

# Postgraduate Certificate

## Thoracic Ultrasound for Primary Care





## Postgraduate Certificate Thoracic Ultrasound for Primary Care

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/thoracic-ultrasound-scan-primary-care](http://www.techtute.com/us/medicine/postgraduate-certificate/thoracic-ultrasound-scan-primary-care)

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01

# Introduction

In recent years, there has been an increasing need to integrate thoracic ultrasound in primary care. Thanks to the incorporation of ultrasound in medical consultations and emergencies, healthcare professionals have improved their diagnostic and resolution capacity, as well as their healthcare services.

This course in Thoracic Ultrasound for Primary Care arises from the growing need to train physicians in this specialty, which is in high demand in the sector.



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*You will master the latest ultrasound techniques that you will be able to apply in your daily medical practice”*

Ultrasound has been an essential tool in the advancement of medical care. This discipline has evolved in recent decades, from being restricted to radiodiagnostic services, to being included in all healthcare environments.

Therefore, it is necessary for healthcare professionals to receive training in this discipline and learn the techniques and tools to master the ultrasound scanner, as well as its various utilities in healthcare.

With this Postgraduate Certificate you will have the opportunity to take a teaching program that brings together the most advanced and in-depth knowledge of Head and Neck Ultrasound for Primary Care, where a group of teachers of high scientific rigor and extensive international experience offers you the most complete and updated information on the use of ultrasound as a complement to the physical examination in primary care.

It endorses the latest advances in ultrasound with a robust and didactic teaching program, which positions it as a product of the highest scientific rigor at international level, aimed at health professionals. In addition, the program is based on a multidisciplinary approach to its subjects, which allows training and professional development in different areas:



*You will have prestigious health professionals as tutors, who will guide you throughout the learning process"*

The **Postgraduate Certificate in Thoracic Ultrasound for Primary Care** contains the most complete and up-to-date scientific program on the market.

The most important features of the course are:

- ♦ Development of numerous clinical cases presented by experts in ultrasound.
- ♦ The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional.
- ♦ New diagnostic-therapeutic developments on evaluation, diagnosis, and intervention in problems or disorders that can be addressed with ultrasound.
- ♦ It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- ♦ Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- ♦ Special emphasis on evidence-based medicine and research methodologies in ultrasound processes.
- ♦ Content that is accessible from any fixed or portable device with an Internet connection.
- ♦ All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.

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*This course has been meticulously designed by experts in the field, following the latest educational techniques in the sector"*

Its teaching staff is made up of prestigious and renowned professionals, with extensive experience in healthcare, teaching, and research in various countries, contributing their extensive professional to this Postgraduate Certificate.

The methodological design of this master's degree, developed by a multidisciplinary team of e-learning experts, integrates the latest advances in educational technology in order to create numerous multimedia tools that allow the professional to solve real-life situations in their daily practice. These will enable you to advance by both acquiring knowledge and developing new skills in your future professional work.

The contents generated for this Postgraduate Certificate, as well as the videos, self-exams, clinical cases, and modular exams, have been thoroughly reviewed, updated, and integrated by the professors and the team of experts that make up the working group, in order to facilitate, in a gradual and educational manner, a learning process that allows the objectives of the teaching program to be achieved.

*Thanks to its multimedia content and e-learning methodology, you will learn and develop your skills more quickly.*

*Learn where and when you want, thanks to the flexibility of this 100% online course, which will allow you to combine your training with your personal life.*



02

# Objectives

The main objective of the course is the acquisition of the most updated and innovative scientific knowledge in the diagnostic area, which will allow you to develop the skills that will turn your daily clinical practice into a bastion of the standards of the best available scientific evidence, with a critical, innovative, multidisciplinary and integrative sense.





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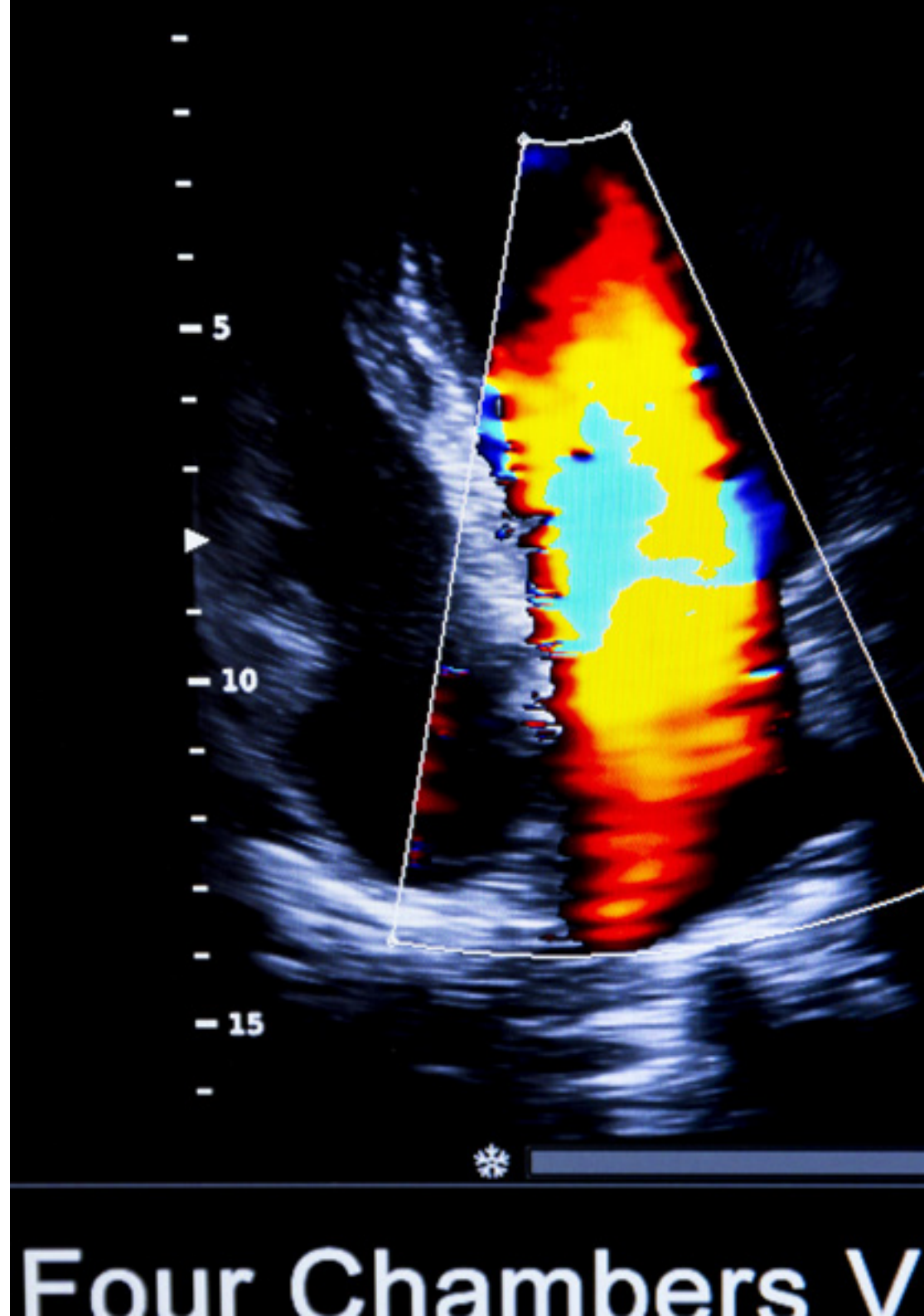
*At the end of this course you will have the knowledge and skills necessary to use the ultrasound scanner in the daily practice of your profession”*



## General Objectives

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- Acquire the necessary knowledge in the use of ultrasound, in order to manage the routine situations of their practical use in healthcare..
- Apply the skills acquired while performing the duties of an ultrasound specialist..
- Use the latest clinical developments in the day-to-day work of a medical professional..



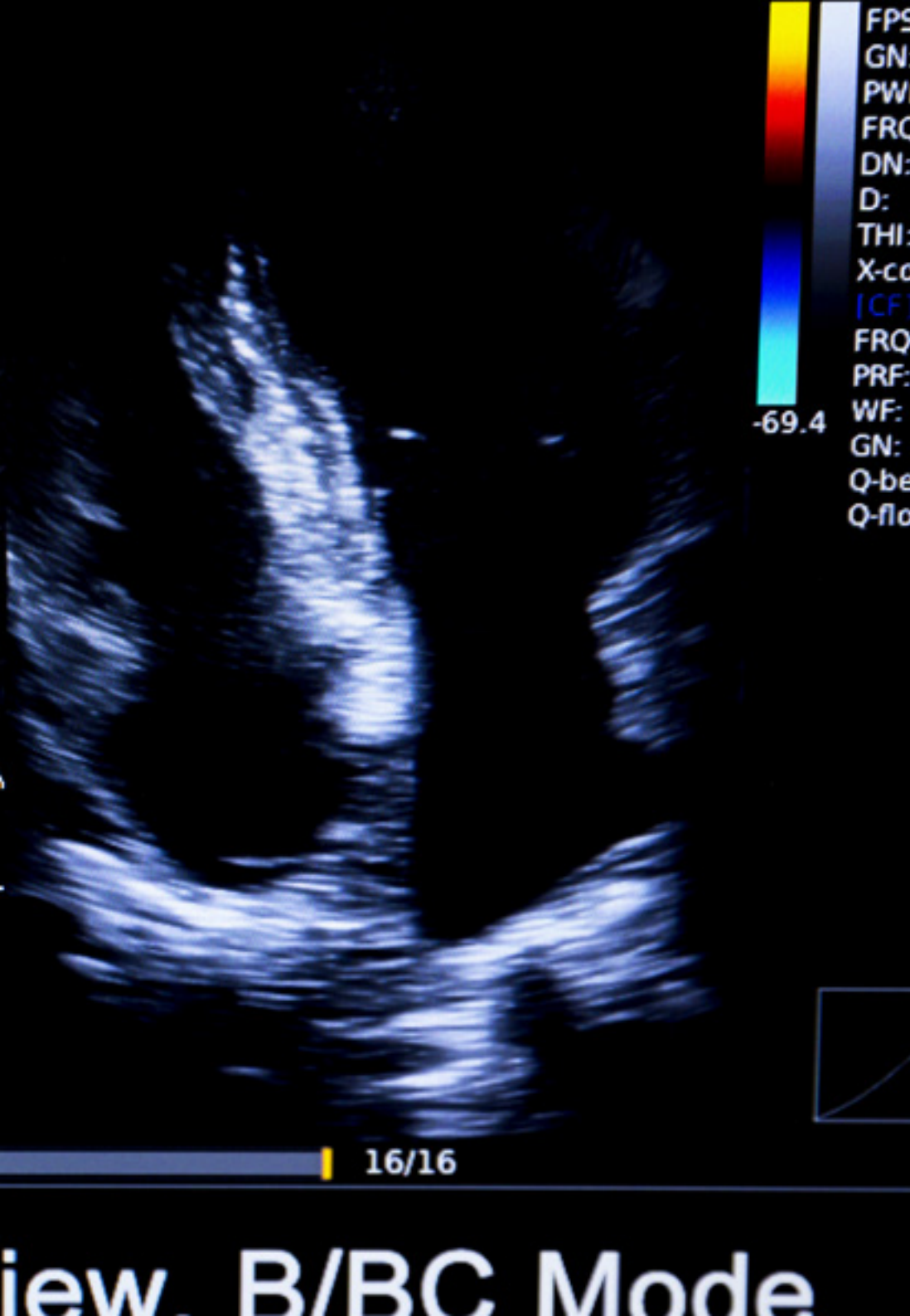
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## Specific Objectives

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- ♦ Guiding invasive therapeutic procedures to minimize their risks.
- ♦ Master the basic and advanced procedures of Ultrasound, both at diagnostic and therapeutic level.
- ♦ Predict the results of invasive diagnostic procedures non-invasively by using ultrasound, with the possibility of replacing them..
- ♦ Determine the indications and limitations of ultrasound and its application in the most common clinical situations.
- ♦ Optimize ultrasound imaging through in-depth knowledge of the physical principles of ultrasound and the controls and operation of ultrasound scanners
- ♦ Understand how to extend the concept of Ultrasound to healthcare, research, and academic environments.



03

# Course Management

The program's teaching staff includes leading specialists in clinical ultrasound and other related areas, who bring their years of work experience to this training. Additionally, other recognized specialists participate in its design and preparation, which means that the program is developed in an interdisciplinary manner.



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*Thanks to real cases, you will be able to learn the latest advances and strategies in thoracic ultrasound from distinguished experts in the field"*

## International Guest Director

Dr. Lauren Ann J. Selame is a recognized professional in the field of Medicine, specializing in Clinical Ultrasound. Her expertise focuses on the application of ultrasound in emergency medical, diagnostic imaging, simulation and public health. With a deep interest in procedural competence and in the development of advanced techniques to detect various disorders, she has contributed significantly to the use of Anatomical Ultrasound to improve response times and accuracy in emergency treatments.

Throughout his career, he has played key roles in prestigious institutions. At Brigham Women's Hospital, recognized among the best hospitals in the world by Newsweek magazine, she has been Director of Ultrasound Education in Emergency Medicine, in addition to serving as an emergency physician. Her experience also includes her time at Massachusetts General Hospital as an Emergency Ultrasound Assistant, and at Thomas Jefferson Hospital, where she was a resident in Emergency Medicine, after training at the Sidney Kimmel School of Medicine of Thomas Jefferson University.

At the international level, she is noted for her contributions, especially in Emergency Medicine. She has worked in some of the most prestigious healthcare centers in the United States, which has allowed her to hone her skills and bring significant advances to the medical community. Her work has earned her a reputation for her expertise in diagnostic ultrasound, and she is a reference in the use of this technology in emergencies.

As a researcher associated with university institutions, she has written numerous scientific articles on its emphasis, addressing both its application in critical situations and its advances in medical diagnosis. Her publications are consulted by professionals worldwide, consolidating her role as one of the most influential voices in the field of clinical ultrasound.



## Dr. Selame, Lauren Ann J.

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- Director of Ultrasound in Emergency Medicine Brigham Women's Hospital, Boston, United States
- Emergency Medicine Physician Specialist at Brigham Women's Hospital
- Emergency Ultrasound Physician Specialist at Massachusetts General Hospital, Massachusetts
- Resident Physician in Emergency Medicine at Thomas Jefferson University Hospital
- Research Assistant at the Perelman School of Medicine, University of Pennsylvania
- M.D., Thomas Jefferson University
- Medical Degree, Sidney Kimmel School of Medicine at the Thomas Jefferson University

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Dr. Fumadó Qeral, Josep

- ♦ Family physician at Els Muntells Primary Care Center (Amposta, Tarragona).
- ♦ Graduate in Clinical Ultrasound and Training of Trainers from the University of Montpellier-Nîmes (France).
- ♦ Lecturer at the Associació Mediterrània of General Medicine
- ♦ Teacher at the Spanish School of Ultrasound of the Spanish Society of General and Family Physicians (SEMG).
- ♦ Honorary Member of the Canary Society of Ultrasound (SOCANECO) and Professor of its Annual Symposium.
- ♦ Lecturer on the Master's Degree in Clinical Ultrasound for Emergencies and Critical Care at the CEU Cardenal Herrera University.



### Dr. Pérez Morales, Luis Miguel

- ♦ Family physician at the Primary Care Center of Arucas (Gran Canaria, Canary Islands).
- ♦ Diploma in Ultrasound in Primary Care. Univ. Rovira i Virgili. Catalan Institute of Health.
- ♦ Expert in Thoracic Ultrasound. University of Barcelona.
- ♦ Expert in Abdominal and Musculoskeletal Clinical Ultrasound for Emergency and Critical Care. CEU Cardenal Herrera University.
- ♦ President and Professor of the Canary Society of Ultrasound (SOCANECO) and Director of its Annual Symposium.
- ♦ Professor on the Master's Degree in Clinical Ultrasound for Emergency and Critical Care at the CEU Cardenal Herrera University.



## Professors

### Dr. Arancibia Zemelman, Germán

- ♦ Radiology Department Specialis at Clínica Meds. Santiago de Chile (Chile)

### Dr. Argüeso García, Mónica

- ♦ Intensive Care Medicine Department. Gran Canaria Maternity Complex. Las Palmas de Gran Canaria (Canary Islands).

### Dr. Barceló Galíndez, Juan Pablo

- ♦ Specialist in Occupational Medicine and medical sonographer at Mutualia. Bilbao

### Dr. Cabrera González, Antonio José

- ♦ Family Physician. Tamaraceite Health Center. Las Palmas de Gran Canaria (Canary Islands)

### Dr. Corcoll Reixach, Josep

- ♦ Family Physician. Tramuntana Health Center (Mallorca, Balearic Islands).

### Dr. De Varona Frolov, Serguei

- ♦ Angiology and Vascular Surgery Specialist. General University Hospital of Gran Canaria Dr. Negrín. Las Palmas de Gran Canaria (Canary Islands).

### Dr. Donaire Hoyas, Daniel

- ♦ Specialist in Orthopedic Surgery and Traumatology. Poniente Hospital. El Ejido, Almería.

### Dr. Fabián Feroso, Antonio

- ♦ Global Clinical Insights Leader Point of Care. General Electric Healthcare. Madrid.

### Dr. Gálvez Gómez, Francisco Javier

- ♦ Ultrasound Portfolio Solutions Manager España. SIEMENS Healthcare. Madrid.

### Dr. García García, Nicasio

- ♦ Family Physician (Schamann Health Center).

### Dr. Herrera Carcedo, Carmelo

- ♦ Family Physician. Briviesca Health Center (Burgos).

### Dr. Herrero Hernández, Raquel

- ♦ Specialist in the Intensive Care and Major Burns Unit Getafe University Hospital. Madrid.

### Dr. Igeño Cano, José Carlos

- ♦ Head of the Emergency and Intensive Care Unit. San Juan de Dios Hospital. Córdoba

### Dr. León Ledesma, Raquel

- ♦ Specialist in General and Digestive System Surgery and Obstetrics and Gynecology. Getafe University Hospital. Madrid.

### Dr. López Cuenca, Sonia

- ♦ Family Physician and Assistant in the Intensive Care and Major Burns Unit at Getafe Hospital (Madrid).

### Dr. López Rodríguez, Lucía

- ♦ Specialist in the Intensive Care and Major Burns Unit Getafe University Hospital. Madrid.

### Dr. Martín del Rosario, Francisco Manuel

- ♦ Rehabilitation Specialist. Insular University Hospital Complex, Maternity and Infant. Las Palmas de Gran Canaria

### Dr. Moreno Valdés, Javier

- ♦ Business Manager Ultrasound. Canon (Toshiba) Medical Systems. Madrid.



**Dr. Núñez Reiz, Antonio**

- ♦ Intensive Care Medicine Department Specialist. San Carlos University Hospital. Madrid.

**Dr. Arancibia Zemelman, Germán**

- ♦ Radiology Department Specialis at Clínica Meds. Santiago de Chile (Chile)

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- ♦ Intensive Care Medicine Department Specialist. San Carlos University Hospital. Madrid.

**Dr. Ortigosa Solorzano, Esperanza**

- ♦ Specialist in Anesthesiology, Resuscitation, and Pain Management. Getafe University Hospital. Madrid.

**Professor. Dr. Santos Sánchez, José Ángel**

- ♦ Specialist in the Radiology Department. Salamanca University Hospital. Salamanca

**Dr. Segura Blázquez, José María**

- ♦ Family Physician. Canalejas Health Center. Las Palmas de Gran Canaria (Canary Islands).

**Dr. Wagüemert Pérez, Aurelio**

- ♦ Specialist in Pulmonology. San Juan de Dios Hospital. Santa Cruz de Tenerife (Canary Islands).

04

# Structure and Content

The structure of the contents has been designed by a team of professionals from leading hospitals, who have taken into account the need to update the content that will be taught, as well as the use of quality teaching through new educational technologies.





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*This program will help you to detect different pathologies through ultrasound and to make a diagnosis of the patient"*

## Module 1. Thoracic Ultrasound

- 1.1. Thoracic Ultrasound Fundamentals
  - 1.1.1. Anatomy Recap
  - 1.1.2. Echoes and Artifacts in the Thorax
  - 1.1.3. Technical Requirements
  - 1.1.4. Exploration Systematics
- 1.2. Ultrasound of the Chest Wall, Mediastinum, and Diaphragm
  - 1.2.1. Soft Tissues
  - 1.2.2. Thoracic Cage
  - 1.2.3. Mediastinum
  - 1.2.4. Diaphragm
- 1.3. Pleural Ultrasound
  - 1.3.1. Normal Pleura
  - 1.3.2. Pleural Effusion.
  - 1.3.3. Pneumothorax
  - 1.3.4. Solid Pleural Pathology
- 1.4. Pulmonary Ultrasound
  - 1.4.1. Pneumonia and Atelectasis
  - 1.4.2. Pulmonary Neoplasms
  - 1.4.3. Diffuse Lung Disease
  - 1.4.4. Pulmonary Infarction
- 1.5. Cardiac Ultrasound and Basic Hemodynamics
  - 1.5.1. Normal Cardiac Sonoanatomy and Hemodynamics
  - 1.5.2. Examination Technique
  - 1.5.3. Structural Alterations.
  - 1.5.4. Hemodynamic Alterations
- 1.6. Trends in Thoracic Ultrasound
  - 1.6.1. Pulmonary Sonoelastography
  - 1.6.2. 3D/4D Thoracic Ultrasound
  - 1.6.3. Other Modes and Techniques





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

05

# Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

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 abundant 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.

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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. 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.
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.



## 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-the-art software to facilitate immersive learning.*

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 socio-economic 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.



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 highly 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

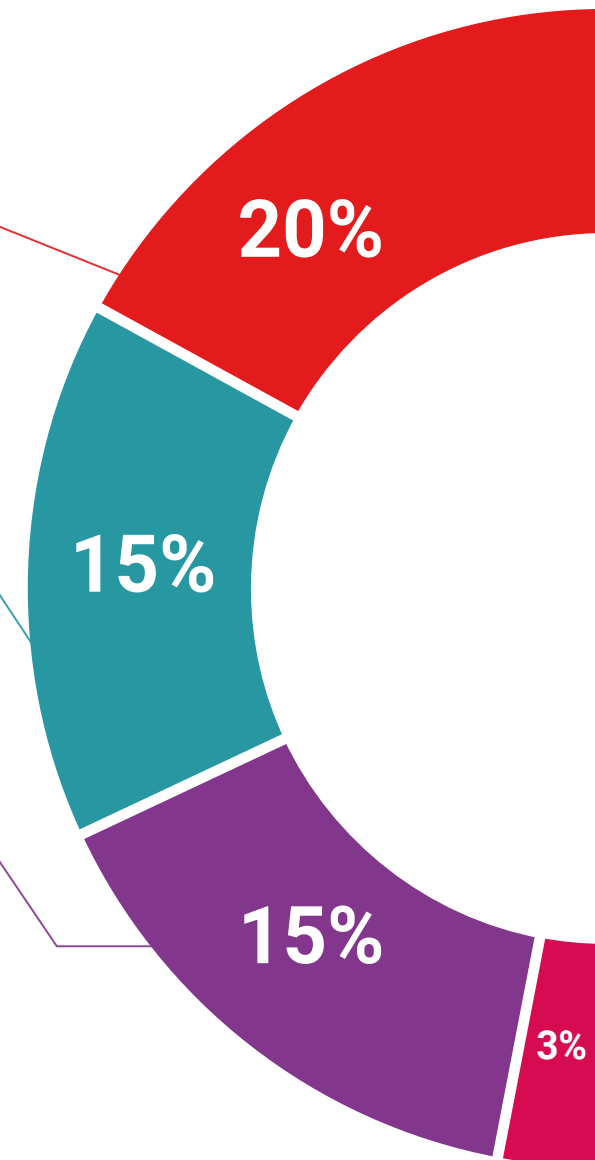
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Re-testing**

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 future difficult 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.



06

# Certificate

The Postgraduate Certificate in Thoracic Ultrasound for Primary Care guarantees you, in addition to the most rigorous and up-to-date training, access to Certificate issued by TECH Global University.





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*Successfully complete this training and receive your diploma without the hassle of travel or paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Thoracic Ultrasound for Primary Care** 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.

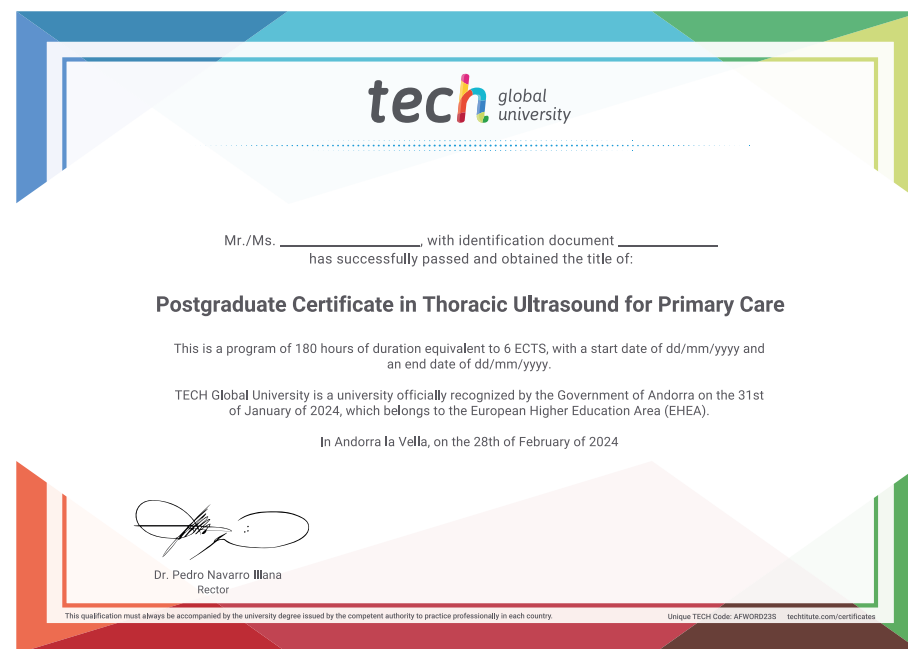
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Thoracic Ultrasound for Primary Care**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



\*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.

future

health

confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

**tech** global  
university

personalized service innovation

knowledge present

online training  
for Primary Care

development languages

virtual classroom

## Postgraduate Certificate

Thoracic Ultrasound  
for Primary Care

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