

# Professional Master's Degree Musculoskeletal Ultrasound in Physiotherapy

Endorsed by:



SEUS  
Sociedad Española de UltraSonidos



tech technological  
university



## Professional Master's Degree Musculoskeletal Ultrasound in Physiotherapy

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/in/physiotherapy/professional-master-degree/master-musculoskeletal-ultrasound-physiotherapy](http://www.techtute.com/in/physiotherapy/professional-master-degree/master-musculoskeletal-ultrasound-physiotherapy)

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# 01

# Introduction

The physiotherapy clinical practice has experienced a before and after technological advances in ultrasound devices, which have improved image quality and offer great versatility. Thus, the professional has an effective tool, which allows them to make a more accurate diagnosis and apply the precise techniques for the different ailments in the musculoskeletal system. Advances make it necessary for professionals to be constantly up to date in order not to be left behind in a field that has become essential in any practice. Faced with this reality, this program was created to provide the latest advances in ultrasound sonoanatomy or assessment by means of dynamic tests. All this in an online teaching format, which has a specialized and multidisciplinary teaching team that provides its extensive knowledge in this field.





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*This 100% online Professional Master's Degree over 12 months, will provide you with an intensive and advanced update in Musculoskeletal Ultrasound"*

Injuries to ligaments, muscles, tendons or nerves are becoming increasingly easier to diagnose thanks to improvements in ultrasound equipment in recent years. In addition, these advances provide a faster and more effective diagnosis, so integrating this tool into the praxis of the physiotherapy professional has been a wise decision.

However, the physiotherapist must be aware of the latest developments in this field, where increased success rates have been scientifically demonstrated in treatments that have employed ultrasound to address musculoskeletal ailments or injuries. Given this reality, TECH has designed a Professional Master's Degree that will allow the professional to be up to date with the technical and technological advances in Musculoskeletal Ultrasound applied to Physiotherapy.

A university program, where over 12 months, students will be able to deepen in an agile way in sonoanatomy, the physical basis of ultrasound, equipment management, tissue patterns in ultrasound or dynamic maneuvers. This will be possible thanks to the multimedia teaching material (video summaries, detailed videos, diagrams) developed by the specialized teaching team that teaches this program.

In addition to a syllabus with a theoretical approach, students have access to simulations of clinical cases, which will allow them to obtain a much more direct and practical view of the latest developments in this field.

The professional is, therefore, facing an excellent opportunity to take an online program, flexible and compatible with the most demanding responsibilities. Thus, with only an electronic device with an Internet connection, students can access the complete syllabus hosted on the virtual campus. In addition, you have the freedom to distribute the teaching load according to your needs.

This **Professional Master's Degree in Musculoskeletal Ultrasound in Physiotherapy** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- Practical cases presented by experts in Medicine and Psysiotherapy
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- 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



*Thanks to this program you will be able to keep up to date with the latest technological advances in ultrasound"*

“

*With this program you will achieve a thorough knowledge of musculoskeletal ultrasound, under the highest scientific rigor and with the most complete and specialized teaching team in the sector"*

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 knowledge programmed to learn 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*This is a qualification that will bring you up to date with the most effective and recent tests used for the diagnosis of ligament injuries or fibrillar ruptures.*

*Apply in your practice the latest ultrasound-guided techniques used in the treatment of the most common shoulder pathologies.*



# 02 Objectives

The syllabus of this Professional Master's Degree has been designed for the physiotherapy professional to obtain the latest knowledge on Musculoskeletal Ultrasound. Thus, at the end of the 12-month course, students will be up to date with the latest advances in this field, including the application of ultrasound-guided treatments and the different dynamic assessment techniques. The specialized teaching staff will be responsible for accompanying the professional to achieve these goals.







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*TECH provides you with the most innovative teaching tools, so that you can easily update your knowledge on the use of ultrasound in rehabilitation”*



## General Objectives

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- Learn to locate the different anatomical structures of the region
- Identify pathologies for a correct treatment of ultrasound-guided rehabilitation medicine
- Define the limits of ultrasound
- Learn about the use of ultrasound in the framework of physiotherapist skills



*This program provides you with the latest scientific evidence on the effectiveness of ultrasound in addressing ankle pathologies"*





## Specific Objectives

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### Module 1. Basic Ultrasound

- ♦ Learn about ultrasound and an ultrasound scanner, its history and application to physiotherapy
- ♦ Identify the ultrasound patterns of the different structures of the locomotor system
- ♦ Study the different devices available in ultrasound and learn how to use them beneficially
- ♦ Explain the use of ultrasound by the rehabilitation physician and its legal considerations
- ♦ Describe the piezoelectric effect and the physical basis of ultrasound
- ♦ Explain the different components of the equipment
- ♦ Explain the development of the ultrasound image
- ♦ Describe the terminology used in ultrasound scanning
- ♦ Define the types of images obtained by ultrasound and the different tissue patterns

### Module 2. Ultrasound of the Upper Limb: Shoulder

- ♦ Identify the main structures of the shoulder visible on ultrasound
- ♦ Describe the normal examination of the structures of the anterior aspect the shoulder
- ♦ Describe the normal examination of the structures of the lateral aspect the shoulder
- ♦ Describe the normal examination of the structures of the posterior aspect the shoulder
- ♦ Recognize the most common lesions of the shoulder, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Describe less common pathologies that can affect the shoulder joint
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the shoulder

### Module 3. Ultrasound of the Upper Limb: Elbow

- ♦ Describe the sonoanatomy of the elbow joint
- ♦ Describe the normal examination of the structures of the anterior aspect the elbow
- ♦ Describe the normal examination of the structures of the lateral aspect the elbow
- ♦ Describe the normal examination of the structures of the posterior aspect the elbow
- ♦ Describe the normal examination of the structures of the medial aspect of the elbow
- ♦ Log in the most common lesions of the elbow, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the elbow
- ♦ Describe less common pathologies that can affect the elbow joint

### Module 4. Ultrasound of the Upper Limb: Wrist

- ♦ Describe the sonoanatomy of the wrist
- ♦ Describe the normal examination of the structures of the dorsal aspect of the wrist
- ♦ Describe the normal examination of the structures of the palmar aspect of the wrist
- ♦ Identify the most common lesions of the wrist, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the wrist
- ♦ Describe less common pathologies that can affect the wrist joint

### **Module 5. Ultrasound of the Upper Limb: Hand**

- ♦ Describe the sonoanatomy of the hand
- ♦ Describe the normal examination of the structures of the dorsal aspect of the hand
- ♦ Describe the normal examination of the structures of the palmar aspect of the hand
- ♦ Identify the most common lesions of the hand, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests of the hand
- ♦ Describe less common pathologies that can affect the hand

### **Module 6. Ultrasound of the Lower Limb: Hip**

- ♦ Learn the echoanatomy of the different structures of the hip
- ♦ Describe the normal examination of the structures of the anterior aspect of the hip
- ♦ Describe the normal examination of the structures of the lateral aspect of the hip
- ♦ Describe the normal examination of the structures of the posterior aspect of the hip
- ♦ Describe the normal examination of the structures of the medial aspect of the hip
- ♦ Identify the most common lesions of the hip, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests of the hip
- ♦ Describe less common pathologies that can affect the hip

### **Module 7. Ultrasound of the Lower Limb: Thigh**

- ♦ Learn the echoanatomy of the different structures of the thigh
- ♦ Describe the normal examination of the structures of the front aspect the thigh
- ♦ Describe the normal examination of the structures of the lateral aspect the thigh
- ♦ Describe the normal examination of the structures of the posterior aspect the thigh
- ♦ Describe the normal examination of the structures of the medial aspect the thigh
- ♦ Log in the most common lesions of the thigh, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the thigh
- ♦ Describe less common pathologies that can affect the thigh
- ♦ Identify thigh muscles and common muscle injuries

### **Module 8. Ultrasound of the Lower Limb: knee**

- ♦ Recognize the tendon and ligament structures of the knee and their most common injuries
- ♦ Describe the normal examination of the structures of the anterior aspect of the knee
- ♦ Describe the normal examination of the structures of the lateral aspect of the knee
- ♦ Describe the normal examination of the structures of the posterior aspect of the knee
- ♦ Describe the normal examination of the structures of the medial aspect of the knee
- ♦ Identify the most common lesions of the knee, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests of the knee
- ♦ Describe less common pathologies that can affect the knee

**Module 9. Ultrasound of the Lower Limb: Leg**

- ♦ Learn the echanatomy of the different structures of the leg in all its parts
- ♦ Identify leg muscles and the most common leg muscle injuries
- ♦ Describe the normal examination of the structures of the anterior aspect of the leg
- ♦ Describe the normal examination of the structures of the lateral aspect of the leg
- ♦ Describe the normal examination of the structures of the posterior aspect of the leg
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests of the leg
- ♦ Describe less common pathologies that can affect the leg

**Module 10. Ultrasound of the Lower Limb: Ankle**

- ♦ Learning the sonoanatomy of the ankle
- ♦ Describe the normal examination of the structures of the anterior aspect the ankle
- ♦ Describe the normal examination of the structures of the lateral aspect the ankle
- ♦ Describe the normal examination of the structures of the posterior aspect the ankle
- ♦ Describe the normal examination of the structures of the medial aspect the ankle
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the ankle
- ♦ Log in the most common lesions of the ankle, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Describe less common pathologies that can affect the ankle

**Module 11. Ultrasound of the Lower Limb: Foot**

- ♦ Recognize the main lesions in this region, for a correct ultrasound-guided treatment and follow-up of their evolution
- ♦ Describe the normal examination of the structures of the dorsal aspect of the foot
- ♦ Describe the normal examination of the structures of the palmar aspect of the foot
- ♦ Describe less common pathologies that can affect the foot
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests on the foot

**Module 12. Ultrasound of the Lower Limb: Forefoot**

- ♦ Describe the normal examination of the structures of the dorsal aspect of the forefoot
- ♦ Describe the normal examination of the structures of the palmar aspect of the forefoot
- ♦ Identify the most common forefoot injuries, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ♦ Describe less common pathologies that can affect the forefoot
- ♦ Learn how to perform dynamic ultrasound-guided assessment tests of the forefoot

# 03 Skills

Progress in testing techniques or improvements in the skills to perform normal examination of upper and lower limb structures are just some of the skills and capabilities that will enhance the professional with this Professional Master's Degree. This will be possible thanks to the many multimedia resources contained in this program, including clinical case studies. With these pedagogical tools, TECH provides the most current knowledge in Musculoskeletal Ultrasound.





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*Get the most up-to-date knowledge  
in the detection of rare pathologies  
by means of dynamic assessments”*



## General Skills

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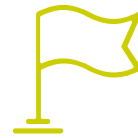
- ◆ Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- ◆ Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
- ◆ Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- ◆ Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way
- ◆ Acquire the learning skills that will enable the professional to continue studying in a manner that will be largely self-directed or autonomous



*Ultrasound-guided treatments have proven to be effective. Learn in this program about the latest advances in the application of this technique in patients with muscle injuries"*







## Specific Skills

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- ◆ Understand and relate each of the physical bases of ultrasound production
- ◆ Identify the ultrasound patterns of the different structures of the locomotor system
- ◆ Differentiate ultrasound patterns for the subsequent identification of normality and lesions in ultrasound
- ◆ Define the legal framework for ultrasound for rehabilitation physicians
- ◆ Identify the main structures of the shoulder visible on ultrasound
- ◆ Recognize the most common lesions, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ◆ Integration of dynamic ultrasound-guided assessment tests into a normal system
- ◆ Know the sonoanatomy of the elbow, wrist and hand joints
- ◆ Identify the most common lesions, for a correct ultrasound-guided treatment and/or follow-up of their evolution
- ◆ Learn the echoanatomy of the different structures of the hip
- ◆ Identify thigh muscles and common muscle injuries
- ◆ Recognize the tendon and ligament structures of the knee and their most common injuries
- ◆ Learn the echanatomy of the different structures of the leg in all its parts
- ◆ Identify the most common leg muscles and muscle injuries
- ◆ Learn the sonoanatomy of the ankle and foot
- ◆ Recognize the main lesions in this region, for a correct ultrasound-guided treatment and follow-up of their evolution

# 04

# Course Management

The physiotherapy professional who is part of this educational program will have at their disposal a management and teaching staff that has been selected by TECH following a rigorous process that has taken into account his high qualification and professional experience in the field of Musculoskeletal Ultrasound. Thanks to their extensive knowledge in this field, the physiotherapist will obtain the latest information in this field, while being able to consult any doubts they may have about the syllabus throughout this online program.





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*A team specialized in physiotherapy and rehabilitation will answer any questions you may have about the syllabus of this Professional Master's Degree"*

## Management



### Dr. Castillo, Juan Ignacio

- ♦ Chief of Physical Medicine and Rehabilitation Service. 12 de Octubre Hospital, Madrid
- ♦ Associate Professor of the Faculty of Medicine at the Complutense University of Madrid.
- ♦ Collaborating Professor at the Complutense University of Madrid
- ♦ Master's Degree in Cardiac Rehabilitation, SEC-UNED
- ♦ Master's Degree in Disability Assessment, Autonomous University of Madrid
- ♦ Master Child Disability. Complutense University of Madrid
- ♦ Degree in Medicine and Surgery University of Salamanca.

## Professors

### Dr. Carmona Bonet, María A.

- ♦ Specialist Faculty in Physical Medicine and Rehabilitation at 12 de Octubre University Hospital , Madrid
- ♦ Associate Professor in Health Sciences at the Faculty of Medicine Department of Radiology, Rehabilitation and Physiotherapy, Complutense University of Madrid
- ♦ Collaborating physician in the department of Physical Medicine and Rehabilitation and Medical Hydrology at 12 de Octubre University Hospital
- ♦ Member of the Spanish Society of Rehabilitation and Physical Medicine
- ♦ Doctor at the Complutense University of Madrid
- ♦ Master's Degree in Childhood Disability from the Complutense University of Madrid
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid

### Dr. Casado Hernández, Israel

- ♦ Podiatrist Sonographer
- ♦ Research Master's Degree in Podiatry
- ♦ Postgraduate Diploma in Podiatric foot surgery and medical foot care

### Dr. García Expósito, Sebastián

- ♦ Advanced Technician in Diagnostic Imaging and Radiation Therapy
- ♦ Professor of Ultrasound, Armstrong International Clinic
- ♦ Postgraduate Diploma in Musculoskeletal Ultrasound

**Dr. García Gómez, Nuria**

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

**Dr. Juano Bielsa, Álvaro**

- ♦ Resident intern in Physical Medicine and Rehabilitation at 12 de Octubre University Hospital
- ♦ Master's Degree in Clinical Medicine from the Camilo José Cela University
- ♦ Degree in Medicine from the University of Zaragoza

**Dr. López Sáez, Mireya**

- ♦ Specialist in Physical Medicine and Rehabilitation at 12 de Octubre University Hospital, Madrid
- ♦ Post-Covid assessment unit, through the evaluation of possible sequelae after COVID-19 infection in the rehabilitation room

- ♦ 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
- ♦ Member of ICOMEN: Illustrious Official College of Physicians of the Community of Madrid
- ♦ Full Member of the Rehabilitation Center Society
- ♦ Degree in Medicine at Rey Juan Carlos University, Madrid

**Dr. Moreno, Cristina Elvira**

- ♦ Physiotherapist
- ♦ Postgraduate Diploma in Dry Needling and MSK Ultrasound
- ♦ Pilates Floor Pilates and Hypopressive Abdominal Gymnastics Teacher, Clínica Nupofis, Madrid

**Dr. Nieri, Martín**

- ♦ Advanced Technician in Diagnostic Imaging and Radiation Therapy
- ♦ Postgraduate Diploma in musculoskeletal ultrasonography
- ♦ Professor in Ultrasound

**Dr. Pérez Calonge, Juan José**

- ♦ Podiatrist Sonographer
- ♦ Master's Degree in Health Expertise
- ♦ Postgraduate Diploma in Podiatric foot surgery and medical foot care

**Dr. Rivillas Gómez, Alberto**

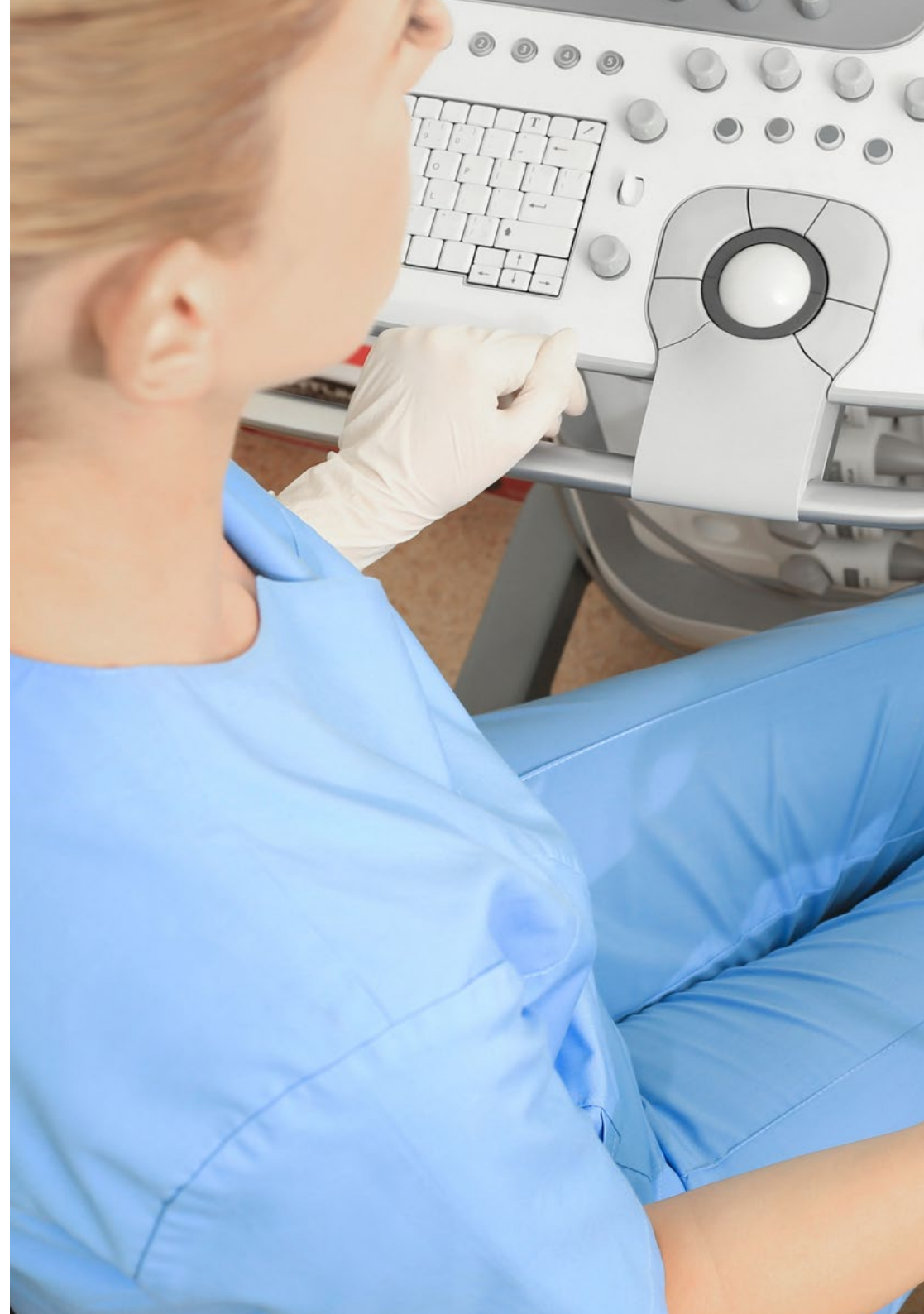
- ♦ Resident intern in Physical Medicine and Rehabilitation at Hospital Universitario 12 de Octubre
- ♦ Degree in Medicine from Rovira i Virgili University
- ♦ Director of Doctoral Theses at the Faculty of Medicine, Rovira i Virgil University

**Dr. Santiago Nuño, Fernando**

- ♦ Physiotherapist-Osteopath, Podiatrist and Co-Director of Nupofis Clinic
- ♦ Specialist in Biomechanical Gait Exploration
- ♦ Professor teaching in ultrasound courses for podiatrists and rehabilitation physicians and in the Master of Advanced Ultrasound Sonoanatomy for physiotherapists at the European University of Madrid
- ♦ Diploma in Physiotherapy from San Pablo CEU University
- ♦ Diploma in Podiatry from San Pablo CEU University
- ♦ Postgraduate Diploma in Osteopathy CO by the School of Osteopathy of Madrid– University of Alcalá
- ♦ Postgraduate Diploma in Advanced Musculoskeletal Ultrasound Donostia-San Sebastián
- ♦ Avanfi Expert in Echoguided Infiltrations
- ♦ Master's Degree in Manual Therapy from the Complutense University of Madrid
- ♦ Master in On-line Research in Podiatry from Rey Juan Carlos Universit

**Dr. Sevilla Torrijos, Gustavo**

- ♦ Area Specialist in the Rehabilitation Service of the 12 de Octubre University Hospital, Madrid
- ♦ Area Specialist in the Rehabilitation Service of Torrejón University Hospital, Madrid
- ♦ Specialist Physician in the Rehabilitation Unit of Guadarrama Hospital
- ♦ Member of the Spanish Society of Rehabilitation and Physical Medicine.(SERMEF)
- ♦ Degree in Medicine from the Complutense University of Madrid





**Dr. Sánchez Marcos, Julia**

- ◆ Physiotherapist, Osteopath
- ◆ Postgraduate Diploma in Sonoanatomy of the locomotor system, Nupofis Clinic Madrid

**Dr. Santiago Nuño, José Ángel**

- ◆ Physiotherapy, Osteopathy and Nutrition
- ◆ Postgraduate Diploma in Musculoskeletal Ultrasound
- ◆ Nupofis Clinic Madrid

**Dr. Teijeiro, Javier**

- ◆ Physiotherapy and Osteopathy
- ◆ Teacher of Musculoskeletal Ultrasound
- ◆ Member of the Spanish Society of Ultrasound in Physiotherapy (SEEFi) and Spanish Society of Ultrasound (SEECO)
- ◆ Service Director in Ultrasound Assistance Teleradiology SL

**Dr. Uzquiano Guadalupe, Juan Carlos**

- ◆ Resident intern of Physical Medicine and Rehabilitation at 12 de Octubre University Hospital, 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
- ◆ Master's Degree in Musculoskeletal Ultrasound and Interventional Ultrasound at San Pablo CEU Foundation
- ◆ Master's Degree in Clinical Reasoning and Practice from the University of Alcalá, Spain
- ◆ Degree in Medicine from the University of Alcalá in Madrid, Spainy

05

# Structure and Content

Through video summaries, videos in detail, diagrams or specialized readings, the professional who studies this program will be able to obtain the most recent knowledge about the exploration carried out by means of the latest technology applied to ultrasound, as well as the most effective techniques for the evaluation of the patient with pathologies in the leg, hand, shoulder or ankle. In addition, the Relearning system, used by TECH in all its programs, will allow students to progress through the content in a much more natural and progressive way, while reducing the long hours of study.







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*You have an attractive visual content that will immerse you in the latest scientific information in basic ultrasound"*

## Module 1. Basic Ultrasound

- 1.1. Basic Ultrasound I
  - 1.1.1 General Aspects of Ultrasound
  - 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 Handling: 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 Imaging
  - 1.3.4 Dynamic Maneuvers
  - 1.3.5 Advantages and Disadvantages of Ultrasound

## Module 2. Ultrasound of the Upper Limb: Shoulder

- 2.1. Normal Shoulder Sonoanatomy
  - 2.1.1 Examination of the Structures of the Anterior Aspect
  - 2.1.2 Examination of the Structures of the Lateral Aspect
  - 2.1.3 Examination of the Structures of the Posterior Aspect
- 2.2. Shoulder Pathology
  - 2.2.1 Most Common Tendon Pathology
  - 2.2.2 Other Shoulder Joint Pathologies
- 2.3. Dynamic Shoulder Tests



**Module 3. Ultrasound of the Upper Limb: Elbow**

- 3.1. Normal Elbow Sonoanatomy
  - 3.1.1 Examination of the Structures of the Anterior Aspect
  - 3.1.2 Examination of the Structures of the Lateral Aspect
  - 3.1.3 Examination of the Structures of the Medial Aspect
  - 3.1.4 Examination of the Structures of the Posterior Aspect
- 3.2. Elbow Pathology
  - 3.2.1 Most Common Tendon Pathology
  - 3.2.2 Other Elbow Joint Pathologies
- 3.3. Dynamic Elbow Tests

**Module 4. Ultrasound of the Upper Limb: Wrist**

- 4.1. Normal Sonoanatomy of the Wrist
  - 4.1.1 Examination of the Dorsal Aspect
  - 4.1.2 Examination of the Palmar Aspect
- 4.2. Wrist Pathology
  - 4.2.1 Most Common Tendon Pathology
  - 4.2.2 Other Wrist Joint Pathologies
- 4.3. Dynamic Wrist Tests

**Module 5. Ultrasound of the Upper Limb: Hand**

- 5.1. Normal Sonoanatomy of the Hand
  - 5.1.1 Examination of the Dorsal Aspect
  - 5.1.2 Examination of the Palmar Aspect
- 5.2. Pathology of the Hand
  - 5.2.1 Most Common Pathology of the Hand
- 5.3. Dynamic Hand Tests

### Module 6. Ultrasound of the Lower Limb: Hip

- 6.1. Normal Sonoanatomy of the Hip
  - 6.1.1 Examination of the Structures of the Anterior Aspect
  - 6.1.2 Examination of the Structures of the Lateral Aspect
  - 6.1.3 Examination of the Structures of the Medial Aspect
  - 6.1.4 Examination of the Structures of the Posterior Aspect
- 6.2. Pathology of the Hip
  - 6.2.1 Most Common Tendon Pathology
  - 6.2.2 Most Common Muscle Pathology
  - 6.2.3 Other Hip Joint Pathologies
- 6.3. Dynamic Hip Tests

### Module 7. Ultrasound of the Lower Limb: Thigh

- 7.1. Normal Thigh Sonoanatomy
  - 7.1.1 Examination of the Structures of the Anterior Aspect
  - 7.1.2 Examination of the Structures of the Lateral Aspect
  - 7.1.3 Examination of the Structures of the Medial Aspect
  - 7.1.4 Examination of the Structures of the Posterior Aspect
- 7.2. Thigh Pathology
  - 7.2.1 Most Common Tendon Pathology
  - 7.2.2 Other Pathologies of the Thigh
- 7.3. Dynamic Thigh Tests

### Module 8. Ultrasound of the Lower Limb: knee

- 8.1. Normal Sonoanatomy of the Knee
  - 8.1.1 Examination of the Structures of the Anterior Aspect
  - 8.1.2 Examination of the Structures of the Medial Aspect
  - 8.1.3 Examination of the Structures of the Lateral Aspect
  - 8.1.4 Examination of the Structures of the Posterior Aspect
    - 8.1.4.1. Sciatic Nerve Exploration
- 8.2. Knee Pathology
  - 8.2.1 Most Common Tendon Pathology
  - 8.2.2 Other Knee Joint Pathologies
- 8.3. Dynamic Knee Tests



### Module 9. Ultrasound of the Lower Limb: Leg

- 9.1. Normal Sonoanatomy of the Leg
  - 9.1.1 Examination of the Structures of the Anterior Aspect
  - 9.1.2 Examination of the Structures of the Lateral Aspect
  - 9.1.3 Examination of the Structures of the Posterior Aspect
- 9.2. Pathology of the Leg
  - 9.2.1 Most Common Pathology of the Leg
- 9.3. Dynamic Leg Tests

### Module 10. Ultrasound of the Lower Limb: Ankle

- 10.1. Normal Ankle Sonoanatomy
  - 10.1.1 Examination of the Structures of the Anterior Aspect
  - 10.1.2 Examination of the Structures of the Lateral Aspect
  - 10.1.3 Examination of the Structures of the Medial Aspect
  - 10.1.4 Examination of the Structures of the Posterior Aspect
- 10.2. Pathology of the Ankle
  - 10.2.1 Most Common Tendon Pathology
  - 10.2.2 Most Common Ligament Pathology
  - 10.2.3 Other Ankle Joint Pathologies
- 10.3. Dynamic Ankle Tests

### Module 11. Ultrasound of the Lower Limb: Foot

- 11.1. Normal Foot Sonoanatomy
  - 11.1.1 Examination of the Structures of the Dorsal Aspect
  - 11.1.2 Examination of the Structures of the Plantar Aspect
    - 11.1.2.1. Plantar Fascia
    - 11.1.2.2. 1st Layer
    - 11.1.2.3. 2nd Layer
    - 11.1.2.4. 3rd Layer
    - 11.1.2.5. 4th Layer
- 11.2. Pathology of the Foot
  - 11.2.1 Most Common Foot Pathology
- 11.3. Dynamic Foot Tests

### Module 12. Ultrasound of the Lower Limb: Forefoot

- 12.1. Normal Foot Sonoanatomy
  - 12.1.1 Examination of the Structures of the Dorsal Aspect
  - 12.1.2 Examination of the Structures of the Plantar Aspect
- 12.2. Forefoot Pathology
  - 12.2.1 Most Common Forefoot Pathology
- 12.3. Dynamic Foot Tests



*A 100% online program that provides you with the latest ultrasound technical advances in the detection of foot and forefoot pathologies"*

06

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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. Gervas, 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.



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*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 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.*

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 strong 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 training, 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.





#### Expert-Led Case Studies and Case Analysis

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 known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### 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.



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# Certificate

The Professional Master's Degree in Musculoskeletal Ultrasound in Physiotherapy guarantees you, in addition to the most rigorous and updated training, access to Professional Master's Degree issued by TECH Technological University.





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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

This **Professional Master's Degree in Musculoskeletal Ultrasound in Physiotherapy** contains the most complete and updated scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will express the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Musculoskeletal Ultrasound in Physiotherapy**

Official N° of hours: **1,500 h.**

Endorsed by:



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



future

health

confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

**tech** technological  
university

personalized service innovation

knowledge presentation  
online teaching  
development languages  
virtual classroom

## Professional Master's Degree Musculoskeletal Ultrasound in Physiotherapy

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree Musculoskeletal Ultrasound in Physiotherapy

Endorsed by:



SEUS  
Sociedad Española de UltraSonidos