



Postgraduate Diploma

Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-knee-leg-musculoskeletal-ultrasound-rehabilitation-doctor

Index

| 01 | | 02 | | | |
|-------------------|-------|-----------------------|-------|-------------|-------|
| Introduction | | Objectives | | | |
| | p. 4 | | p. 8 | | |
| 03 | | 04 | | 05 | |
| Course Management | | Structure and Content | | Methodology | p. 24 |
| | p. 12 | | p. 20 | | |
| | | | | | |

06

Certificate

p. 32





tech 06 | Introduction

The use of ultrasound by rehabilitation physicians allows greater efficiency in many treatments, as well as to assess the evolution of the patient with objective data and increase the safety of invasive treatments in rehabilitation medicine.

This Postgraduate Diploma is an excellent option for training in ultrasound, due to the quality of the material provided and the quality of the teaching team, made up of professors who are highly prestigious professionals with years of experience in both ultrasound and teaching. In addition, some of them have several high impact scientific publications, and are creators and members of the Board of Directors of the Spanish Society of Ultrasound in Physiotherapy (SEEFI).

The program is designed to provide training equivalent to 17 ECTS credits and 425 hours of study. All theoretical and practical knowledge is presented through high quality multimedia content, analysis of clinical cases prepared by experts, master classes and video techniques that allow the exchange of knowledge and experience, maintain and update the training level of its members, create protocols for action and disseminate the most important developments in the specialty. With online training, students can organize their time and pace of learning, adapting it to their schedules, in addition to being able to access the contents from any computer or mobile device.

Upgrade your knowledge through the Postgraduate Diploma program in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor".

The Postgraduate Diploma in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor contains the most complete and up to date scientific program on the market. The most important features of the program include:

- The development of case studies presented by experts in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor.
- The graphic, schematic, and eminently practical contents of which they are composed provide scientific and practical information on the disciplines that are essential for professional practice.
- News on the role of the rehabilitation physician.
- Practical exercises where the self-assessment process can be carried out to improve learning.
- Algorithm-based interactive learning system for decision-making in the situations that are presented to the student.
- Special emphasis on evidence-based rehabilitative medicine and research methodologies in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor.
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- Content that is accessible from any fixed or portable device with an Internet connection.



This Postgraduate Diploma may be the best investment you can make in the selection of a refresher program because you will update your knowledge in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor, and you will obtain a degree certified by TECH - Technological University".

It includes in its teaching staff professionals belonging to the field of Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor, who pour into this training the experience of their work, in addition to recognized specialists belonging to reference 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 an immersive training program to train in real situations.

The design of this programme is based on problem-based learning, whereby the teacher must try to solve the different professional practice situations that arise during the course. For this purpose, the instructor will be assisted by a novel interactive video system developed by recognized experts in the field of Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor and with extensive teaching experience.

Increase your confidence in decision making by updating your knowledge through this Postgraduate Diploma.

Take the opportunity to learn about the latest advances in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor, and develop yourself in this exciting field.

02 Objectives

The Postgraduate Diploma in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor is oriented to facilitate the performance of the rehabilitation doctor in his daily practice related to this pathology.





Advance in your profession thanks to the completion of this Postgraduate Diploma, which you can combine with your professional work and your private life".

tech 10 | Objectives



General Objective

- Learn to locate the different anatomical structures of the region.
- Identify the pathologies for a correct ultrasound-guided physiotherapy treatment.
- Define the limits of ultrasound
- Learn the use of ultrasound in the framework of the physiotherapist's competences.



Take the opportunity and take the step to get up to date on the latest developments in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor".





Specific Objectives

Module 1

- Learn about ultrasound and an ultrasound scanner, its history and application to physical therapy.
- Learn about ultrasound and an ultrasound scanner, its history and application to physical therapy.
- Identify the ultrasound patterns of the different structures of the Locomotor System.
- Study the various devices available in ultrasound and learn how to use them beneficially.
- Explain the use of ultrasound by the physical therapist and its legal considerations.
- Describe the piezoelectric effect and the physical basis of ultrasound.
- Explain the different components of the equipment.
- Explain the production of the ultrasound image.
- Describe the terminology used in ultrasound.
- Define the types of images obtained by ultrasound and the different tissue patterns.

Module 2

- Recognize the tendon and ligament structures of the knee and their most frequent injuries.
- Describe the normal examination of the structures of the anterior face.
- Describe the normal examination of the lateral facet structures.
- Describe the normal examination of the structures of the posterior face.
- Describe the normal examination of the medial facet structures.

- Identify the most common lesions, for a correct ultrasound-guided treatment and/ or follow-up of their evolution.
- * Learn how to perform dynamic ultrasound-guided assessment tests.
- Describe less common pathologies that may affect the knee.

Module 3

- Learn the ecoanatomy of the different structures of the leg in all its compartments.
- Identify the most common leg muscles and muscle injuries.
- Describe the normal examination of the structures of the anterior face.
- Describe the normal examination of the lateral facet structures.
- Describe the normal examination of the structures of the posterior face.
- * Learn how to perform dynamic ultrasound-guided assessment tests.
- Describe less common pathologies that can affect the leg.





tech 14 | Course Management

Guest Director



Dr. Castillo, Juan Ignacio

- Chief of Physical Medicine and Rehabilitation Service. 12 de Octubre Hospital. Madrid
- · Associate Professor Complutense University of Madrid. Faculty of Medicine. 2016
- Collaborating Professor at Complutense University of Madrid. 2011-2016
- Teaching Coordinator in continuing education courses of the Health Department of the Community of Madrid: "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 Children's Disability. Complutense University of Madrid.
- Doctorate Course: Neurosciences. University of Salamanca.
- Degree in Medicine and Surgery. University of Salamanca.
- Coordinator of Continuing Education of the Spanish Society of Cardiology in Exercise Testing with Oxygen Consumption.

Co-Direction



Dr. Santiago Nuño, Fernando

- Physiotherapist Osteopath, Podiatrist and Co-Director of Nupofis Clinic
- Diploma in Physiotherapy from San Pablo CEU University
- Diploma in Podiatry from San Pablo CEU University.
- · Postgraduate in Osteopathy CO by the School of Osteopathy of Madrid University of Alcalá
- Currently lecturer in Ultrasound courses for podiatrists and rehabilitation doctors and in the Master's Degree in Advanced Ultrasound Sonoanatomy for rehabilitation doctors at the European University of Madrid.
- · Postgraduate in Advanced Musculoskeletal Ultrasound Donostia-San Sebastián
- Specialist in Biomechanical Gait Exploration
- · Master's Degree in Manual Therapy from the Complutense University of Madrid.
- · Master's Degree in On-line Research in Podiatry by the Rey Juan Carlos University.
- * Expert in Echoguided Infiltrations Avanfi
- · International Course on Musculoskeletal Ultrasound by the Spanish Society of Ultrasound.
- International Podiatric Surgical Specialist Course by the New York College of Podiatric Medicine
- · Postgraduate Course in Medical and Surgical Podiatry of the foot by the Complutense University of Madrid.

tech 16 | Course Management

Professors

Dr. Rivillas Gómez, Alberto

- Resident Intern in Physical Medicine and Rehabilitation at University Hospital 12 de Octubre.
- Graduate in Medicine from Rovira i Virgil University.
- Director of Doctoral Theses at Rovira i Virgil University, Faculty of Medicine.
- Course Management of spinal cord injury, multidisciplinary approach at Hospital Nacional de Parapléjicos de Toldedo.
- * Online Continuing Education Course on Analgesic Management at Grunenthal
- Course "Center of Excellence in Peripheral Neuropathic Pain" at the University Hospital of La Princesa, Madrid.
- Course "Initiation to Cardiac Rehabilitation" in University Hospital Doce de Octubre, Madrid.

Dr. Juano Bielsa, Álvaro

- Resident Intern in Physical Medicine and Rehabilitation at University Hospital 12 de Octubre.
- Degree in Medicine from the University of Zaragoza
- Master's Degree in Clinical Medicine at the University Camilo José Cela
- Introductory Course on Pain Treatment at the Madrid Pain Society, University Rey Juan Carlos, Madrid.
- Introductory course on Musculoskeletal Ultrasound at the Official College of Physicians of Madrid.
- * Postgraduate Course in Musculoskeletal Ultrasound. Panamericana/UFV
- Spinal Cord Injury Course. Multidisciplinary Approach. (National Hospital of Paraplegics

Dr. Uzquiano Guadalupe, Juan Carlos

- Resident Intern of Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre, Madrid.
- Collaborating Physician in practical teaching at the Department of Radiology, Rehabilitation and Physiotherapy of the Faculty of Medicine of the Complutense University of Madrid 20218-2029
- Master's Degree in Musculoskeletal Ultrasound and Interventional Ultrasound by San Pablo CEU Foundation.
- * Postgraduate Course in Children's Rehabilitation by Francisco de Vitori University.
- Extracorporeal Shock Waves Course by European College of Physical Medicine and Rehabilitation
- Master's Degree in Clinical Reasoning and Practice from the University of Alcalá, Spain
- * Medical Degree from the University of Alcalá in Madrid, Spain.
- Specialist in Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre, in Madrid, Spain.

Dr. Carmona Bonet, María A.

- Associate Professor in Health Sciences. Complutense University of Madrid. Faculty of Medicine. Department of Radiology, Rehabilitation and Physiotherapy
- Specialist Physician in Physical Medicine and Rehabilitation University Hospital 12 de Octubre, Madrid
- Collaborating doctor of practical teaching, Department of Physical Medicine and Rehabilitation and Medical Hydrology at the University Hospital 12 de Octubre, in the subject "Physical Medicine and Rehabilitation" of the 3rd year of Medicine at the Complutense University of Madrid 2008-2019.
- Doctor from the University Complutense of Madrid, Faculty of Medicine, Department of Physical Medicine and Rehabilitation.
- * Master's Degree in Childhood Disability. Complutense University of Madrid
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Member of the Spanish Society of Rehabilitation and Physical Medicine.

Dr. López Sáez, Mireya

- Specialist in Physical Medicine and Rehabilitation at the University Hospital 12 de Octubre, Madrid.
- Post-Covid assessment unit, through the evaluation of possible sequelae after COVID-19 infection in the rehabilitation office.
- Collaborating physician in practical teaching at the Department of Physical Medicine and Rehabilitation, Medical Hydrology of the Faculty of Medicine at the Complutense University of Madrid. 2015-2019
- Degree in Medicine from the University Rey Juan Carlos, Madrid, Spain.
- Basic and Advanced Cardio-Pulmonary Resuscitation Course. University Hospital Doce de Octubre, Madrid
- Member of ICOMEN: Illustrious Official College of Physicians of the Community of Madrid
- Full Member of the Rehabilitation Center Society

Dr. García Gómez, Nuria

- Specialist in Physical Medicine and Rehabilitation. Hospital Doce de Octubre.
 Madrid
- Specialist in Family and Community Medicine: Gregorio Marañón General University Hospital
- Collaborating Physician of the Department of Physical Medicine and Rehabilitation and Medical Hydrology of the Complutense University of Madrid, at the University Hospital 12 de Octubre 2013-2020.
- Multiprofessional Teaching Unit of Family and Community Care, Southeast Health Area, Madrid 2011
- Expert in Neurorehabilitation, Institute of Continuing Education of the University of Barcelona.
- * Degree in Medicine and Surgery: Alcalá de Henares University.

Dr. Sevilla Torrijos, Gustavo

- Area Specialist in the Rehabilitation Service of the University Hospital 12 de Octubre, Madrid.
- Area Specialist in the Rehabilitation Service of the University Hospital of Torrejón, Madrid 2012 - 2018.
- Medical Specialist in the Rehabilitation Unit of the Hospital de Guadarrama 2008 -2012
- "Specialist in Comprehensive Assistance in Emergencies and Health Emergencies", Degree of the European University Miguel de Cervantes.
- Member of the Spanish Society of Rehabilitation and Physical Medicine (SERMEF).
- * Course in Diagnostic Imaging in Musculoskeletal Pain
- Refresher Course in Localized Neuropathic Pain
- Course in Osteoarthritis and Pain Sensitization
- Degree in Medicine from the Complutense University of Madrid...

Dr. Casado Hernández, Israel

- Podiatrist Ultrasonographer.
- Master's Degree in Podiatric Research.
- Postgraduate in Podiatric foot surgery and podiatry.
- GP, Phd, MSc, BSc, PG Cert Clínica Vitalpie.

Dr. García Expósito, Sebastián

- * Advanced Technician in Diagnostic Imaging and Radiation Therapy.
- Expert in Musculoskeletal Ultrasound.
- Professor of Ultrasound.
- Armstrong International Clinic.

tech 18 | Course Management

Dr. Moreno, Cristina Elvira

- Physiotherapist.
- Expert in Dry Needling and MSK ultrasound.
- Floor Pilates and Hypopressive Abdominal Gymnastics teacher.
- Nupofis Clinic, Madrid.

Dr. Nieri, Martín

- * Advanced Technician in Diagnostic Imaging and Radiation Therapy.
- Expert in Musculoskeletal Ultrasound.
- Professor of Ultrasound.

Dr. Pérez Calonge, Juan José

- Podiatric Sonographer.
- Master's Degree in health expertise.
- Expert in Medical-Surgical Podiatry of the foot.
- PhDs, MSc, BSc, PG Cert Clinica Gayarre.

Dr. Sánchez Marcos, Julia

- Physiotherapist, Osteopath
- Expert in Sonoanatomy of the locomotor system Clínica Nupofis Madrid.





Course Management | 19 tech

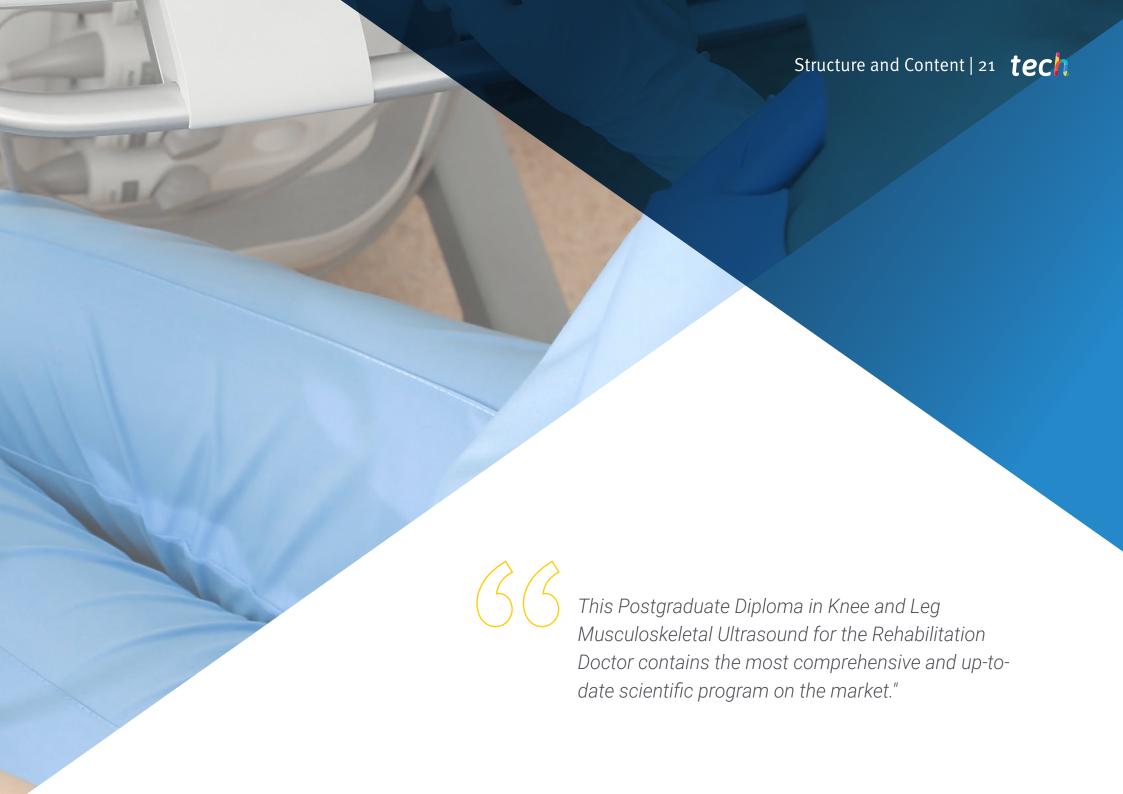
Dr. Santiago Nuño, José Ángel

- Physiotherapy, Osteopathy and Nutrition.
- Expert in Musculoskeletal Ultrasound.
- Nupofis Clinic Madrid.

Dr. Teijeiro, Javier

- Physiotherapy and Osteopathy.
- Professor of Musculoskeletal Ultrasound.
- SEEFI SEECO.
- Service Director in Ultrasound Assistance Teleradiology SL.





tech 22 | Structure and Content

Module 1. Basic Ultrasound

- 1.1. Basic Ultrasound I.
 - 1.1.1. General Aspects of Ultrasonography.
 - 1.1.2. Physical Basis of Ultrasound. Piezoelectric effect.
- 1.2. Basic Ultrasound II.
 - 1.2.1. Knowledge of the Equipment.
 - 1.2.2. Equipment Operation: Parameters.
 - 1.2.3. Technological Improvements.
- 1.3. Basic Ultrasound III.
 - 1.3.1. Artifacts in Ultrasound.
 - 1.3.2. Foreign Bodies.
 - 1.3.3. Types of Images and Different Tissue Patterns in Ultrasound.
 - 1.3.4. Dynamic Maneuvers.
 - 1.3.5. Advantages and Disadvantages of Ultrasound.

Module 2. Lower Limb Ultrasound: knee

- 2.1. Normal Sonoanatomy of the Knee.
 - 2.1.1. Exploration of Structures of the Anterior Face.
 - 2.1.2. Exploration of Structures of the Medial Face.
 - 2.1.3. Exploration of Structures of the Lateral Face.
 - 2.1.4. Exploration of Structures of the Posterior Face.2.1.4.1. Exploration of the Sciatic Nerve.
- 2.2. Knee Pathology.
 - 2.2.1. Most Common Tendon Pathology.
 - 2.2.2. Other Pathologies of the Knee Joint.
- 2.3. Dynamic Knee Tests.
 - 2.3.1. Deep Vein Thrombosis Test.
 - 2.3.2. Knee Varus or Valgus Test.
 - 2.3.3. Patella Slip Test to Assess Posterior Face.

Module 3. Lower Limb Ultrasound: Leg

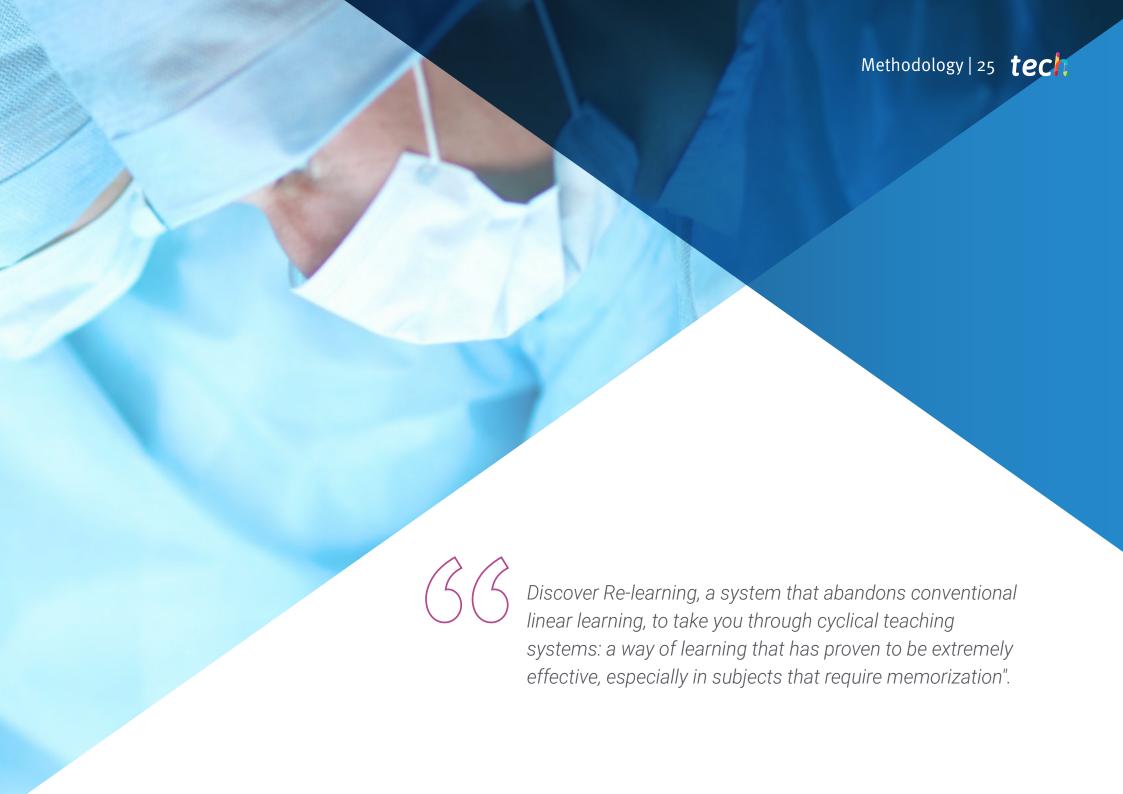
- 3.1. Normal Sonoanatomy of the Leg.
 - 3.1.1. Exploration of Structures of the Anterior Face.
 - 3.1.2. Exploration of Structures of the Lateral Face.
 - 3.1.3. Exploration of Structures of the Posterior Face.
- 3.2. Leg Pathology.
 - 3.2.1. Most Common Pathology of the leg.
 - 3.2.1.1. Tibial Periostitis.
 - 3.2.1.2. Tennis Leg.
- 3.3. Dynamic Leg Tests.
 - 3.3.1. Myofascial Slip Test of the Gemellus-Soleus
 - 3.3.2. Activation Test of the Flexor Digitorum Longus of the First Finger.





A unique, key, and decisive training experience to boost your professional development"





tech 26 | Methodology

At TECH we use the Case Method

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential 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 in professional medical 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:

- Students 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 student 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.
- 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.



Re-learning Methodology

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

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

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



Methodology | 29 tech

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

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socioeconomic profile and an average age of 43.5 years.

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

In our program, learning is not a linear process, but rather a spiral (we 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.

tech 30 | Methodology

In this program you will have access to the best educational material, prepared with you 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Latest Techniques and Procedures on Video

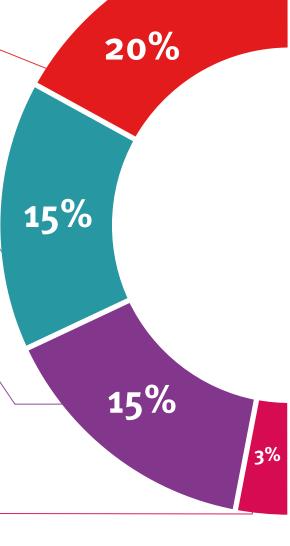
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

We present 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, international guides. in our virtual library you will have access to everything you need to complete your training.

Expert-led case studies and case analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through the development of attention and the resolution of different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting



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

Classes



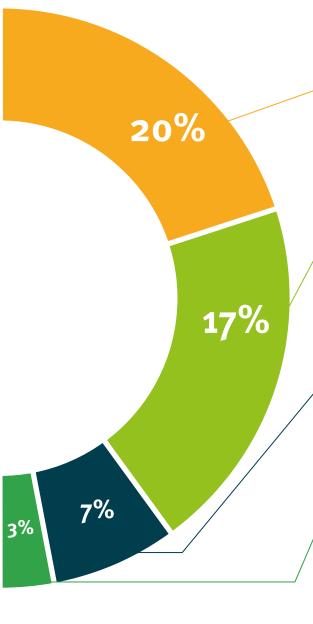
There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence in our difficult future decisions.

Quick Action Guides



We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.







tech 34 | Certificate

This Postgraduate Diploma in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Diploma** issued by TECH - Technological University

The diploma issued by TECH - Technological University will express the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: Postgraduate Diploma in Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor

ECTS: 17

Official Number of Hours: 425



Knee and Leg Musculoskeletal Ultrasound for Rehabilitation Doctor

This is a qualification awarded by this University, with 17 ECTS credits and equivalent to 425 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

ine 17, 2020

Tere Guevara Navarro

his qualification must always be accompanied by the university degree issued by the competent authority to pr

nue TECH Code: AFWORD23S techtitute com/certificates

^{*}Apostille Convention. In the event that the student wishes to have their paper diploma Apostilled, TECH EDUCATION will make the necessary arrangements to obtain it at an additional cost of €140 plus shipping costs of the Apostilled diploma.

health confidence people information tutors guarantee as sections of teaching teachi



Postgraduate Diploma

Knee and Leg Musculoskeletal Ultrasound for the Rehabilitation Doctor

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

