



# Postgraduate Certificate

Physiotherapy, Pain and Aging

» Modality: online

» Duration: 8 weeks

» Certificate: TECH Global University

» Credits: 7 ECTS

» Schedule: at your own pace

» Exams: online

We bsite: www.techtitute.com/us/physiotherapy/postgraduate-certificate/physiotherapy-pain-aging

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# 01 Introduction

The physiotherapeutic treatment of pain in geriatric patients is an effective and adaptable way of working in multiple situations with a variety of patients. Supported by the most innovative advances in this field, this course will provide you with the most comprehensive knowledge on the subject, with a high quality multidisciplinary and advanced vision.



## tech 06 | Introduction

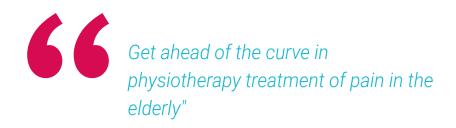
The treatment of pain in geriatric patients is supported by the advances and updates that are appearing in this field of work. The physiotherapist needs to keep their skills in line with these developments, in order to improve the patients' quality of life by effectively controlling the pain they feel.

To this end, the professional must assess and examine the patient's resistance and physiological reserves in order to establish the appropriate framework for action, choosing between home care, residential care, day care centers, social centers or private clinics.

It is therefore essential to know the tools of physiotherapy and the appropriateness of their application in each case, such as active exercise, manual therapy and electrotherapy. Being able to work in an interdisciplinary team, with appropriate communication tools, understanding the concept of person-centered care, having the most up-to-date knowledge of support devices and even the support of current technology can be key to success in physical therapy treatment.

This **Postgraduate Certificate in Physiotherapy, Pain and Aging** offers you the characteristics of a program of high scientific, educational and technological level. These are some of its most notable features:

- The latest technology in online teaching software
- A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- Practical cases presented by practising experts
- State-of-the-art interactive video systems
- Teaching supported by telepractice
- Continuous updating and recycling systems
- · Autonomous learning: full compatibility with other occupations
- Support groups and educational synergies: questions to the expert, debate and knowledge forums
- Communication with the teacher and individual reflection work
- Content that is accessible from any fixed or portable device with Internet connection
- Complementary documentation banks permanently available, even after the course



### Introduction | 07 tech



A study that will cover the different pathologies and situations of intervention with geriatric patients with a focus on the practical reality of working in this field"

The program's teaching staff includes professionals from the sector who contribute their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations.

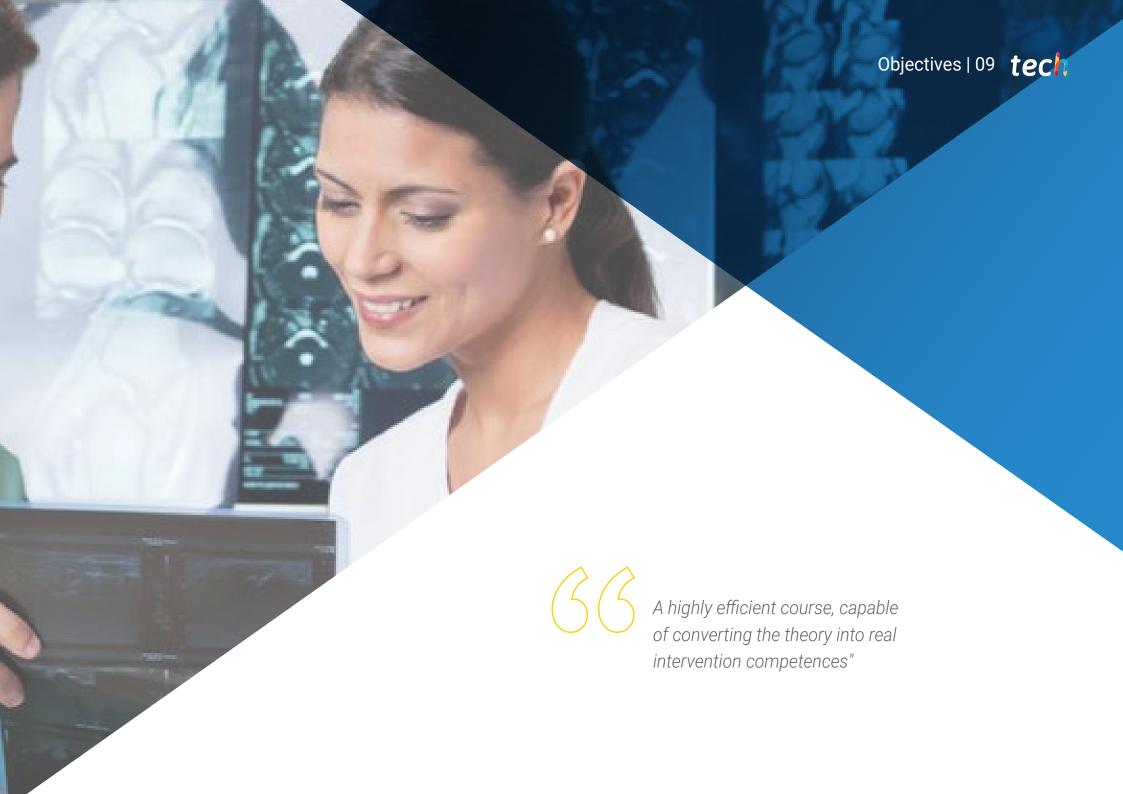
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

A methodological approach supported by teaching techniques proven for their effectiveness, allowing you to learn in a dynamic and efficient way

With the support of high-quality audiovisual systems, the purpose of this course is that you not only acquire the knowledge, but that, upon completion, you possess the working skills you







# tech 10 | Objectives



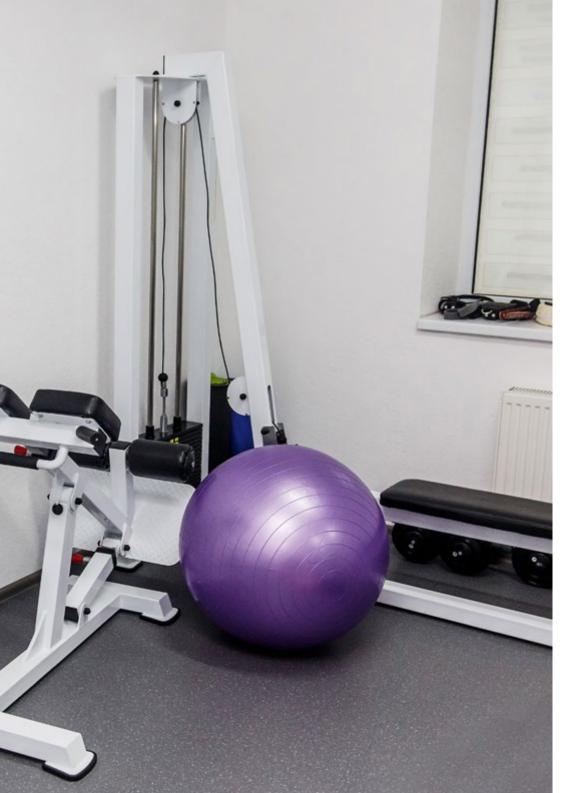
## **General Objective**

• Based on the most recent scientific evidence, develop a critical and reasoned attitude towards physiotherapeutic diagnosis in elderly patients and be able to apply adequate treatment in order to reduce functional impotence, fragility and deterioration, thereby favoring an improvement of physical and mental health in old age



Update your knowledge through this program in physiotherapy, pain and aging"







## **Specific Objectives**

- Explain the anatomy and physiology of pain transmission
- Define the different types of pain
- Describe pain and aging from a biopsychosocial paradigm
- Define the different pain syndromes in geriatrics
- Explain how to perform a proper pain assessment
- Explain the pharmacological treatment of pain in the geriatric patient
- Explain the physiotherapeutic treatment of the geriatric patient





### tech 14 | Course Management

#### **International Guest Director**

Dr. Tracy Friedlander is an eminent international expert, specialized in Physiotherapy and Rehabilitation of the elderly. Her extensive knowledge and skills in this field have enabled her to implement innovative procedures and improve the quality of life of various patients over the years.

Thanks to her high level of care, the scientist has been selected as Medical Director of the Comprehensive Acute Inpatient Rehabilitation Unit at Johns Hopkins Bayview Medical Center. She has also been part of the medical teams at the prestigious Johns Hopkins Hospital.

Her main area of expertise is Neurological Rehabilitation. In this field, the expert has scientific publications referenced in peer-reviewed journals of high impact in the health community. As such, she has focused her efforts on helping patients to control Spasticity, a muscle control disorder, through various therapeutic approaches.

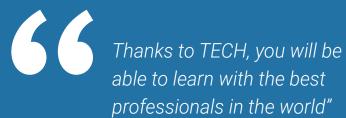
In addition, some of her most outstanding research in recent years is related to the rehabilitation of patients subjected to long periods of mechanical ventilation when infected with the SARS-CoV-2 virus. She is also fully qualified to treat joint pain, fibromyalgia and chronic pain and fatigue.

Dr. Friedlander also holds official certifications from the American Board of Physical Medicine and Rehabilitation. All of this is backed by her excellent knowledge in the precise and advanced care of spinal cord injuries. On the other hand, this specialist has an excellent academic background. She graduated from Emory University in Atlanta and obtained her medical degree from the University of Maryland. She also completed her internship at Mercy Medical Center and her residency in Physical Medicine and Rehabilitation at Sinai Hospital in Baltimore.



# Dra. Friedlander, Tracy

- Director of the Department of Physical Medicine and Rehabilitation at Johns Hopkins Hospital
- Medical Director of the Comprehensive Acute Inpatient Rehabilitation Unit at Johns Hopkins Bayview Medical Center
- Specialist in Neurorehabilitation and Spasticity Management
- Official certifications from the American Board of Physical Medicine and Rehabilitation
- Specialist in Physical Medicine and Rehabilitation at Sinai Hospital of Baltimore
- Medical Graduate from the University of Maryland, Baltimore
- Member of:
  - American Academy of Physical Medicine and Rehabilitation
  - American Spinal Cord Injury Association
  - Maryland Society for Physical Medicine and Rehabilitation



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### Management



### Dr. Castillo, Juan Ignacio

- Head of the Hematology Department at the 12 de Octubre Hospital, Madrid
- Associate Professor at the Complutense University of Madrid, School of Medicine, 2016
- Collaborating Professor at the Complutense University of Madrid, 2011-2016
- Teaching coordinator in continuing education courses at the Madrid Regional Ministry of Health: "Tertiary prevention in chronic cardiopathic patients" "Cardiac Rehabilitation"
- Master's Degree in Cardiac Rehabilitation, SEC-UNED
- Master's Degree in Disability Assessment, Autonomous University of Madrid
- Master's Degree in Childhood Disability, Complutense University of Madrid
- Doctorate Course: Neurosciences, University of Salamanca
- Degree in Medicine and Surgery from the University of Salamanca
- Coordinator of continuing education of the Spanish Society of Cardiology in Exercise Testing with Oxygen Consumption

#### **Co-Direction**



### Dr. García Fontalba, Irene

- Manager and physiotherapist at the private physiotherapy center Cal Moure'S, with the aim of treating limitations of daily living skills due to pain or pathologies associated with aging
- Member of the Girona Territorial Section of the Association of Physiotherapists of Catalonia
- Creator of the blog "Fisios y Otras Historias" (Physios and Other Stories)
- Psychology undergraduate student
- Coordinator the Group of social networks of the group of professionals for the promotion of health in Girona (2015-2017)
- More than ten years working in geriatric pathology and processes involving pain at home and in private practice



### Course Management | 17 tech

#### **Professors**

#### Dr. Díaz Zamudio, Delia

- Resident Intern of Rehabilitation and Physical Medicine in the Rehabilitation Service of the 12 de Octubre University Hospital
- Attending specialist in the Rehabilitation Service of the 12 de Octubre University Hospital, Madrid
- Honorary Collaborator of the Department of Physical Medicine and Rehabilitation and Hydrology at the 12 de Octubre Hospital, Complutense University of Madrid
- Degree in Medicine and Surgery, Faculty of Medicine, University of Seville
- FEA of Rehabilitation and Physical Medicine, Rehabilitation Service, University Hospital Denia, Alicante in 2013
- FEA of Rehabilitation and Physical Medicine, Rehabilitation Service of the Alto Deba University Hospital, Mondragón, San Sebastián in 2012

#### Dr. Cuesta Gascón, Joel

- Resident of Physical Medicine and Rehabilitation at the 12 de Octubre University Hospital, Madrid
- Teacher of the Specialization Course in Neuropathic Pain at La Princesa Hospital, 2019
- Organizer and speaker at "See you on the 12th". "Fundamentals and Physiology of Sport". 2020
- Speaker at "AMIR 2020 Academy post-MIR Conference" on the specialty of Physical Medicine and Rehabilitation
- Master's Degree in Clinical Medicine, Francisco de Vitoria University, Madrid
- Medical Degree from the University Camilo José Cela, Madrid.
- Expert in musculoskeletal ultrasonography

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#### Dr. González García, María Dolores

- Head of the Neurological Rehabilitation Service, 12 Octubre Hospital, Madrid
- Area Specialist Physician, 12 de Octubre Hospital, Madrid
- Degree in Medicine and Surgery from the University of Alcalá. Alcalá de Henares,
   Madrid
- Specialist in Physical Medicine and Rehabilitation
- Specialist in Physical Medicine and Rehabilitation as resident intern (MIR) in the Rehabilitation Service at the 12 de Octubre University Hospital, Madrid, 2002-2006

#### Dr. Pino Giráldez, Mercedes

- Assistant Rehabilitation Physician at the 12 de Octubre University Hospital, Madrid
- Specialist in Physical Medicine and Rehabilitation, University Hospital of Guadalajara
- Specialist in Childhood Disability from the Complutense University of Madrid
- Degree in Medicine and Surgery from Alcalá de Henares University, Madrid
- Residency training in Physical Medicine and Rehabilitation
- Medical Rehabilitation Specialist at the Jimenez Diaz Foundation Hospital, 2012
- Assistant Rehabilitation Physician at Rey Juan Carlos I Hospital, Madrid, 2013
- Assistant Rehabilitation Physician at Torrejón de Ardoz Hospital, 2014
- · Assistant Rehabilitation Physician at the University Hospital of Guadalajara, 2014

#### Dr. García, Sofía

- Specialist Doctor- Physical Medicine and Rehabilitation, Pediatric Rehabilitation
   Department, 12 de Octubre University Hospital, Madrid
- Specialist Doctor- Physical Medicine and Rehabilitation, 12 de Octubre University Hospital, Madrid
- Specialist in Physical Medicine and Rehabilitation, Language Rehabilitation Center, Madrid
- Master's Degree in Musculoskeletal Ultrasound and Ultrasound-Guided Interventionism, San Pablo Andalucía CEU
- Degree in Medicine, San Pablo CEU University School of Medicine, Madrid
- Pelvic Floor Unit (12 de Octubre University Hospital, Madrid, Spain)
- Facial Paralysis and Neurorehabilitation Unit (La Paz University Hospital, Madrid)
- Cardiac Rehabilitation (Cardiac Rehabilitation Unit of 12 de Octubre University Hospital)
- Respiratory Rehabilitation Gregorio Marañon General University Hospital, Madrid
- Neurorehabilitation Unit (12 de Octubre UH)
- Rehabilitation in spinal cord injury (National Hospital of Paraplegics, Toledo)

#### Dr. Blesa Esteban, Irene

- Internal Medicine Resident: 12 de Octubre University Hospital, Madrid
- Expert in musculoskeletal ultrasonography
- Course on Neuropathic Pain Management for Medicine
- Course on Evaluation and Prescription of Therapeutic Exercise
- Course in Life Support for Residents
- Supervision of doctoral thesis: Ultrasound Diagnosis of Congenital Heart Disease in the First Trimester of Pregnancy

#### Dr. Jiménez, Henar

- Internal Medicine Resident: 12 de Octubre University Hospital, Madrid
- Course on the Safe Use of Medication in the Madrid Health Service
- Expert in Physiotherapy and Sports Rehabilitation at the International University Isabel of Castile

### Dr. Soto Bagaria, Luis

- Physiotherapist and researcher at Parc Sanitari Pere Virgili
- Master's Degree in Neuromusculoskeletal Physiotherapy
- Member of the research team on aging, frailty and transitions (Re-Fit BCN)
- More than 10 years working in the field of aging

#### Dr. Gil Gracia, Samuel

- Physiotherapist and Osteopath in free practice in Béziers (France);
- Member of the Spanish Society of Physiotherapy and Pain SEFID;
- Author of the videoblog Soy Paciente de Samu, a channel on physiotherapy for the population
- Specialist in Musculoskeletal Pain

#### Dr. Hernandez Espinosa, Joaquín

- Physiotherapist. Director of residential center Pineda Senior Citizens Hotel Residence
- Postgraduate Degree in Respiratory Physiotherapy
- More than 20 years of experience in the field of Geriatric Physiotherapy at hospital, home and residential level

#### Dr. Gómez Orta, Roger

- Physiotherapist and Orthopedic Technician
- Co-founder of Quvitec S.L.
- Responsible for the seating and positioning clinic service at Quvitec
- Specialist and trainer in patient management of Handicare products in Spain

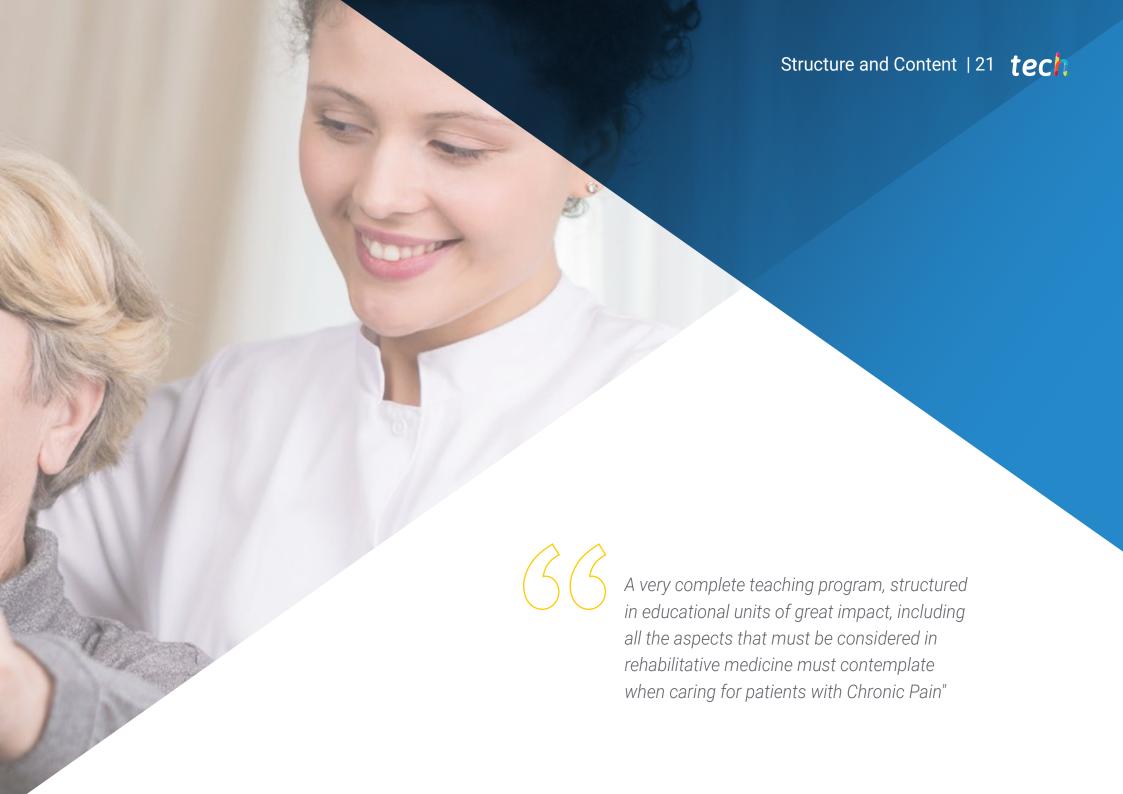
#### Dr. Buldón Olalla, Alejandro

- Expert in physical activity and sport physiotherapy
- Master's Degree in Social Networks and Digital Learning
- More than 12 years of experience in residential and home care for the elderly
- Founder of the blog fisioconectados.com
- Physiotherapist in the Amavir group and in home care for the elderly

#### Dr. Jimenez Hernández, Daniel

- PhD in Education from the University of Vic
- Physiotherapist
- Official Master's Degree in Inclusive Education
- Member of the research group of attention to diversity at University of Vic
- Professor at the University of Vic
- Trainer of PCC professionals
- More than 25 years of experience in caring for people in contexts of disability and dependence





### tech 22 | Structure and Content

### Module 1. Pain and Aging, Update on Current Scientific Evidence

- 1.1. Anatomy and Physiology of Pain Transmission
  - 1.1.1. Peripheral Components
  - 1.1.2. Nociceptors
  - 1.1.3. Nociceptor Depolarization
  - 1.1.4. Peripheral Sensitization of Nociceptors
- 1.2. Types of Pain
  - 1.2.1. Introduction
  - 1.2.2. Temporal
    - 1.2.2.1. Acute Pain
    - 1.2.2.2 Chronic Pain
- 1.3. Pain and Aging
  - 1.3.1. Aging
  - 1.3.2. Characteristics of Aging
  - 1.3.3. Prevalence
  - 1.3.4. Physiological Changes of Aging
  - 1.3.5. Physical and Neurological Changes with Impact on Pain Chronification
    - 1.3.5.1. Differences in Pain Perception
    - 1.3.5.2. Increased Chronic Inflammation in Aging
    - 1.3.5.3. Disruption of the Circadian Cycle in Aging
    - 1.3.5.4. Neurodegeneration and Implications for Learning
    - 1.3.5.5. Elderly Depression
    - 1.3.5.6 Sedentary Lifestyle and Frailty in the Elderly
    - 1.3.5.7. Under-Recognized and Under-Treated Pain
- 1.4. Pain Syndromes in Geriatrics
  - 1.4.1. Introduction
  - 1.4.2. Cervical Osteoarthritis
  - 1.4.3. Occipital Neuralgia
  - 1.4.4. Cervicogenic Dizziness
  - 1.4.5. Vertebral Fracture due to Osteoporosis
  - 1.4.6. Lumbar Osteoarthritis and Facet Syndrome
  - 1.4.7. Central Canal Stenosis in the Lumbar Spine
  - 1.4.8. Hip Osteoarthritis
  - 1.4.9. Shoulder Rotator Cuff Rupture
  - 1.4.10. Knee Osteoarthritis





### Structure and Content | 23 tech

- 1.5. Pain Assessment
- 1.6. Pharmacological Treatment of Pain in the Geriatric Patient
  - 1.6.1. Drugs for Pain
  - 1.6.2. Aines
  - 1.6.3. Coxibs
  - 1.6.4. Paracetamol
  - 1.6.5. Metamizole
  - 1.6.6. Opioid Drugs
  - 1.6.7. Phytotherapy
  - 1.6.8. Adjuvant Drugs
- 1.7. Physiotherapist Treatment of the Geriatric Patient



You will learn in such a way that the content of the program becomes fixed and transformed into knowledge, through a structured study that will cover all the points of interest you need to update your practice in geriatric rehabilitation"



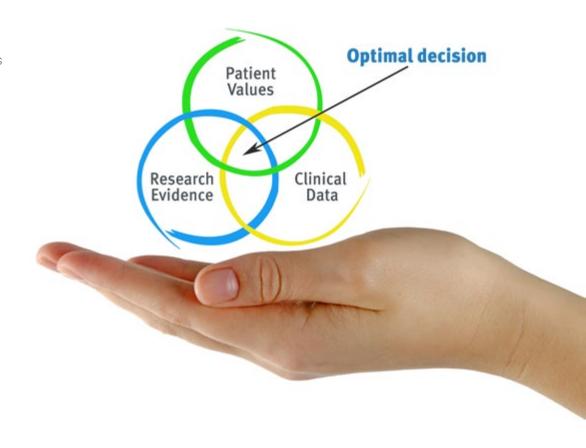


# tech 26 | Methodology

#### At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Physiotherapists/kinesiologists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions of professional physiotherapy practice.



Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

#### The effectiveness of the method is justified by four fundamental achievements:

- 1. Physiotherapists/kinesiologists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process has a clear focus on practical skills that allow the physiotherapist/kinesiologist to better integrate into the real world.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- 4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.





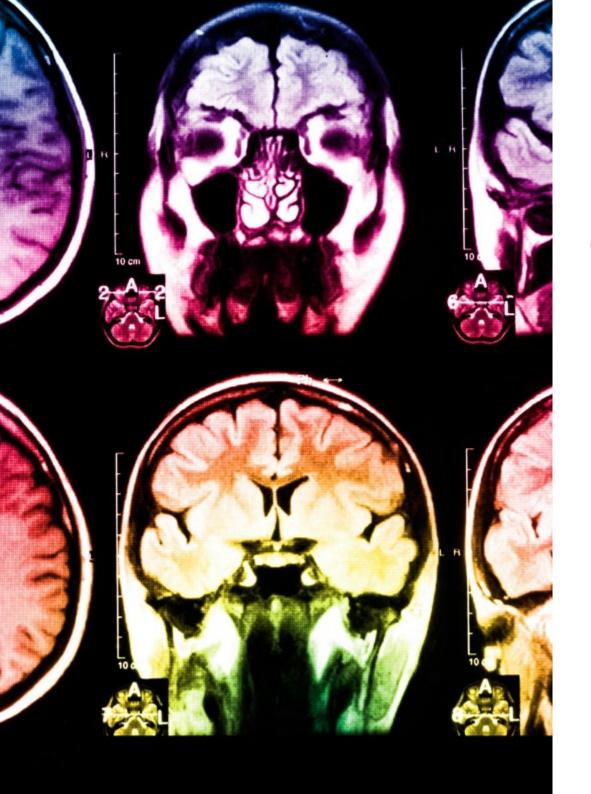
### Relearning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

The physiotherapist/kinesiologist will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning





### Methodology | 29 tech

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we trained more than 65.000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your learning, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:



#### **Study Material**

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### **Physiotherapy Techniques and Procedures on Video**

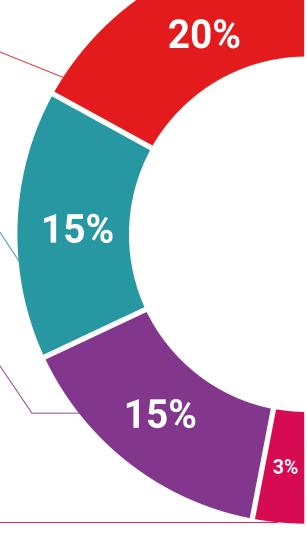
TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.



Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### **Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises: so that they can see how they are achieving their goals.



#### Classes

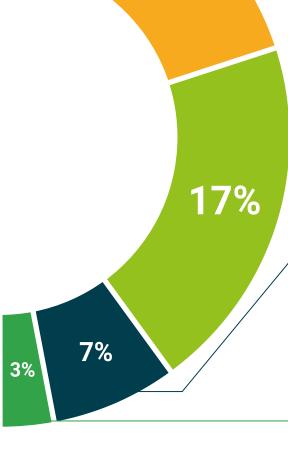
There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



#### **Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.









### tech 34 | Certificate

This program will allow you to obtain your **Postgraduate Certificate in Physiotherapy, Pain** and **Aging** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: Postgraduate Certificate in Physiotherapy, Pain and Aging

Modality: online

Duration: 8 weeks

Accreditation: 7 ECTS



Mr./Ms. \_\_\_\_\_, with identification document \_\_\_\_\_ has successfully passed and obtained the title of:

#### Postgraduate Certificate in Physiotherapy, Pain and Aging

This is a program of 210 hours of duration equivalent to 7 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

tech global university

# Postgraduate Certificate Physiotherapy, Pain and Aging

- » Modality: online
- » Duration: 8 weeks
- » Certificate: TECH Global University
- » Credits: 7 ECTS
- » Schedule: at your own pace
- » Exams: online

