and After a Cancer Diagnosis**, 1, Springer-Verlag, 2020

#### Complementary Bibliography

Schmitz KH, Courneya KS, Matthews C, Demark-Wahnefried W, Galvão DA, Pinto BM et al., **American College of Sports Medicine roundtable on exercise guidelines for cancer survivors**, Med Sci Sports Exerc, 2010

Chamorro-Viña C, Ruiz JR, Santana-Sosa E, González Vicent M, Madero L, Pérez M et al., **Exercise during hematopoietic stem cell transplant hospitalization in children**, Med Sci Sports Exerc, 2010

Cheema B, Gaul CA, Lane K, Fiatarone Singh MA, **rogressive resistance training in breast cancer: a systematic review of clinical trials**, Breast Cancer Res Treat, 2008

Courneya KS, Mackey JR, Jones LW., **Coping with cancer: can exercise help?**, 2000

McNeely M, Campbell K, Ospina M, Rowe B, Dabbs K, Klassen T, Mackey J, Courneya K, **Intervenciones con ejercicios para los trastornos funcionales del miembro superior después de la cirugía de cáncer de mama**, Cochrane Database of Systematic Reviews, 2010

Meneses-Echávez, JF; et al, **Efectividad del ejercicio físico en la fatiga de pacientes con cáncer durante el tratamiento activo: revisión sistemática y metaanálisis.**, Cadernos de Saúde Pública, 2015

Schmitz KH, Ahmed RL, Troxel AB, Cheville A, Lewis-Grant L, Smith R et al, **Weight lifting for women at risk for breast cancer-related lymphedema: a randomized trial**, JAMA, 2010

Paramanandam VS, Roberts D, **Weight training is not harmful for women with breast cancer-related lymphoedema: a systematic review**, J Physiother, 2014

Kushi LH, Doyle C, McCullough M, Rock CL, Demark-Wahnefried W, Bandera EV et al., **American Cancer Society Guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity**, CA Cancer J Clin, 2012

Knols R, Aaronson NK, Uebelhart D, Fransen J, Aufdemkampe G, **Physical exercise in cancer patients during and after medical treatment: a systematic review of randomized and controlled clinical trials**, J Clin Oncol, 2005

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Galvão DA, Newton RU, **Review of exercise intervention studies in cancer patients**, J Clin Oncol, 2005

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## **Recommendations**

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<b>IDENTIFYING DATA</b>				
<b>(*)Exercicio terapéutico en procesos e patoloxías obstétricas e uroxincolóxicas</b>				
Subject	(*)Exercicio terapéutico en procesos e patoloxías obstétricas e uroxincolóxicas			
Code	P05M191V01202			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Soto González, María Mercedes			
Lecturers	da Cuña Carrera, Iria Soto González, María Mercedes			
E-mail	m.soto@uvigo.es			
Web				
General description	It is a compulsory matter of the second semester. It pretends that the students purchase the necessary knowledges for the design and application of programs of therapeutic exercise in the distinct processes and pathologies obstetrics and urogynecology.			

### 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.
C10	Design and apply therapeutic exercise programs in the prevention and treatment of pathologies or musculoskeletal, cardiovascular, respiratory, endocrine, neurodegenerative diseases, in urogynecological and obstetric dysfunctions, and oncological processes.
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.
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.
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
Identify the dysfunctions urogynecology more frequent in the man and in the woman	A3 D1 D8
Know the physiological changes that become in the woman in the pregnancy and in the postpartum	A2 A3 D1 D8
Design and apply programs of therapeutic exercise in obstetrics	A2 A3 B1 C10 C11 C12 D6 D8



Design and apply programs of therapeutic exercise in urinary dysfunctions and defecation	A2 A3 B1 C10 C11 C12 D6 D8
Design and apply programs of therapeutic exercise in sexual dysfunctions	A2 A3 B1 C10 C11 C12 D6 D8

## Contents

### Topic

\*Anatomo-\*fisiología Of the woman and of the man -

\*Ejercicio Therapeutic for the prevention and treatment of dysfunctions \*obstétricas and \*uroginecológicas -

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	6.5	23	29.5
Laboratory practical	15.5	19	34.5
Mentored work	0	9	9
Essay	1	0	1
Systematic observation	0.5	0	0.5
Objective questions exam	0.5	0	0.5

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

## Methodologies

	Description
Lecturing	In the masterclasses will carry out introductory activities, resolution of problems and studies of cases
Laboratory practical	In the practical classes will carry out resolution of problems and studies of cases
Mentored work	The students will have to make a work on the contents of the subject

## Personalized assistance

Methodologies	Description
Lecturing	The students will be able to request tutorship by email, by remote or face-to-face campus
Laboratory practical	The students will be able to request tutorship by email, by remote or face-to-face campus
Mentored work	The students will be able to request tutorship by email, by remote or face-to-face campus

## Assessment

	Description	Qualification	Training and Learning Results			
Essay	Will carry out a work in group that will consist in the reading and analysis of scientific articles	40	A3	B1		
Systematic observation	During the realisation of the practices will effect a systematic observation that value the attitude, aptitude and development of the practices	40	A2 A3	B1	C10 C11 C12	D6 D8
Objective questions exam	Will carry out one tests type test	20	A2 A3	B1	C10 C11 C12	D1 D6 D8

## Other comments on the Evaluation

In order to pass the subject, it is mandatory to attend 80% of the classes in person.

If students want to waive continuous assessment, they can request it within the corresponding period, informing the subject coordinator. The overall assessment will consist of an objective tests exam (50%) and the performance of a laboratory practice exam (50%) To pass the subject, the theoretical and practical exams must be passed independently.

If you do not pass any of the parts of the exam, the part passed within the same academic year will be kept.

## 2nd chance

The assessment in the second opportunity will consist of an objective tests exam (50%) and the completion of a laboratory practice exam (50%). To pass the subject, the theoretical and practical exam must be passed independently.

In any of the calls, if the student obtains a numerical rating higher than 5, but does not meet the requirements established to pass the subject, he will have a rating of 4.5 (failure).

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### Sources of information

#### Basic Bibliography

Bo K, Berghmans B, Morkved S, Van Kampen M., **Evidence-based physical therapy for the pelvic floor**, 2ª, Bridging Science and clinical practice, 2014

Ramirez I, Blanco L, Kauffmann S., **Rehabilitación del suelo pélvico femenino. Practica clínica basada en la evidencia**, 1ª, Médica Panamericana, 2013

Broseta Rico E, Budía Alba A, burgués Gasión JP, Luján Marco S., **Urología práctica**, 5ª, Elsevier, 2020

Castillo Montes FJ., **Fisioterapia obstétrica y uroginecológica**, 1ª, Formación Alcalá, 2018

Castillo Montes FJ., **Fisioterapia obstétrica y uroginecológica**, 1ª, Formación Alcalá, 2018

Torres M, Meldaña A, **Fisioterapia del suelo pélvico**, Panamericana, 2022

#### Complementary Bibliography

Soto M, Da Cuña I, Gutiérrez M, López S., Ojea A, Lantarón E., **arly 3-month treatment with comprehensive physical therapy program restores continence in urinary incontinence patients after radical prostatectomy: A randomized controlled trial**, Neurourol Urodyn ., 2020

Soto-González M, Da Cuña-Carrera I, Gutiérrez-Nieto M, Lantarón-Caeiro EM., **Assessment of male urinary incontinence postprostatectomy through the Consultation on Incontinence Questionnaire-Short Form**, Prog Urol, 2020

Soto-González M, Da Cuña-Carrera I, Gutiérrez-Nieto M, Lantarón-Caeiro EM., **Assessment of male urinary incontinence postprostatectomy through the Consultation on Incontinence Questionnaire-Short Form.**, Prog Urol, 2020

Cabero i Roura L, Saldívar Rodríguez D, Fajardo Dueñas S., **Manual de obstetricia y ginecología**, Ergon, 2016

Alcázar, J, **Ecografía en Reproducción, Endometriosis, Dolor Pélvico y Suelo Pélvico**, Panamericana, 2022

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### Recommendations

#### Subjects that are recommended to be taken simultaneously

(\*)Ejercicio terapéutico no tratamiento de alteraciones abdomino-lumbo-pelvianas/P05M191V01205

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<b>IDENTIFYING DATA</b>				
<b>(*)Pilates terapéutico</b>				
Subject	(*)Pilates terapéutico			
Code	P05M191V01203			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Rodríguez Fuentes, Gustavo			
Lecturers	Rodríguez Fuentes, Gustavo			
E-mail	gfuentes@uvigo.es			
Web	<a href="http://gfuentes.webs.uvigo.es/index.htm">http://gfuentes.webs.uvigo.es/index.htm</a>			
General description	In this subject will deepen in the application of the method Pilates with therapeutic ends in different groups, pathologies and illnesses, as well as in the prevention of the illness and the promotion of the health. This deepening will do in base to the current scientific evidence and will cover so much the assessment like the design of programs of prevention and treatment based in the method of Pilates.			

<b>Training and Learning Results</b>	
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.
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.
C15	Design and apply therapeutic exercise programs based on the Pilates method, adapting them to the clinical and health characteristics of the patients.
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.
D2	Ability to communicate orally and in writing in the Galician language.
D5	Recognition of diversity and multiculturalism.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D8	Maintain an attitude of learning and improvement.

<b>Expected results from this subject</b>	
Expected results from this subject	Training and Learning Results
Know the basic principles that allow to use the method Pilates like therapeutic tool	A2 D1 D5 D8
Be able to value the posture and the mobility of a patient that goes to receive treatment based in the method Pilates	A2 A3 B2 B3 C12 D1 D2 D5 D8

Design and apply programs of Pilates therapeutic in different pathologies and clinical situations of health	A2
	A3
	B2
	B3
	C11
	C15
	D1
	D2
	D5
	D6
	D8

## Contents

### Topic

Foundation based in the evidence of the Pilates therapeutic.

Assessment of the mobility and of the relation between tone and posture of a patient participant in a program of Pilates therapeutic.

Basic concepts for the design of programs of prevention and treatment based in the application of the method Pilates.

Programs of prevention and treatment based in the application of the method Pilates.

Guidelines of security and reduction of risks in the practice of the method \*Pilates.

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	5	8	13
Laboratory practical	16	16	32
Case studies	3	6	9
Mentored work	0	12	12
Problem and/or exercise solving	0	2	2
Case studies	0	3	3
Report of practices, practicum and external practices	0	4	4

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

## Methodologies

	Description
Lecturing	Theoretical classes-participatory where will boost the active participation of the students and that will enter and will facilitate so much the studies of case like the work of the subject and the practices. Employment of generic form of audiovisual means. It will give information through the Moovi platform.
Laboratory practical	In the practices will follow a demonstrative methodology with an analysis reasoned of the exercises that compose the program of prevention and/or treatment based in the method Pilates. It will give information through the Moovi platform.
Case studies	It will present to the students a real clinical situation to which have to give a solution in base to the use of the method Pilates. It will be elaborated in small group.
Mentored work	The works will involve a paper entirely activate by part of the students. It will comport to give solution to a problem and/or resolve exercise posed by the educational basing in the method Pilates (elaborated in small group). Besides, it will comprise the realisation of a report of practices where have to describe the tasks developed and give justification to the open questions posed in the same (elaborated of individual form). It will give information through the Moovi platform. The lecturer will guide and support in the process of preparation of the work in each group.

## Personalized assistance

Methodologies	Description
Lecturing	The personalised attention will be centred in the solution of students doubts and to orient his efforts in the matter. This personalised attention will do so much face-to-face, in the schedule of tutorship official, as through post-and (indicating in subject tutorship).
Laboratory practical	The personalised attention will be centred in the solution of students doubts and to clear the questions tied to the report of practices to present.

Case studies	The personalised attention will be centred in the solution of students doubts in the realisation of the distinct cases proposed and in the evidences to present.
Mentored work	The personalised attention, basically, will be centred in solving doubts, in orienting the work to make in the subject and to carry register and value the done by the students.

## Assessment

Description	Qualification	Training and Learning Results
Problem and/or exercise solving certain pathology (or syndrome or symptomatology), population or age group using the Pilates method (with an indication of the Pilates program applied) and reflectively analyzing the adequacy of said proposal. The indications and delivery times will be published on the Moovi tele-teaching platform	20	A2 B2 C11 D1 A3 B3 C12 D2 C15 D5 D6 D8
Case studies	40	A2 B2 C11 D1 A3 B3 C12 D2 C15 D5 D6 D8
Report of practices, practicum and external practices	40	A2 B2 C11 D1 A3 B3 C12 D2 C15 D5 D6 D8

## Other comments on the Evaluation

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

Both in this case and in the case that the student body is evaluated in the second chance call, the evaluation will consist of:

- 50% solving problems and/or exercises, as detailed in the continuous assessment.
- 50% an exam of objective questions.

To pass the subject, students must have independently passed all the sections of the evaluation and have attended 80% of the practical classes.

Non-attendance to practices will result in waiving continuous assessment.

Students who have one of the approved parts will keep that part for the next call within the same academic year.

In any of the calls, if students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will obtain a grade of 4.5 (failed). In case of having lower grades, the grade obtained will be given.

## Sources of information

### Basic Bibliography

Calvo JB., **Pilates terapéutico. Para la rehabilitación del aparato locomotor**, Médica Panamericana, 2012

Isacowitz R., **Pilates: manual completo del método Pilates**, 2ª, Paidotribo, 2016

Wood S., **Pilates para la rehabilitación: Recuperar lesiones y optimizar la estabilidad, la movilidad y la funcionalidad**, Tutor, 2019

### Complementary Bibliography

Aaronson N, Turo AM., **Pilates para la recuperación del cáncer de mama**, Tutor, 2016

Adamany K, Loigerot D., **Pilates: una guía para la mejora del rendimiento**, Paidotribo, 2006

Calais-Germain B, Raison B., **Pilates sin riesgo: 8 riesgos del Pilates y cómo evitarlos**, La Liebre de Marzo, 2011

Calvo JB., **Método Pilates durante el embarazo, el parto y el posparto: una guía metodológica**, Médica Panamericana, 2019

Geweniger V, Bohlander A., **Manual de pilates: ejercicios con colchoneta y aparatos como forma de prevención y rehabilitación**, Paidotribo, 2016

Humanes Balmont R., **Pilates basado en evidencias científicas**, Vivelibro, 2014

Kaplanek BA, Levine B, Jaffe WL., **Pilates y rehabilitación para síndromes y artroplastias**, Paidotribo, 2014

Liguori G., **Manual ACSM para la valoración y prescripción del ejercicio**, 4ª, Wolters Kluwer, 2021

Pedregal Canga M., **Pilates para la tercera edad**, Paidotribo, 2021

Richardson C, Hodges P, Hides J., **Therapeutic exercise for lumbopelvic stabilization. A motor control approach for the treatment and prevention of low back pain**, 2ª, Churchill Livingstone, 2004

- Richey B., **Back exercise: stabilize, mobilize, and reduce pain**, Human Kinetics, 2021
- Wells et al., **Effectiveness of Pilates exercise in treating people with chronic low back pain: a systematic review of systematic reviews**, 2013
- Byrnes et al., **Is Pilates an effective rehabilitation tool? A systematic review**, 2018
- Casonatto J, Yamacita CM., **Pilates exercise and postural balance in older adults: A systematic review and meta-analysis of randomized controlled trials**, 2020
- da Silva et al., **Pilates Reducing Falls Risk Factors in Healthy Older Adults: A Systematic Review and Meta-Analysis**, 2021
- Denham-Jones et al., **A systematic review of the effectiveness of Pilates on pain, disability, physical function, and quality of life in older adults with chronic musculoskeletal conditions**, 2022
- Domingues et al., **Effects of the pilates method on kinesiophobia associated with chronic non-specific low back pain: Systematic review and meta-analysis**, 2020
- Engers et al., **The effects of the Pilates method in the elderly: a systematic review**, 2016
- Gou et al., **The effect of Pilates exercise training for scoliosis on improving spinal deformity and quality of life: Meta-analysis of randomized controlled trials**, 2021
- Hornsby E, Johnston LM., **Effect of Pilates Intervention on Physical Function of Children and Youth: A Systematic Review**, 2020
- Kamioka et al., **Effectiveness of Pilates exercise: A quality evaluation and summary of systematic reviews based on randomized controlled trials**, 2016
- Meikis et al., **Effects of Pilates Training on Physiological and Psychological Health Parameters in Healthy Older Adults and in Older Adults With Clinical Conditions Over 55 Years: A Meta-Analytical Review**, 2021
- Miranda S, Marques A., **Pilates in noncommunicable diseases: A systematic review of its effects**, 2018
- Pinto-Carral et al., **Pilates for women with breast cancer: A systematic review and meta-analysis**, 2018
- Rodríguez-Fuentes et al., **Therapeutic Effects of the Pilates Method in Patients with Multiple Sclerosis: A Systematic Review**, 2022
- Suárez-Iglesias et al., **Benefits of Pilates in Parkinson's Disease: A Systematic Review and Meta-Analysis**, 2019
- Wang et al., **Pilates for Overweight or Obesity: A Meta-Analysis**, 2021
- Yamato et al., **Pilates for low back pain**, 2015

## **Recommendations**

### **Subjects that continue the syllabus**

(\*)Prácticas externas/P05M191V01207

### **Subjects that it is recommended to have taken before**

(\*)Bases anatomofuncionais no exercicio terapéutico/P05M191V01101

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

(\*)Exercicio terapéutico no tratamento de patoloxía musculoesquelética e recuperación do deportista/P05M191V01105

(\*)Exercicio terapéutico en persoas maiores/P05M191V01108

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

(\*)Metodoloxía da investigación/P05M191V01103

IDENTIFYING DATA				
(*)Exercicio terapéutico en medio acuático				
Subject	(*)Exercicio terapéutico en medio acuático			
Code	P05M191V01204			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Abalo Núñez, María del Rocío			
Lecturers	Abalo Núñez, María del Rocío			
E-mail	rocioabalo@uvigo.es			
Web				
General description	Optative subject of 3 credits that pretends to teach wools possibilities of him therapeutic exercise in him water			

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.
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.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
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.
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.
D3	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D7	Develop leadership and organization skills.
D8	Maintain an attitude of learning and improvement.

Expected results from this subject	
Expected results from this subject	Training and Learning Results
Know fundamental appearances related with the therapeutic exercise in half aquatic.	B2 C4 D3 D6
Know design programs of therapeutic exercise in half aquatic.	B1 C4 C11 C12 D1 D6 D7 D8

Adapt the exercises to the person and/or pathology.

A2  
C6  
C11  
D1  
D3  
D7  
D8

## Contents

### Topic

General appearances of in half aquatic and his installations for the practice of therapeutic exercise

Characteristic hydrodynamic principles of wool functional recovery in the Material water and \*implementos of flotation

basic Norms of security

Different technical of therapeutic exercise in half aquatic

Therapeutic exercise in deep swimming pool.

Therapeutic exercise in swimming pool little deep.

Design of sessions of aquatic therapeutic exercise oriented the different pathologies

Aquatic therapeutic exercise in the upper quadrant

aquatic therapeutic Exercise in the inferior quadrant

Design of aquatic therapeutic exercise according to the populational group

Aquatic therapeutic exercise in the sporty

therapeutic Exercise aquatic in boys and girls

aquatic Exercise in greater people

aquatic Exercise in pregnant women

## Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	7	35	42
Practicum, External practices and clinical practices	10	16	26
Systematic observation	1	0	1
Case studies	4	0	4
Simulation or Role Playing	1	0	1

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

## Methodologies

	Description
Introductory activities	Activity directed the presentation of the matter as well as gather information of the students
Lecturing	Exhibition of the contents by part of the/the educational. Theoretical classes-participatory where boost the active participation of the students employing half audiovisual.
Practicum, External practices and clinical practices	Demonstration by the teaching staff of the techniques that the students will carry out in pairs with the supervision of the lecturer. Proposal of clinical cases in which, following the guidelines of collaborative learning, the plot is reached by applying the therapeutic exercise. Also activities based on problem solving. The students will make a portfolio/dossier of the practices

## Personalized assistance

Methodologies	Description
Introductory activities	The personalised attention will be centred in the resolution of doubts that can have the students in relation to organisation of the subject.
Lecturing	The personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus
Practicum, External practices and clinical practices	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the practical contents of collective or/individual way of face-to-face way or through the remote campus



Assessment						
	Description	Qualification	Training and Learning Results			
Systematic observation	(*)O alumnado será avaliado durante as sesións prácticas	40	A2	B1	C4 C6 C11 C12	D1 D3 D6 D7
Case studies	(*)O alumnado revolverá as actividades propostas polo profesorado	40	A2	B2	C4 C6 C11 C12	D1 D8
Simulation or Role Playing	(*)El alumnado tendrá que llevar a cabo una sesión de ejercicio terapéutico en agua	20	A2	B1 B2	C6 C11	D1 D3 D6 D7 D8

### Other comments on the Evaluation

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, the evaluation will be: 50% resolution of clinical cases 50% an examination of objective questions.

To pass the subject, students must have independently passed all the evaluation sections and have attended 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

### Evaluation of 2nd opportunity:

The students can be examined 100% of the subject: 50% resolution of clinical cases 50% an exam of objective questions.

To pass the subject, students must independently pass the theoretical and practical exam.

In any of the calls, if the students obtain a numerical grade greater than 5, but do not meet the requirements established to pass the subject, they will have a grade of 4.5 (failed). In case of lower grades, the grade obtained will be given

### Sources of information

#### Basic Bibliography

Kisner, C, **Ejercicio terapéutico : fundamentos y técnicas**, Paidotribo, 2015

Güeita J, Fernández de las Penas C, Alonso M, **Terapia acuática: Abordajes desde la fisioterapia y la terapia ocupacional.**, Elsevier, 2015

Baker A, Talevski J, Morello R, Brand C, Rahmann A, Urquhart D, **Effectiveness of Aquatic Exercise for Musculoskeletal Conditions: A Meta-Analysis**, Archives of Physical Medicine and Rehabilitation, 2014

#### Complementary Bibliography

Sova, R., **Ejercicios acuáticos**, Paidotribo, 1993

Jiménez, J, **Columna vertebral y medio acuático : ejercicios preventivos y terapéuticos**, Gymnos, 1998

Bartels E, Juhl C, Christensen R, Hagen K, Danneskiold-Samsoe B, Dagfinrud H, Lund H, **Aquatic exercise for the treatment of knee and hip osteoarthritis (review)**, Cochrane Database of Systematic Reviews, 2016

Corvillo I, Varela E, Armijo F, Álvarez-Badillo A, Armijo O, Maraver F, **Efficacy of aquatic therapy for neck pain: a systematic review**, International Journal of Biometereology, 2020

Brandao T, Marcelino J, Fles B, Tasiana C, Mazzarioli R, Pasqual A, Lopes E, Rosa J., **The effectiveness of aquatic physical therapy in the treatment of fibromyalgia: a systematic review with meta-analysis**, Clinical Rehabilitation, 2013

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## Recommendations

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IDENTIFYING DATA				
(*)Ejercicio terapéutico no tratamento de alteracións abdomino-lumbo-pelvianas				
Subject	(*)Ejercicio terapéutico no tratamento de alteracións abdomino-lumbo-pelvianas			
Code	P05M191V01205			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	da Cuña Carrera, Iria			
Lecturers	da Cuña Carrera, Iria Soto González, María Mercedes			
E-mail	iriadc@uvigo.es			
Web				
General description	It is an elective subject of the second semester. It pretends that the students know different methods of assessment of the abdominal musculature as well as different exercises for the approach of abdominal-lumbo-pelvic alterations.			

### Training and Learning Results

Code	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
A5	That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
B3	Transmit information in a clear way to the users of the health system, as well as with other professionals.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
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.
D2	Ability to communicate orally and in writing in the Galician language.
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
Know the anatomy and physiology of the abdominal cavity as well as his dysfunctions	A1 D2 D8
Be able to evaluate the abdominal musculature with different devices of assessment	C12 D2 D8
Know design and apply a program of therapeutic exercise in the dysfunctions *abdomino-*lumbo-*pelvianas	A5 B3 C4 C14 D2 D6 D8

### Contents

Topic	
Anatomy and physiology of the abdominal cavity	-
Methods of evaluation of the abdominal musculature	-
Abdominal exercises applied to dysfunctions	-
*abdomino-*lumbo-*pelvianas	

### Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	6	14	20
Laboratory practical	11.5	19	30.5
Mentored work	5	18	23
Systematic observation	0.5	0	0.5
Essay	0.5	0	0.5
Essay	0.5	0	0.5

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

### Methodologies

	Description
Lecturing	They will employ methodologies like introductory activities, lesson magistral and flipped learning
Laboratory practical	They will make practices related with the *temario of the matter
Mentored work	Will carry out a work related with the contents of the matter

### Personalized assistance

Methodologies	Description
Lecturing	The students will be able to request *tutorías by email, by remote or face-to-face campus
Laboratory practical	The students will be able to request *tutorías by email, by remote or face-to-face campus
Mentored work	The students will be able to request *tutorías by email, by remote or face-to-face campus

### Assessment

	Description	Qualification	Training and Learning Results			
Systematic observation	During the practices will carry out a systematic observation to evaluate the aptitude, attitude, knowledges and skills	40	A1 A5	B3	C4 C12 C14	D2 D6 D8
Essay	The work will develop mainly during the practical classes	40	A1 A5	B3	C4 C12 C14	D2 D6 D8
Essay	The work will develop mainly during the practical classes	20	A1 A5	B3	C12	D2 D6 D8

### Other comments on the Evaluation

In order to pass the subject, it is mandatory to attend 80% of the classes in person.

If students want to waive continuous assessment, they can request it within the corresponding period, informing the subject coordinator. The overall assessment will consist of an objective tests exam (50%) and the performance of a laboratory practice exam (50%) To pass the subject, the theoretical and practical exams must be passed independently.

2nd chance

The assessment in the second opportunity will consist of an objective tests exam (50%) and the completion of a laboratory practice exam (50%). To pass the subject, the theoretical and practical exam must be passed independently.

In any of the calls, if the student obtains a numerical rating higher than 5, but does not meet the requirements established to pass the subject, he will have a rating of 4.5 (failure).

### Sources of information

#### Basic Bibliography

Diane Lee, Surrey BC, **Diastasis Rectus Abdominis, A Clinical Guide for Those Who Are Split Down The Middle,,** Learn with Diane Lee, 2017

McGill S., **Trastornos de la Espalda Baja. Prevención y Rehabilitación Basadas en la Evidencia**, Editorial Orbishealth, 2021

Presto DC, Sahpiro BE., **Electromiografía y trastornos neuromusculares**, 4ª, Elsevier, 2021

Torres M, Meldaña A, **Fisioterapia del suelo pélvico**, panamericana, 2022

#### Complementary Bibliography

De Gasquet, B., **Abdominales: ¡detén la masacre!**, RBA Libros, S.A., 2015

Caufriez, M.,; Esparza, S; Caufriez, S, **El Método Hipopresivo del Dr. Marcel Caufriez, Tomo I: Génesis y Programa Estático de Base de la GAH**, MC Editions, 2021

Da Cuña-Carrera I; Alonso-Calvete A; Soto-González M; Lantarón Caeiro E., **How Do the Abdominal Muscles Change during Hypopressive Exercise?**, 2021

Da Cuña-Carrera I; Soto\_González E; Alonso-Calvete A; González-González Y; Lantarón Caeiro E., **Immediate effects of different types of abdominal exercises on the inter-rectus distance**, 2021

Da Cuña-Carrera I; Alonso-Calvete A; Lantarón Caeiro EM.; Soto-González M.;, **Are There Any Differences in Abdominal Activation between Women and Men during Hypopressive Exercises?**, 2021

Da Cuña-Carrera I; Alonso-Calvete A; González-González Y; Soto-González M., **Changes in abdominal muscles architecture induced by different types of breathing**, 2022

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## **Recommendations**

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### **Subjects that it is recommended to have taken before**

(\*)Ejercicio terapéutico en procesos e patologías obstétricas e urogincológicas/P05M191V01202

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<b>IDENTIFYING DATA</b>				
<b>(*)Exercicio terapéutico en patoloxías relacionadas coa saúde mental</b>				
Subject	(*)Exercicio terapéutico en patoloxías relacionadas coa saúde mental			
Code	P05M191V01206			
Study programme	Máster Universitario en Exercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Abalo Núñez, María del Rocío			
Lecturers	Abalo Núñez, María del Rocío Muñoz-Cruzado Barba, Miguel			
E-mail	rocioabalo@uvigo.es			
Web				
General description	This matter has like aim the employment of the therapeutic exercise in people with mental disorders to diminish his symptomatology and improve his quality of life.			

### Training and Learning Results

Code	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
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.
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.
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
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.
D5	Recognition of diversity and multiculturalism.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D7	Develop leadership and organization skills.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Know in which situations of mental alteration the physiotherapist can take part.	A2 C6 D5 D6 D8
Clinical implications of the application of the therapeutic exercise in the mental illnesses	A1 B1 C4 C11 C12 D6 D7

### Contents

Topic
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Introduction to the physiotherapy in the mental health. -

Physiotherapy interventions in mental health -

Pathologies but frequent and his handle by means of therapeutic exercise -

## Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	3	11	14
Laboratory practical	13	21	34
Mentored work	4	19	23
Simulation or Role Playing	2	0	2
Systematic observation	1	0	1

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

## Methodologies

	Description
Introductory activities	Activity directed the presentation of the subject as well as gather information of the students
Lecturing	Exhibition of the contents by part of the educational. Theoretical classes-participatory where boost the active participation of the students employing a forum of discussion and with activities directed to the resolution of problems
Laboratory practical	Demonstration by part of the lecturer of the technicians that the students will make by couples with the supervisionl. Also they will do studies of cases and resolution of problems.
Mentored work	Proposal of a clinical case/s in which, following the guidelines of clinical reasoning, the plot is reached by applying the therapeutic exercise

## Personalized assistance

Methodologies	Description
Introductory activities	The personalised attention will be centred in the resolution of doubts that can have the students in relation to organisation of the subject
Lecturing	Personalised attention will be centred in the resolution of doubts that can have the students in relation with the subject through tutorship face-to-face, email and/or remote campus.
Laboratory practical	The personalised attention will be centred in the resolution of doubts that can have the students in relation to the practical contents of collective or/individual way of face-to-face way or through the remote campus
Mentored work	The personalised attention will be centred in the resolution of doubts that can have the students in the realisation of the work

## Assessment

	Description	Qualification	Training and Learning Results			
Mentored work	The students will make in group the work on the boarding of the therapeutic exercise in some mental pathology.	40	A1 A2	B1	C11 C12	D6 D7 D8
Simulation or Role Playing	The students the last day of class in groups and will give answer to the situation that pose the educational	30	A2	B1	C4 C6 C11 C12	D5
Systematic observation	It will value the participation and assistance to class. It will be necessary the assistance to 80% of the classes	40	A1 A2	B1	C4 C6 C11 C12	D5 D6 D7 D8

## Other comments on the Evaluation

Students may request the waiver of continuous assessment by informing the coordinator of the subject within the established period.

If so, evaluation will be: 50% work and 50% exam of objective questions.

To pass the subject, students must have independently passed all the evaluation sections and attend 80% of the practical classes. The non-attendance to the practices supposes the loss to the continuous evaluation.

Students who have one of the approved parts will keep the passed part for the next call within the same academic year.

#### Evaluation of 2nd opportunity:

The students can take a 100% exam on the subject: 50% resolution of clinical cases and 50% examination of objective questions. To pass the subject, both evaluation tests must be passed independently.

In any of the calls, if students obtain a numerical qualification greater than 5, but do not meet the requirements established to pass the subject, they will have a qualification of 4.5 (failed). In case of having lower qualifications, the grade obtained will be put

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#### Sources of information

##### Basic Bibliography

Guarín, C, **Fisioterapia en Salud Mental**, Rosario, 2020

Catalán, D, **La Fisioterapia En Salud Mental**, Academia Espanola, 2012

allgren M, Vancampfort D, Giesen ES, Lundin A, Stubbs B., **Exercise as treatment for alcohol use disorders: systematic review and meta-analysis**, Br J Sports Med, 2017

##### Complementary Bibliography

Probst, M, **Physiotherapy in Mental Health and Psychiatry**, Elsevier, 2017

INE, **Informe EDADES 2015-16: Encuesta sobre alcohol y drogas en España**, 2017

Crescentini C, Matiz A, Fabbro F, **Improving personality/character traits in individuals with alcohol dependence: the influence of mindfulness-oriented meditation**, J Addict Dis, 2015

Giesen ES, Deimel H, Bloch W, **Clinical exercise interventions in alcohol use disorders: a systematic review.**, J Subst Abuse Treat, 2015

Hallgren M, Romberg K, Bakshi AS, Andréasson S, **Yoga as an adjunct treatment for alcohol dependence: a pilot study**, Complement Ther Med, 2014

Bobes J, **Salud mental: Enfermería psiquiátrica (Enfermería, fisioterapia y podología)**, Síntesis, 1994

Catalan-matamoros D, Helvik-skjaerven L, . **A pilot study on the effect of Basic Body Awareness Therapy in patients with eating disorders: a randomized controlled trial**, clinic Rehabil, 2011

Catalán Matamoros DJ, **Fisioterapia en salud mental. Efectividad de una intervención fisioterapéutica en trastornos alimentarios**, Universidad de Málaga,

Muñoz-Cruzado y Barba M, **La enfermedad de Alzheimer como factor de riesgo psicosomático para el familiar cuidador de enfermos crónicos discapacitados**, Universidad de Málaga, 2007

Bravo Navarro C, **Fisioterapia en Salud Mental. Efectividad de la Basic Body Awareness Therapy en pacientes de fibromialgia**, Universidad de Lleida, 2017

Ezzatvar de Llago, **Factors influencing musculoskeletal pain among physical therapists**, Universidad de Valencia, 2020

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#### Recommendations



IDENTIFYING DATA				
(*)Prácticas externas				
Subject	(*)Prácticas externas			
Code	P05M191V01207			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	9	Mandatory	1st	2nd
Teaching language	#EnglishFriendly Spanish Galician			
Department				
Coordinator	Machado de Oliveira, Iris			
Lecturers	Machado de Oliveira, Iris			
E-mail	irismacoli@uvigo.es			
Web				
General description	They are those that configure integrated academic activities as a subject of the plan of studies of the Máster of Therapeutic Exercise in Physiotherapy that has an educational load of 9 credits during the second term. In this subject, the students have to make clinical stays and a dossier concerning the same.			
	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	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
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.
A4	That the students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
A5	That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
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.
B6	Develop learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C3	Integrate all knowledge, abilities, skills, attitudes and values; acquired in all subjects, developing all professional skills and training for effective physiotherapy care
C4	Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.
C5	Acquire the appropriate clinical experience in the use of therapeutic exercise that provides intellectual abilities and technical and manual skills; that facilitates the incorporation of ethical and professional values; and to develop the ability to integrate the content acquired.
C6	Ability to solve problems in new and imprecisely defined environments to identify the most appropriate treatment based on therapeutic exercise in the different processes of alteration, prevention and health promotion, as well as integration with other professionals for the benefit of health of the patient/user.
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.
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.
D2	Ability to communicate orally and in writing in the Galician language.
D3	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources.
D4	Knowledge of statistics applied to Health Sciences, or to the field of study related to the field of study.
D5	Recognition of diversity and multiculturalism.

D6 Creativity, entrepreneurial spirit and adaptation to new situations.

D7 Develop leadership and organization skills.

D8 Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
- To design and schedule a program of therapeutic exercise adapted to the needs of the population.	A1 A2 A3 B1 C3 C4 C6 C11 D1 D4 D5 D6 D8
- To evaluate populations and surroundings with demand of therapeutic exercise.	A2 A3 B1 B2 C3 C6 C12 D1 D3 D5 D6 D8
- To promote the realization and to develop the application of the therapeutic exercise in different clinical populations.	A1 A2 A3 A4 A5 B2 B3 B6 C3 C4 C5 C6 C11 D1 D2 D3 D5 D6 D7

### Contents

Topic	
- Application of therapeutic exercise programs in different population groups and with different pathologies.	The student must evaluate the pathological population in the collaborating entity for the practicum and plan and apply a therapeutic exercise protocol with a specific clinical purpose.

### Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	2	1	3
Practicum, External practices and clinical practices	120	72	192
Portfolio / dossier	0	15	15
Systematic observation	0	15	15

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

<b>Methodologies</b>	
	Description
Introductory activities	All the rights and duties of the students regarding the clinical practicum will be explained. The specific regulation of external internships will be presented, as well as the orientation document for the internship and how to execute and deliver the portfolio, how the evaluation of the subject will be structured, how to request and assign the destinations for the internship and how the tutorials of the subject will be carried out.
Practicum, External practices and clinical practices	The student evaluates the clinical population of the center where the internship is performed and plans and applies physiotherapeutic care based on a therapeutic exercise in a clinical context and seeks to achieve objectives previously set out in the external internship project. In this clinical context, the student must solve problems that may arise with the application of the proposed protocol and make the necessary adaptations for its implementation.

### Personalized assistance

Methodologies	Description
Practicum, External practices and clinical practices	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 during the external internship. It can be developed in the form of face-to-face tutorials in the respective offices of the academic co-tutor or the coordinator of external practices (academic tutor) or virtually through Campus Remoto in the respective virtual offices of the co-tutors or coordinator of the subject upon agreement between the interested students and the teacher.

### Assessment

	Description	Qualification	Training and Learning Results
Portfolio / dossier	The portfolio delivered in due time and form according to what is established in the teaching space of the subject in Moovi must include an introduction, description of the practice and work methodology, reflection on the process and personal relationships with the tutor of the collaborating entity, and patients, reflection on the methodology applied and bibliography.	20	A1 B1 C3 D1 A2 B2 C6 D2 A3 B3 D4 A4
Systematic observation	It is divided into two parts: the report made by the tutor of the collaborating entity where the internship is developed (50%) and the evaluation carried out by the academic tutor on the follow-up of the internship (30%). The report presented by the tutor of the collaborating entity must include the student's attendance as well as the evaluation of the aptitudes and attitudes developed during the external internship. The evaluation carried out by the academic tutor will include evaluation of the internship project, monitoring of the internship, and tutoring, among other aspects.	80	A1 B1 C3 D1 A2 B2 C4 D3 A3 B3 C5 D5 A4 B6 C6 D6 A5 C11 D7 C12 D8

### Other comments on the Evaluation

#### Sources of information

##### Basic Bibliography

Dunleavy & Slowik, **Therapeutic Exercise Prescription**, 2019  
Kisner et al, **Therapeutic Exercises: foundations and techniques**, 2018  
Hall & Brody, **Ejercicio terapéutico: Recuperación Funcional**, 2006

##### Complementary Bibliography

Palermi et al, **Indirect Structural Muscle Injuries of Lower Limb: Rehabilitation and Therapeutic Exercise**, 2021  
Voet, **Exercise in neuromuscular disorders: a promising intervention**, 2019  
Skou & Roos, **Physical therapy for patients with knee and hip osteoarthritis: supervised, active treatment is current best practice**, 2019  
Young et al, **The influence of dosing on effect size of exercise therapy for musculoskeletal foot and ankle disorders: a systematic review**, 2018  
Verbrugghe et al, **Motion detection supported exercise therapy in musculoskeletal disorders: a systematic review**, 2018  
Houglum, **Therapeutic Exercise for Musculoskeletal Injuries**, 2016  
Smith et al, **Should exercises be painful in the management of chronic musculoskeletal pain? A systematic review and meta-analysis**, 2017  
Chih-hsiu et al, **Long-term effects of therapeutic exercise on nonspecific chronic neck pain: a literature review**, 2015  
Hoogboom et al, **Merits of exercise therapy before and after major surgery**, 2014

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**Recommendations**

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**Subjects that continue the syllabus**

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(\*)Traballo fin de máster/P05M191V01208

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**Subjects that it is recommended to have taken before**

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(\*)Bases anatomofuncionais no exercicio terapéutico/P05M191V01101

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

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IDENTIFYING DATA				
(*)Traballo fin de máster				
Subject	(*)Traballo fin de máster			
Code	P05M191V01208			
Study programme	Máster Universitario en Ejercicio terapéutico en fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	9	Mandatory	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Monge Pereira, Esther			
Lecturers	Aboal Quintás, Sebastián Jesús Hernández Lucas, Pablo Martín Palomo, Adrián Monge Pereira, Esther Rodrigues Gomes, Ricardo Miguel			
E-mail	esther.monge@uvigo.es			
Web				
General description	Subject with 9 credits that consists in the realization and public presentation of the end of masters´project about some specific question related with the therapeutic exercise			

### Training and Learning Results

Code	
A1	Possess and understand knowledge that provides a foundation or opportunity to be original in the development and/or application of ideas, often in a research context.
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.
A4	That the students know how to communicate their conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
A5	That students have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
B3	Transmit information in a clear way to the users of the health system, as well as with other professionals.
B4	Acquire advanced scientific training in research in Therapeutic Exercise in Physiotherapy.
B5	Being able to present and defend, before a university tribunal, a final master's project, consisting of an exercise of integration of the training content received and the skills acquired.
B6	Develop learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.
C1	Incorporate scientific research and evidence-based practice as a professional culture in the practice of therapeutic exercise.
C2	Apply the ethical and legal bases of the profession in the field of research.
C7	Evaluate and select the appropriate scientific theory and the precise methodology to design a research project based on therapeutic exercise.
C8	Know how to use methods and models of statistical analysis, interpret and communicate the results of clinical research to specialized audiences through different media (face-to-face, online or social networks).
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.
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.
D2	Ability to communicate orally and in writing in the Galician language.
D3	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources.
D4	Knowledge of statistics applied to Health Sciences, or to the field of study related to the field of study.
D5	Recognition of diversity and multiculturalism.
D6	Creativity, entrepreneurial spirit and adaptation to new situations.
D7	Develop leadership and organization skills.
D8	Maintain an attitude of learning and improvement.

### Expected results from this subject

Expected results from this subject	Training and Learning Results
Design and make a work of investigation related with the therapeutic exercise	A1 A3 A4 A5 B3 B4 B5 B6 C1 C2 C7 C8 C12 D2 D4 D8
Integrate the practical contents and scientists learnt in the master	A2 A3 A5 B3 B6 C12 D1 D3 D5 D6 D7 D8

## Contents

### Topic

Preparation of an individual work of investigation - based in the therapeutic exercise.

Presentation and defence of the work in front of a - court.

## Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Mentored work	22	0	22
Presentation	1	0	1
Presentation	1	0	1
Essay	0	190	190
Essay	10	0	10

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

## Methodologies

	Description
Introductory activities	They will have the aim of presenting the subject, explaining the contents of the learning guide for the completion of the master's degree dissertation according to the specific regulations, as well as resolving any possible doubts related to them that the students present.
Mentored work	The students must prepare a research work related with the therapeutic exercise, based on preparation regulations approved and published by the Master's Academic Committee.
Presentation	The students must present their master's degree dissertation before a court through audiovisual media following the presentation regulations approved and published by the Master's Academic Committee, as well as answer the questions formulated by the evaluating court.

## Personalized assistance

Methodologies	Description
Mentored work	The students will have a tutor who will guide them through corrections and tutorials that they will specify between them, for the preparation of the written memory and the oral defense of the Master's degree dissertation.

Assessment						
Description		Qualification Training and Learning Results				
Presentation	The court will take into account the following criteria for evaluation:  - Relevance of the work. - Presentation through appropriate audiovisual media. - Clarity in the exposition. - Defense before the questions asked.	40	A4	B3 B5	D2 D8	
Essay	The court will evaluate through a rubric that the Master's degree dissertation adapts to the exposed regulations, and that the contents and methodology are appropriate to the research topic.	40	A1 A2 A3	B4 B6	C1 C2 C7 C8 C12	D1 D3 D4 D5 D8
Essay	The tutor will evaluate the learning process and development of the Master's degree dissertation by means of a rubric.	20	A1 A2 A3	B4 B6	C1 C2 C7 C8 C12	D1 D3 D4 D5 D8

### Other comments on the Evaluation

Students must have passed all the master's credits to be able to present and defend their master's degree dissertation.

There will be two calls to deliver and defend the Master's degree presentation, the first in June, and the second with the delivery of the written work in July and the oral defense in September.

### Sources of information

#### Basic Bibliography

Molina M, **El ovillo y la espada: manual de lectura crítica de documentos científicos**, 2020

Amat O, Rocafort A, **Cómo investigar: Trabajo fin de grado, tesis de máster, tesis doctoral y otros proyectos de investigación.**, Profit Editorial, 2017

#### Complementary Bibliography

<http://www.equator-network.org/>,

Miguel Ángel Martínez González et al., **Bioestadística Amigable**, 4, Elsevier, 2020

Vallejo-Nágera JA., **Aprender a hablar en público hoy. Cómo cautivar y convencer por medio de la palabra.**, 2, Planeta, 2013

Rodríguez ML, Llanes J, **El trabajo fin de máster. fases para su elaboración y sugerencias para evaluarlo**, Universitat de Barcelona, 2015

da Cunha I, Cabré MT, **El trabajo de fin de grado y de máster. Redacción, defensa y publicación**, UOC, 2016

del Pino R, Martínez Riera J., **Manual para la elaboración y defensa del trabajo fin de grado en ciencias de la salud.**, 2, Elsevier ES, 2022

### Recommendations

#### Subjects that it is recommended to have taken before

(\*)Metodología da investigación/P05M191V01103