

# Postgraduate Certificate

## Primary Care Thoracic Ultrasound for Nursing





## Postgraduate Certificate

### Primary Care Thoracic Ultrasound for Nursing

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

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

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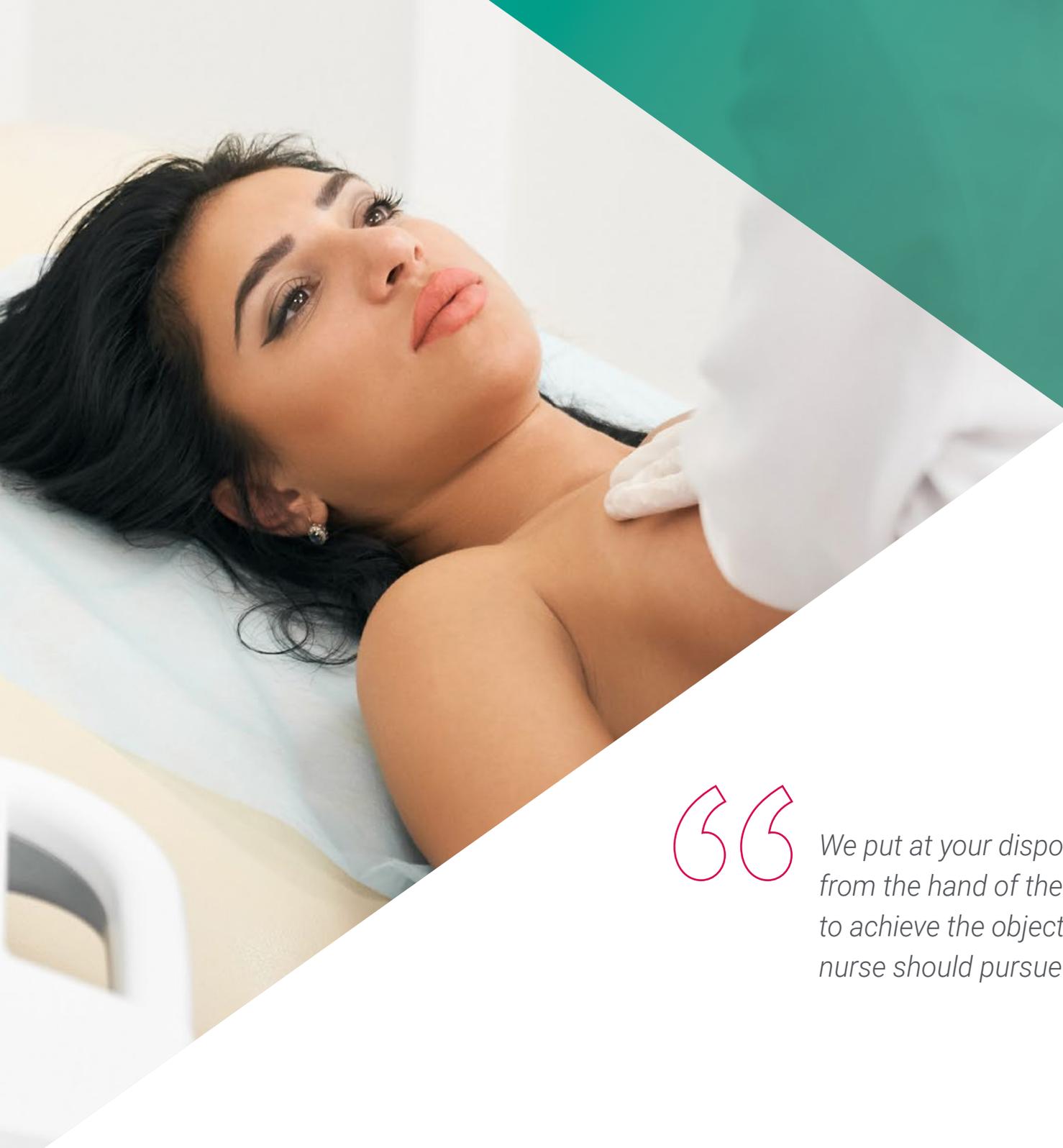
# 01

# Introduction

Ultrasound has been an essential tool in the advancement of healthcare. 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.





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*We put at your disposal the most complete training, from the hand of the main professionals in the field, to achieve the objectives of a quality praxis that every nurse should pursue”*

In recent years, ultrasound has become an essential tool for health care, since it allows health professionals to establish preliminary diagnoses that facilitate the filtering of referrals for complementary explorations. Ultrasound is a safe, fast, reliable, innocuous and non-invasive test, well tolerated by patients, relatively low cost, and which has evolved into new, smaller and more accessible devices.

Now, they have become a popular and valuable tool in guiding diagnostic and therapeutic interventions. They have also helped to increase the potential of Clinical Ultrasound, achieving a notable increase in its applications.

Primary care is undoubtedly one of the areas where Clinical Ultrasound is most widely used. Nursing professionals can benefit from Clinical Ultrasound to favorably influence diagnosing and treating different pathologies, improving patient safety, reducing waiting times and possible errors.

With this Postgraduate Certificate, students have the opportunity to take a teaching program that brings together the most advanced and in-depth knowledge of Thoracic Ultrasound, where a group of professors of high scientific standing and extensive international experience offers you the most complete and updated information on the use of ultrasound as a complement to physical examinations 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.

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

- ♦ Numerous clinical cases presented by ultrasound experts
- ♦ 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
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ 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



*You will master the latest ultrasound techniques and apply them in your daily nursing practice"*

“

*As it is 100% online, you will update your knowledge of the advances in ultrasound diagnostics in a practical way adapted to your needs”*

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

The methodological design of this Postgraduate Certificate developed by a multidisciplinary team of experts in e-learning integrates the latest advances in educational technology to create numerous multimedia tools that allow professionals to resolve real 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 course working group, in order to gradually and educationally facilitate a learning process that allows for the objectives of the teaching program to be achieved.

*You will have at your disposal the best teaching staff of specialists, who will guide you throughout the learning process”*

*Become skilled wherever and whenever you want thanks to the flexibility of this 100% online Postgraduate Certificate, which will allow you to balance your training with your personal life.*



# 02 Objectives

The main objective of this Postgraduate Certificate is to acquire the most up-to-date and innovative scientific knowledge in this diagnostic area, which will allow students to develop the skills that will turn their daily clinical practice into a bastion of the best standards based on the available scientific evidence, in a critical, innovative, multidisciplinary and integrative sense.



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*At the end of this Postgraduate Certificate, you will have the knowledge and skills necessary to use the ultrasound scanner in your daily professional practice”*



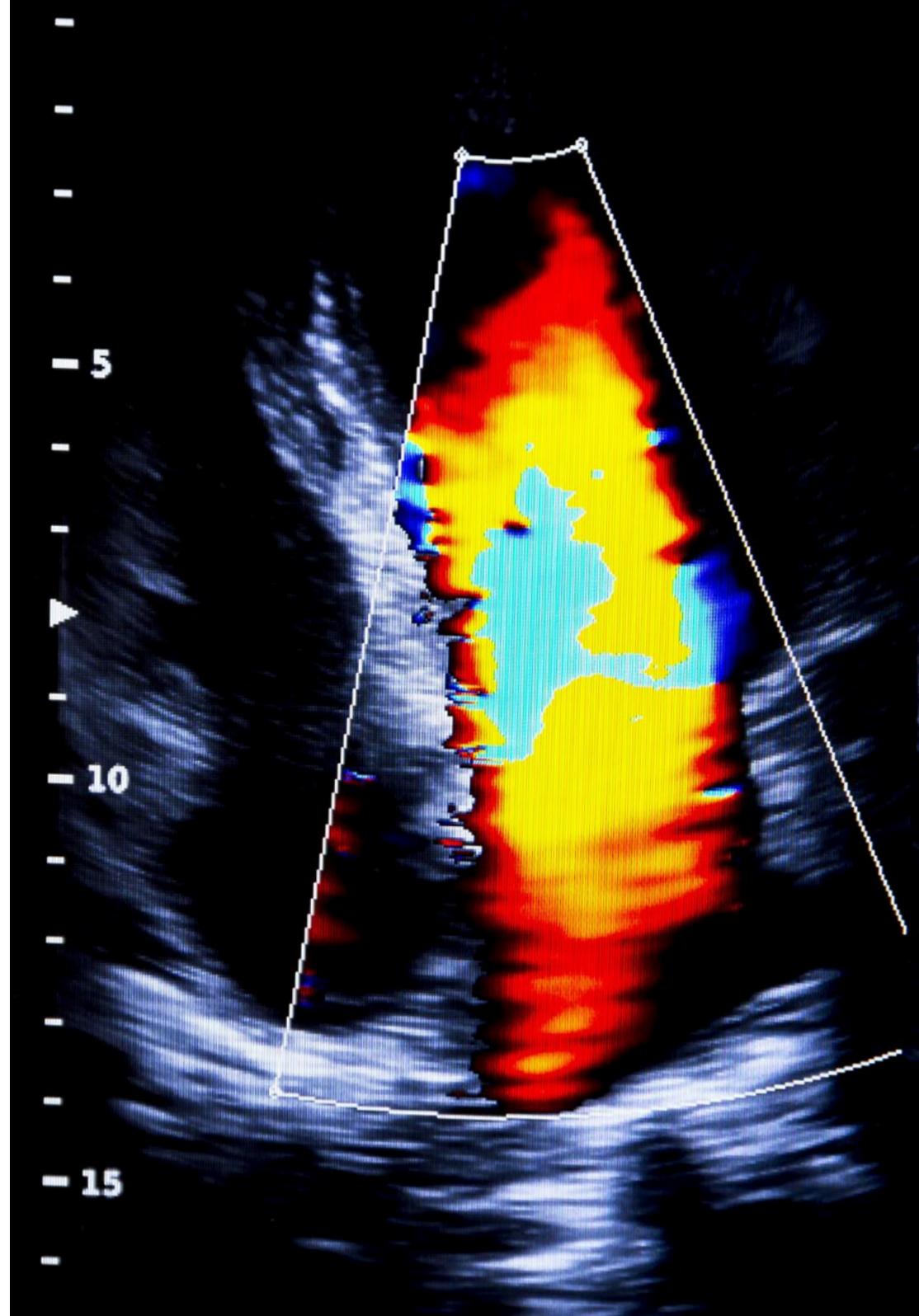
## General Objectives

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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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*Make the most of the opportunity and take the step to get up to date on the latest developments in Primary Care Thoracic Ultrasound for Nursing”*





## Specific Objectives

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- ♦ Guide 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.





“

*You will have real clinical cases that will help you to develop your skills with the management of ultrasound machine"*

## Management



### Dr. Fumadó Queral, Josep

- ♦ Family physician at Els Muntells Primary Care Center (Ampostà, Tarragona).
- ♦ Graduate in Clinical Ultrasound and Training of Trainers, 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, 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 University 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
- ♦ Lecturer on the Master's Degree in Clinical Ultrasound for Emergencies and Critical Care, CEU Cardenal Herrera University

## Scientific Committee

### Dr. Álvarez Fernández, Jesús Andrés

- ◆ Specialist in Intensive Care Medicine
- ◆ Intensive Care Medicine and Major Burns Service, Getafe University Hospital Getafe, Madrid
- ◆ Director of the Master's Degree in Clinical Ultrasound in Emergency and Critical Care, CEU Cardenal Herrera University
- ◆ Director of the Master's Degree in Clinical Imaging in Emergency and Critical Care, CEU Cardenal Herrera University
- ◆ Professor on the Specialist Degree in Thoracic Ultrasound, University of Barcelona

### Dr. Herrera Carcedo, Carmelo

- ◆ Family Physician and Head of the Ultrasound Unit, Briviesca Health Center, Burgos
- ◆ Tutor at the Family and Community Medicine Teaching Unit, Burgos
- ◆ Teacher at the Spanish School of Ultrasound of the Spanish Society of General and Family Physicians (SEMG)
- ◆ Member of the Spanish Society of Ultrasound (SEECO) and the Spanish Association of Prenatal Diagnosis (AEDP)

### Dr. Jiménez Díaz, Fernando

- ◆ Specialist in Sports Medicine
- ◆ Professor in the Faculty of Sports Sciences, University of Castilla La Mancha Toledo
- ◆ Director of the International Chair of Musculoskeletal Ultrasound, Catholic University of Murcia
- ◆ Professor on the Master's Degree in Clinical Imaging in Emergency and Critical Care, CEU Cardenal Herrera University

### Dr. Sánchez Sánchez, José Carlos

- ◆ Radiodiagnosis Specialist
- ◆ Director of the Integrated Diagnostic Imaging Management Area and Intrahospital Coordinator of the Breast Cancer Early Detection Program, Poniente Hospital El Ejido, Almería
- ◆ Professor on the Specialist Degree in Clinical Ultrasound for Family Physicians, University of Barcelona

## Professors

### Dr. Arancibia Zemelman, Germán

- ♦ Radiology Department Specialis, Clínica Meds Santiago de Chile, Chile

### Dr. Barceló Galíndez, Juan Pablo

- ♦ Specialist in Occupational Medicine and Medical Sonographer, 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

### Mr. Fabián Feroso, Antonio

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

### D. Gálvez Gómez, Francisco Javier

- ♦ Ultrasound Portfolio Solutions Manager España, SIEMENS Healthcare Getafe, Madrid

### Dr. Argüeso García, Mónica

- ♦ Intensive Care Medicine Department Gran Canaria Maternity Complex Las Palmas de Gran Canaria, Canary Islands

### Dr. Herrero Hernández, Raquel

- ♦ Specialist in Service of Intensive Care Medicine and Major Burns, Getafe University Hospital Getafe, Madrid

### Dr. Igeño Cano, José Carlos

- ♦ Head of the Emergency and Intensive Care Department, San Juan de Dios Hospital Córdoba

### Dr. León Ledesma, Raquel

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

### Dr. López Cuenca, Sonia

- ♦ Family Physician and Assistant in the Intensive Care and Major Burns, Getafe Hospital, Madrid

### Dr. López Rodríguez, Lucía

- ♦ Specialist in Service of Intensive Care Medicine and Major Burns, Getafe University Hospital Getafe, Madrid

### Dr. Martín del Rosario, Francisco Manuel

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

### D. Moreno Valdés, Javier

- ♦ Business Manager Ultrasound. Cannon (Toshiba) Medical Systems. Getafe, Madrid



**Dr. Núñez Reiz, Antonio**

- ◆ Specialist in Intensive Medicine, San Carlos Clinical University Hospital Getafe, Madrid

**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

**Dr. García García, Nicasio**

- ◆ Family Physician, Schamann Health Center

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

03

# 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.



“

*We have the most complete and up-to-date academic program in the market. We strive for educational excellence, and we want you to achieve it too"*

## 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
  - 1.2.5. Pleural Ultrasound
  - 1.2.6. Normal Pleura
  - 1.2.7. Pleural Effusion
  - 1.2.8. Pneumothorax
  - 1.2.9. Solid Pleural Pathology
- 1.3. Pulmonary Ultrasound
  - 1.3.1. Pneumonia and Atelectasis
  - 1.3.2. Pulmonary Neoplasms
  - 1.3.3. Diffuse Lung Disease
  - 1.3.4. Pulmonary Infarction
- 1.4. Cardiac Ultrasound and Basic Hemodynamics
  - 1.4.1. Normal Cardiac Sonoanatomy and Hemodynamics
  - 1.4.2. Examination Technique
  - 1.4.3. Structural Alterations
  - 1.4.4. Hemodynamic Alterations
- 1.5. Trends in Thoracic Ultrasound
  - 1.5.1. Pulmonary Sonoelastography
  - 1.5.2. 3D/4D Thoracic Ultrasound
  - 1.5.3. Other Modes and Techniques





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*An impressive teaching staff, made up of professionals from different areas of expertise, will be your professors during the training: A unique opportunity not to be missed”*

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.





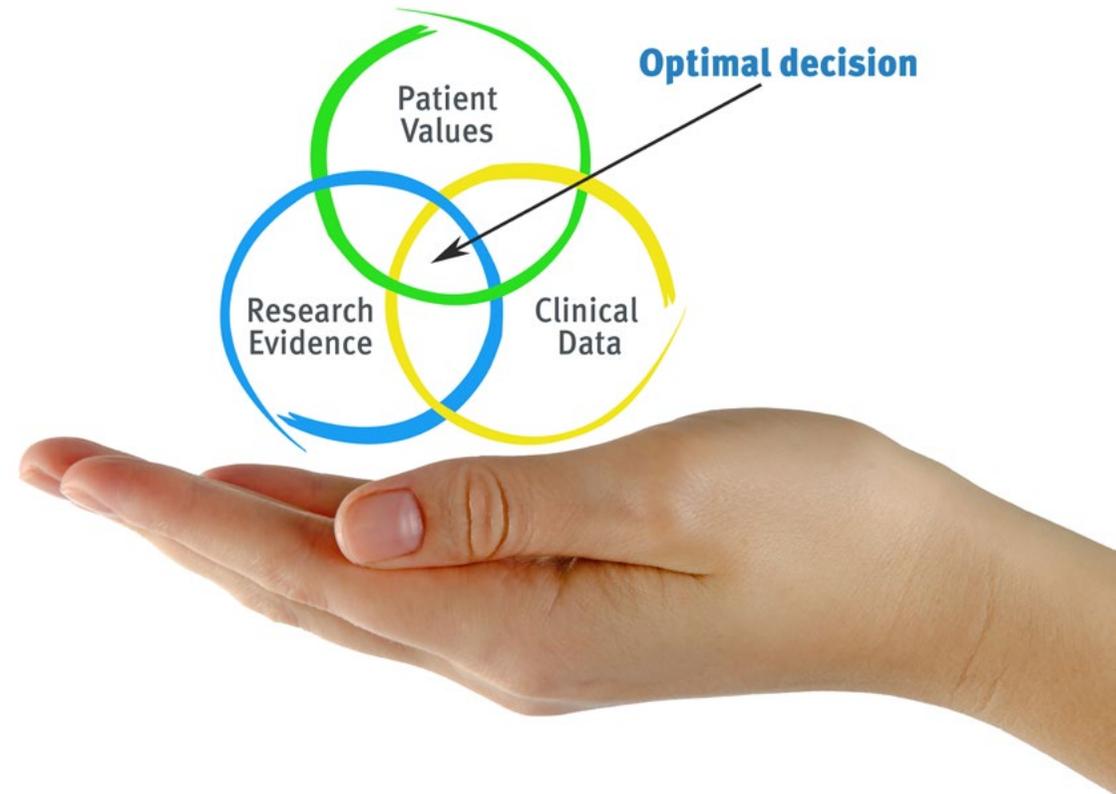
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

*With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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. Nurses 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 nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



*The nurse 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 have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical 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 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 (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's 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.



### Nursing 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 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 exclusive educational system for presenting multimedia content 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 suggesting that observing third-party experts can be useful.

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.



05

# Certificate

The Postgraduate Certificate in Primary Care Thoracic Ultrasound for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This **Postgraduate Certificate in Primary Care Thoracic Ultrasound for Nursing** contains the most complete and up-to-date scientific program 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 diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional from career evaluation committees.

Title: **Postgraduate Certificate in Primary Care Thoracic Ultrasound for Nursing**  
Official N° of hours: **150 h.**



health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
online training  
development language  
classroom



**Postgraduate Certificate**  
Primary Care Thoracic  
Ultrasound for Nursing

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- » Dedication: 16h/week
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