Postgraduate Certificate
Update on Ultrasound in Physiotherapy

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Postgraduate Certificate

Update on Ultrasound in Physiotherapy

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

Website: www.techtitute.com/pk/physiotherapy/postgraduate-certificate/update-ultrasound-physiotherapy

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01

Introduction

Technological evolution has had a complete impact on the field of physiotherapy, enabling the detection and monitoring of different types of injuries by modern diagnostic methods. In this sense, the use of small portable ultrasound scanners that require only a smartphone or tablet to operate has become progressively popular, achieving benefits both in speed and in reducing economic costs, which forces physiotherapists to master these advances to be at the forefront of their sector. For this reason, TECH has designed this Postgraduate Certificate, with which the student will update their skills in the handling of the new ultrasound equipment and in the diagnosis of complex pathologies to improve their professional performance in a 100% online way.

Learn how to handle, thanks to this qualification, the modern ultrasound equipment that allows the detection of pathologies in a fast and accurate way"

The incessant scientific evolution has brought countless benefits in the field of ultrasound. Recently, the use of artificial intelligence has been incorporated so that, just by taking data from the patient, the ultrasound devices facilitate the process of detecting an injury to the physiotherapist, offering information on possible pathologies that would not be considered without this technology. These innovations have a positive impact on the long-term follow-up of the evolution of injuries, making it possible to adapt therapy to their development in order to maximize recovery. Therefore, given the immense benefits offered by these advances, physical therapists need to incorporate them into their work methodology in order to offer first class care.

That is why TECH has created this program, in order to provide the professional with the best knowledge in the handling of the most sophisticated ultrasound devices and, therefore, perfect their skills in the detection and treatment of different pathologies. During this academic period, the student will detect and master the main technological innovations that the equipment has undergone or adopt the most efficient techniques to identify foreign bodies. In the same way, the student will analyze the different types of images currently existing and the different patterns of tissues in ultrasound.

All this, through a 100% online methodology that will allow the student to obtain excellent learning without the need to make uncomfortable trips to a study center. Likewise, this program is directed and taught by high caliber specialists in Physical Medicine and Rehabilitation and experts in Physical Therapy, who will provide you with the knowledge with greater applicability in your day to day professional life.

This **Postgraduate Certificate in Update on Ultrasound in Physiotherapy** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of practical case studies presented by experts in Physical Rehabilitation Medicine and in Physiotherapy
- 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 self-assessment can be used 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

Acquire the most innovative techniques for the identification of different types of injuries with this program"

In only 6 weeks, you will update your knowledge in the area of ultrasound for physiotherapy and you will become a reference professional in this field"

Significantly boost your career prospects in the field of Physiotherapy with this program.

The Relearning system of this program will enable tailor-made learning to optimize your teaching.

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 education 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 during the academic year For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

This program has been designed with the fundamental intention of updating the knowledge and skills of the professional physiotherapist in the use of ultrasound in this area to enhance its detection, monitoring and treatment of different pathologies. During the duration of the program, the student will assimilate all the existing novelties in this field, which will help them to acquire professional performance, ensured through the establishment of a series of general and specific objectives.

Update your competences in Ultrasound in Physiotherapy by means of this qualification to place you at the forefront of your sector"

General Objectives

- 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

Boost your professional growth in the world of Physiotherapy by adopting all the existing advances in the field of ultrasound"

Specific Objectives

- Learn about ultrasound and an ultrasound scanner, its history and application to physiotherapy
- Identify the ultrasound patterns of the different structure 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 production of the ultrasound image
- Describe the terminology used in ultrasound
- Define the types of images obtained by ultrasound and the different tissue patterns

03

Course Management

In order to preserve intact the excellent academic quality that characterizes TECH programs, this program has a teaching staff made up of great specialists in Physical Medicine and Rehabilitation and Physiotherapy, who have worked in excellent hospitals and rehabilitation centers. Likewise, the didactic contents that the student will have throughout this academic itinerary are expressly elaborated by these professionals, so the knowledge that they will provide will have been previously applied in their work experiences.

This teaching staff, composed of experts in the management of ultrasound, will be responsible for teaching this program and for offering you the most updated knowledge in this field"

Management

Dr. Castillo Martín, Juan Ignacio

- Head of Physical Medicine and Rehabilitation Service. 12 de Octubre Hospital. Madrid
- Doctor Specialist in Physical and Rehabilitation Medicine, Hospital Complex Ruber Juan Bravo
- Rehabilitation Physician at the Traffic Accidents Unit of the Ruber Juan Bravo Hospital Complex
- Rehabilitation Physician. Recoletas Cuenca Hospital
- Coordinator of continuing education of the Spanish Society of Cardiology in Exercise Testing with Oxygen Consumption
- Associate Professor, Complutense University of Madrid. Faculty of Medicine
- Teaching coordinator in continuing education courses at the Madrid Regional Ministry of Health: "Tertiary prevention in chronic cardiopathic patients. Cardiac Rehabilitation"
- Degree in Medicine and Surgery. University of Salamanca
- Master's Degree in Cardiac Rehabilitation. SEC-UNED
- Master in Disability Assessment Autonomous University Madrid
- Master Child Disability. Complutense University of Madrid
- Doctorate Course: Neurosciences University of Salamanca
- Member of the Spanish Society of Cardio

Professors

Dr. Santiago Nuño, Fernando
- Physiotherapist and podiatrist at the Armstrong International Clinic
- Professor of Musculoskeletal Ultrasound and Ultrasound-guided Infiltrations at the Complutense University of Madrid and the European University of Madrid
- Doctor in Podiatry from the University of La Coruña

Dr. Casado Hernández, Israel
- Associate Teacher in university studies
- Author of 20 scientific articles and 7 book chapters
- Doctorate in Health Sciences from the Rey Juan Carlos University

Dr. García Expósito, Sebastián
- Radiodiagnostic technician at the Sanitas Women's Center
- Radiodiagnostic Technician at Hospital de la Zarzuela
- Degree in Bioimaging Production from the National University of Lomas de Zamora

Dr. Moreno, Cristina Elvira
- Physiotherapist in Parkinson's Association Madrid
- Degree in Physiotherapy from the Complutense University of Madrid
- Master's Musculoskeletal Ultrasound in Physiotherapy from CEU San Pablo University

Dr. Nieri, Martín Alejandro
- Diagnostic Imaging Technician at the University Hospital Son Espases
- CEO of in Ultrasound Assistance & Teleradiology Service SL

Dr. Pérez Calonge, Juan José
- Doctorate in Health Sciences from the Public University of Navarra
- Official Master Degree in Health Expertise from the Complutense University of Madrid
- Official Master's Degree in Advanced Podiatry by CEU

Dr. Sánchez Marcos, Julia
- Physiotherapist and osteopath in Isabel Amoedo Physiotherapy Clinic
- Physiotherapist at the Vithas Hospital Nuestra Señora de Fátima
- Physiotherapist at-ASPODES-FEAPS

Dr. Santiago Nuño, José Ángel
- Dietician and nutritionist in different physiological situations in Medicadiet
- Diploma in Physiotherapy from San Pablo CEU University
- Postgraduate Certificate in Human Nutrition and Dietetics from San Pablo CEU University

Dr. Teijeiro, Javier
- Regional delegate of the Spanish Society of Ultrasound and Physiotherapy
- Physiotherapist of the Dinán Viveiro Clinic
- Doctorate in Health, Disability, Dependency and Welfare

04

Structure and Content

The syllabus of this program has been created with the intention of providing students with the most useful knowledge to update their skills in the use of ultrasound for the diagnosis and physiotherapeutic treatment of different types of pathologies. Likewise, the didactic contents to which you will have access throughout this academic experience are present in supports such as the explanatory video, the complementary readings or the self-evaluation tests. Thanks to this, added to the 100% online methodology of this program, the student will enjoy a learning experience adapted to their personal and academic needs.

The 100% online methodology of this Postgraduate Certificate will allow you to learn without having to making uncomfortable trips to study center"

Module 1. Basic Ultrasound

1.1. Basic Ultrasound I
- 1.1.1. General Aspects of Musculoskeletal
- 1.1.2. Physical Bases of Ultrasound. Piezoelectric Effect

1.2. Basic Ultrasound II
- 1.2.1. Knowledge of the Equipment
- 1.2.2. Equipment Management: 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

Study through didactic materials in new and updated formats such as the explanatory video or the interactive summary to make your academic experience more enjoyable”

05

Methodology

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

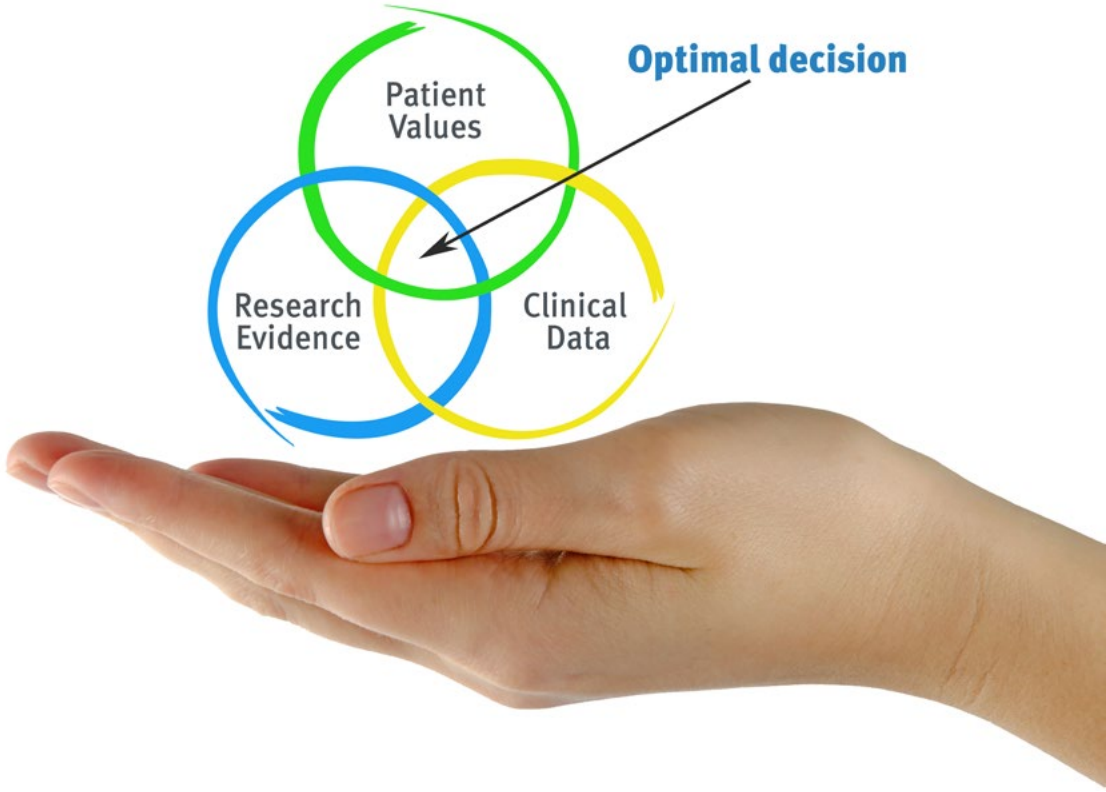
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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. 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:

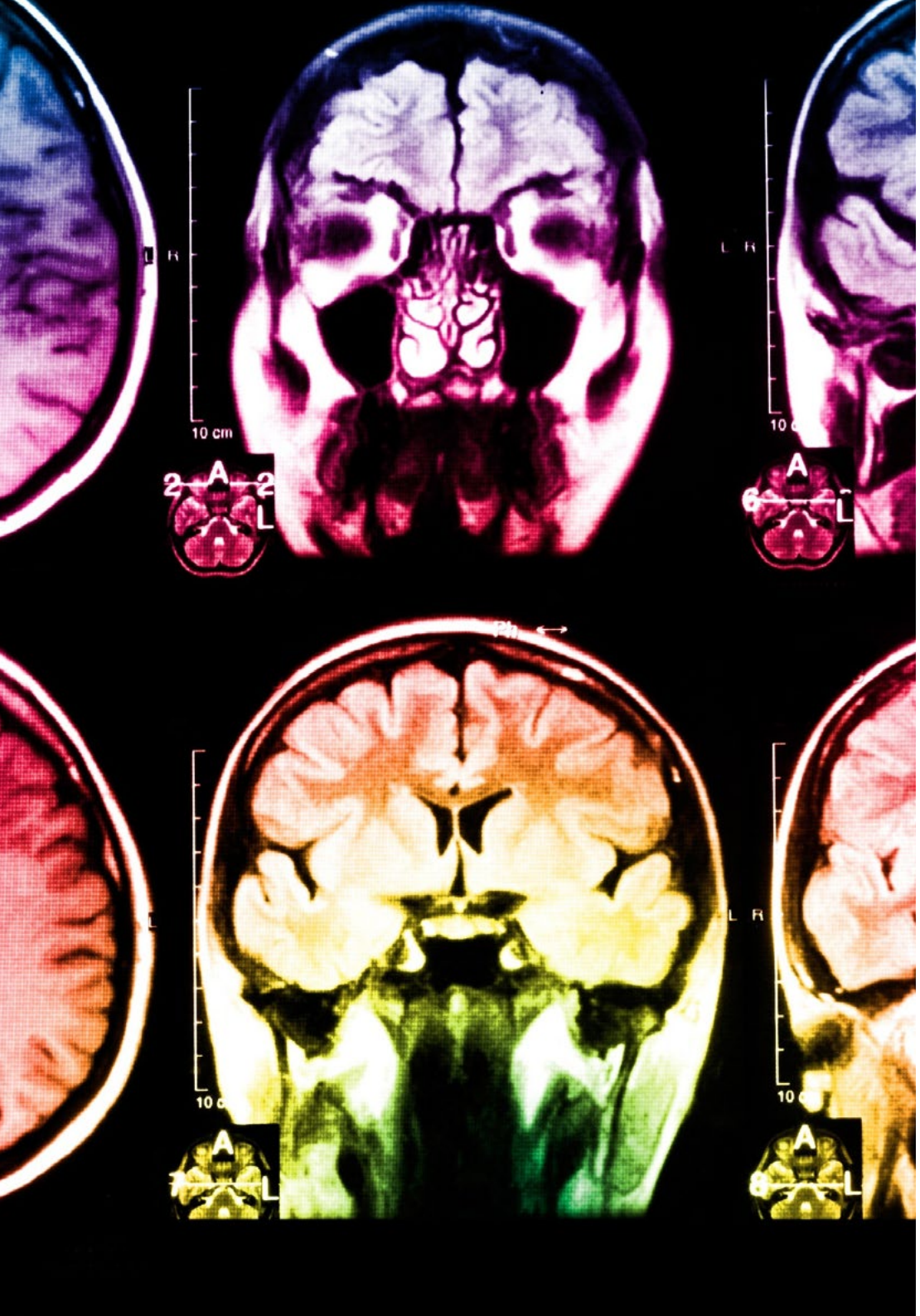
1. Physiotherapists/kinesiologists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the physiotherapist/kinesiologist to better integrate 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 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.

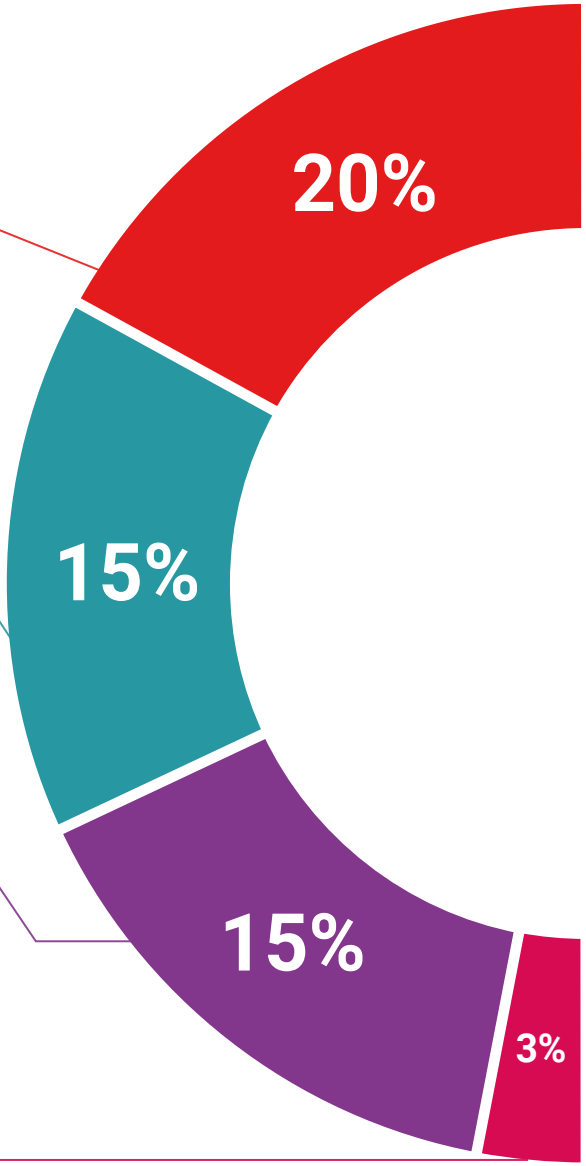
Interactive Summaries

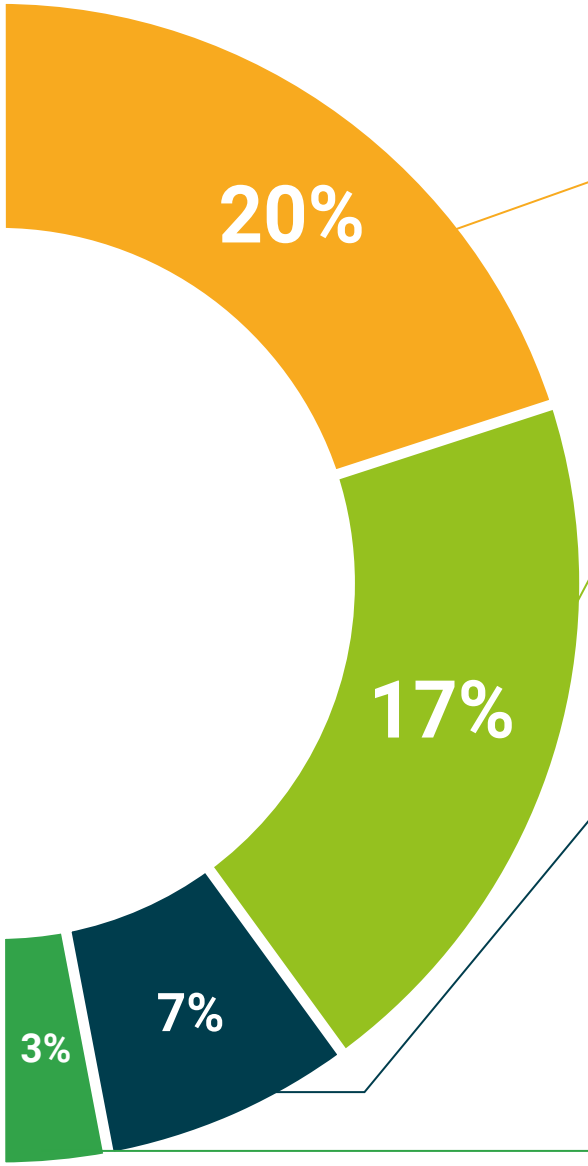
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.

06

Certificate

The Postgraduate Certificate in Update in Ultrasound in Physiotherapy guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this program and receive your Postgraduate Certificate without having to travel or fill out laborious paperwork"

This **Postgraduate Certificate in Update on Ultrasound in Physiotherapy** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect 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 Certificate in Update on Ultrasound in Physiotherapy**

Official Nº of Hours: **175 h.**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Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Update on Ultrasound in Physiotherapy

This is a qualification awarded by this University, equivalent to 175 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.

June 17, 2020

Tere Guevara Navarro

Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.


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