

# Hybrid Professional Master's Degree Clinical Ultrasound in Primary Care for Nursing



## Hybrid Professional Master's Degree

### Clinical ultrasound in Primary Care for Nursing

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,620 h.

Website: [www.techtitute.com/us/nursing/hybrid-professional-master-degree/hybrid-professional-master-degree-clinical-ultrasound-primary-care-nursing](http://www.techtitute.com/us/nursing/hybrid-professional-master-degree/hybrid-professional-master-degree-clinical-ultrasound-primary-care-nursing)

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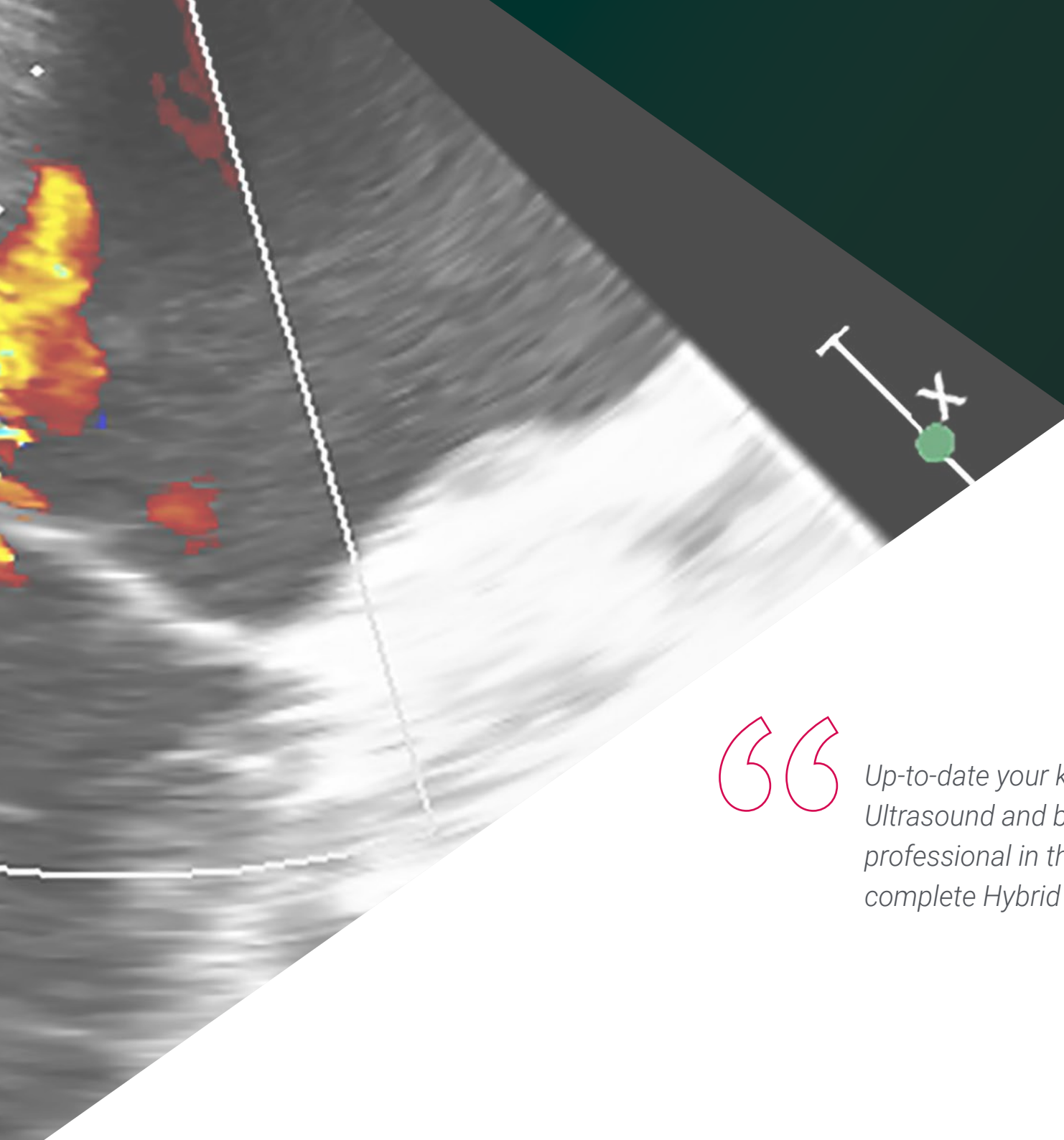
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# 01

# Introduction

In primary care services, a nurse may encounter a multitude of different cases that require the use of diagnostic imaging tests to clarify their status. In this sense, one of the most frequently used tests is ultrasound, so the professional needs to constantly up-to-date their knowledge in order to adapt to the use of new equipment and the means offered by this service. For this reason, TECH has prepared this academic proposal that, based on a theoretical-practical methodology, offers students the opportunity not only to up-to-date their theoretical knowledge in the field, but also to put into practice what they have learned in a reference center in this clinical area during a 3-week intensive stay.





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*Up-to-date your knowledge in Clinical Ultrasound and become an updated professional in this area thanks to this complete Hybrid Professional Master's Degree"*

The use of clinical ultrasound in primary care continues to be a complete tool at the service of the nurse in the diagnosis of patients with different symptomatology. Therefore, in the last 50 years, ultrasound has experienced an exponential advance. It is no longer necessary to use huge devices for this technique; technological advances allow for new, smaller and more mobile devices, which are therefore much more accessible.

This technological and academic advance in such a generalized specialty requires that professionals keep themselves permanently up-to-date in order to really take full advantage of all the benefits of Clinical Ultrasound. For this reason, and aware of the relevance and current relevance of this specialty, TECH has designed this complete Hybrid Professional Master's Degree in which the nurse will be able to up-to-date their theoretical knowledge and put what they have learned into action in a reference center in the sector.

In addition, and understanding the growing introduction of ultrasound scanners in Primary Care Centers, which has multiplied in recent years, this program focuses on offering nurses the opportunity to learn how to use these devices, taking full advantage of the benefits they provide.

The theoretical part of the program will be conducted 100% online, using not only the best educational technology, but also the best pedagogical resources and the best teaching methodology. This will be followed by the practical period of the Hybrid Professional Master's Degree in which, with a practical stay in a center of reference in the specialty, the nurse will learn to put into practice everything he or she has learned and, best of all, to take it to their daily practice.

Therefore, this Hybrid Professional Master's Degree is a great opportunity for students to update their knowledge and improve their daily practice without giving up the rest of their professional and personal activities. All of this, with the security that comes from studying with the most awarded teaching methodology in the current academic panorama and with the guarantees of attending a prestigious hospital to learn from the best professionals.

This **Hybrid Professional Master's Degree in Primary Care Clinical Symptoms Ultrasound for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Development of more than 100 clinical cases presented by nursing professionals with expertise in Home Hospitalization
- ◆ Its graphic, schematic and practical contents provide scientific and assistance information on those medical disciplines that are essential for professional practice
- ◆ Learn to use state-of-the-art equipment in clinical ultrasound
- ◆ Comprehensive systematized action plans for ultrasonic imaging detection of various pathologies
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ◆ Practical clinical guides on approaching different pathologies
- ◆ With a special emphasis on evidence-based For Nursing and clinical Ultrasound research methodologies
- ◆ All this will be complemented by 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
- ◆ In addition, you will be able to do a clinical internship in one of the best centers of this area



*You will be able to perform diagnostic imaging tests based on the most innovative strategies in current nursing practice."*

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*Get up to date, in a comprehensive way, in the assistance in the use of Clinical Ultrasound in Primary Care and apply in your day to day, and immediately, the advanced knowledge that this TECH program will provide you"*

This Master's program, which has a professionalizing nature and a hybrid learning modality, is aimed at updating For Nursing professionals who perform their functions in Primary Care, and who require a high level of English. The content is based on the latest scientific evidence and is organized in a didactic way to integrate theoretical knowledge into Psychological practice. The theoretical-practical elements allow professionals to bringing their knowledge up-to-date and help them to make the right decisions in patient care.

The multimedia content developed with the latest educational technology will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive education program 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Learn in a practical way, through this Hybrid Professional Master's Degree, the specific applications of Clinical Ultrasound in ultrasound-guided procedures.*

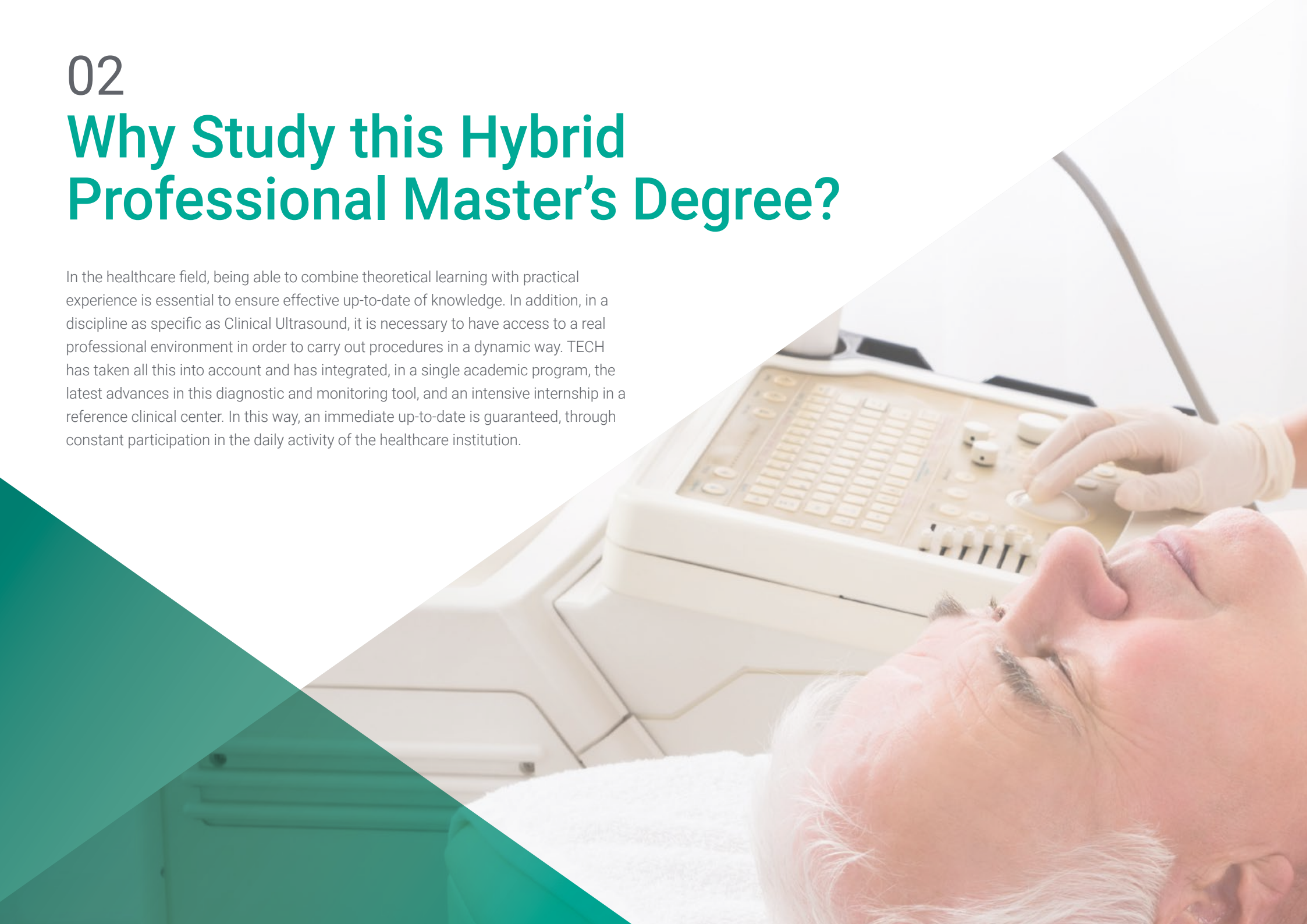
*During the clinical internship, you will receive constant guidance from top professionals from the health center of your choice.*



02

# Why Study this Hybrid Professional Master's Degree?

In the healthcare field, being able to combine theoretical learning with practical experience is essential to ensure effective up-to-date of knowledge. In addition, in a discipline as specific as Clinical Ultrasound, it is necessary to have access to a real professional environment in order to carry out procedures in a dynamic way. TECH has taken all this into account and has integrated, in a single academic program, the latest advances in this diagnostic and monitoring tool, and an intensive internship in a reference clinical center. In this way, an immediate up-to-date is guaranteed, through constant participation in the daily activity of the healthcare institution.







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*You will not find another opportunity like this one to update you in the use of Clinical Ultrasound in Primary Care. Join this program and enjoy an intensive internship in a reference health center, where you will receive the guidance of the most experienced professionals”*

### 1. Updating from the Latest Technology Available

The latest advances in Artificial Intelligence have enabled Clinical Ultrasound to increase its accuracy, even helping to process the image data obtained to diagnose different conditions and pathologies. Therefore, TECH aims to provide professionals with an avant-garde space where they can update their knowledge, and offers them the opportunity to carry out their practical stay in innovative environments that handle the most advanced health technology.

### 2. Gaining In-depth Knowledge from the Experience of Top Specialists

A prestigious team of professionals will guide the nurse at all times during his or her clinical practice, guaranteeing an immediate transmission of their experience to the student. In addition, the intern will have a specifically designated tutor who will guide them throughout the internship period, ensuring an optimal and effective learning experience.

### 3. Entering First-Class Clinical Environments

TECH carefully selects all available centers for Internship Programs. Thanks to this, the Nurse will have guaranteed access to a prestigious clinical environment in the field of and the Primary Care Laboratory. In this way, you will be able to see the day-to-day work of a demanding, rigorous and exhaustive sector, always applying the latest theses and scientific postulates in its work methodology.





#### 4. Combining the Best Theory with State-of-the-Art Practice

This program offers nurses the possibility to combine theory and practice, always enjoying a flexible teaching methodology that will adapt to their circumstances at all times. Therefore, you will be able to develop the theoretical learning at your own pace, through an online pedagogical system, and then put into practice the knowledge acquired in a highly reputable center.

#### 5. Expanding the Boundaries of Knowledge

TECH offers the possibility of doing this Internship Program, not only in national, but also in international centers. This way, the Nurse will be able , to expand their frontiers and catch up with the best professionals who practice in first class centers and in different continents. A unique opportunity that only TECH, the largest online university in the world, could offer.



*You will have full practical immersion  
at the center of your choice"*

# 03 Objectives

The design of this Hybrid Professional Master's Degree program allow students to acquire the necessary skills to update their knowledge in the profession after studying in depth the key aspects of Primary Care Emergency Medicine for Nurses. For this reason, and thanks to the acquisition of the most up-to-date and innovative scientific knowledge in this diagnostic area and the possibility of putting it into practice in a hospital center, the student will acquire a critical, innovative, multidisciplinary and integrating sense that will place them at the forefront of their profession.





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*This program will give you access to the latest technical and technological advances in Clinical Ultrasound, combining an online teaching methodology with an internship in a health center of international reputation"*



## General Objective

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- The main objective of of this Hybrid Professional Master's Degree is to provide nurses with the most up-to-date skills in the application of ultrasound for the management of common situations in their healthcare practice. To achieve this goal, the professional will have access not only to the theoretical content, but to a practical stay in a reference center in the field where they will be able to attend real patients accompanied by prestigious professionals in the practice of Clinical Ultrasound



*TECH's objective? Helping you to achieve your professional growth"*





## Specific Objectives

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### Module 1. Ultrasound Imaging

- ♦ Optimize ultrasound imaging through in-depth knowledge of the physical principles of ultrasound and the controls and operation of ultrasound scanners
- ♦ Master the basic and advanced procedures of Ultrasound, both at diagnostic and therapeutic level
- ♦ Excel in spatial orientation or econavigation"
- ♦ Practice all ultrasound modalities in the safest way for patients
- ♦ Know the indications and limitations of clinical ultrasound , and its application in the most frequent clinical situations
- ♦ Predict the results of invasive diagnostic procedures non-invasively by using ultrasound, with the possibility of replacing them

### Module 2. Clinical Ultrasound of the Head and Neck

- ♦ Inquire into the correct processes to perform ultrasound on the upper part of the patient
- ♦ Know the main reasons and diseases that require a brain ultrasound
- ♦ Manage the correct postures to properly carry out ultrasound
- ♦ Identify and recognize the possible results of the ultrasound sample
- ♦ Delve into the fast-acting treatments to prevent possible brain diseases based on ultrasound samples

### Module 3. Thoracic Ultrasound

- ♦ Identify respiratory and cardiological problems for which ultrasound examinations are necessary
- ♦ Perform the due process of taking examinations for rapid diagnosis of possible thoracic problems
- ♦ Identify lung problems in elderly patients through ultrasound
- ♦ Identifying the risks of infarction from the ultrasound scan
- ♦ Delve into the practice of emergency procedures after the diagnosis of a serious disease following ultrasound

### Module 4. Clinical Ultrasound of the Digestive Tract and Major Vessels

- ♦ Analyze whether digestive and great vessel problems can be identified from a single ultrasound picture
- ♦ Perform ultrasound for appendicitis, peritonitis and due medical procedure
- ♦ Promptly act when a digestive problem requires an emergency diagnosis
- ♦ Identify the main anomalies involving the digestive system and great vessels
- ♦ Perform ultrasound procedures on pregnant women
- ♦ Identify pregnancy stages in the womb and possible abnormalities

### Module 5. Clinical Genitourinary Ultrasound

- ◆ Identify the lower area within the ultrasound process and identify its possible genitourinary problems
- ◆ Diagnose by means of ultrasound the problems affecting the lower area of patients
- ◆ Perform ultrasound procedures as a prevention protocol for urinary diseases
- ◆ Identify through diagnostic imaging possible abnormalities affecting the genitourinary tract

### Module 6. Musculoskeletal Clinical Ultrasound

- ◆ Recognize and identify the muscles and bones in the human body
- ◆ Perform ultrasound procedures to diagnose trauma, fracture or swelling in patients
- ◆ Identify the main problems and diseases that affect muscles and generate hypertrophy
- ◆ Perform ultrasound examinations as a pre-surgical procedure in fractures and lacerations requiring implants or screw positioning

### Module 7. Clinical Vascular Ultrasound

- ◆ Identify vascular problems from ultrasound examinations
- ◆ Identify coagulation problems and vein clogging via diagnostic imaging







### **Module 8. Clinical Ultrasound in Accidents and Emergencies**

- ◆ Identify the medical due process for taking ultrasound examinations in emergency situations
- ◆ Prioritize the critically ill patient for appropriate ultrasound examination
- ◆ Diagnose medically from ultrasound what is an emergency and its proper treatment

### **Module 9. Ultrasound-Guided Procedures**

- ◆ Identify new echogenic materials and echogenic devices in regional anesthesia
- ◆ Delve into ultrasound-guided blocks in test taking
- ◆ Analyze new procedures used to identify diseases in patients

### **Module 10. Other Uses of Clinical Ultrasound**

- ◆ Become familiar with new advances in ultrasound
- ◆ Improve clinical ultrasound diagnostics
- ◆ Perform ultrasound on pregnant women to diagnose infants

# 04 Competencies

Once all the theoretical contents have been studied and the practical period of the program has been passed, the nurse will have high-level competencies in the management and use of the ultrasound technique in their daily practice. In this way, and by integrating the use of ultrasound in the primary care practice, the nurse will be able to evolve in their professional work, becoming a stronghold for any health center.





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*With this program you will master the methods of assistance in Clinical Ultrasound, in order to collaborate in the performance of common diagnostic procedures in the Primary Care office”*



## General Skills

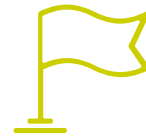
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- ◆ Apply the contents learned in resolving the main health problems in the field of Clinical Ultrasound
- ◆ Develop learning to learn as one of the most important skills for any professional nowadays, who is obliged to constantly specialize and improve their professional skills due to the dizzying and fast-paced process of scientific knowledge production
- ◆ Increase diagnostic abilities through the use of ultrasound for their patients' healthcare
- ◆ Develop skills for self-improvement, in addition to being able to provide training and professional improvement activities due to the high level of scientific and professional preparation acquired with this program



*Perfect your professional skills thanks to this Hybrid Professional Master's Degree, which contains the latest developments in the use of Clinical Ultrasound in Primary Care for Nurses"*





## Specific Skills

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- ◆ Use ultrasound imaging with sufficient ability to integrate common diagnostic processes in primary care
- ◆ Operate ultrasound scanners and their controls with ease
- ◆ Understand basic and advanced ultrasound procedures, both diagnostic and therapeutic
- ◆ Master all ultrasound procedures in the safest way for the patient
- ◆ Determine the indications and limitations of clinical ultrasound and its application in the most common clinical situations
- ◆ Replace the results of invasive diagnostic procedures non-invasively by using ultrasound
- ◆ Guiding invasive therapeutic procedures to minimize their risks
- ◆ Extend the concept of Clinical Ultrasound to healthcare, research, and academic environments

05

# Course Management

This Hybrid Professional Master's teaching staff includes leading specialists in clinical ultrasound and other related areas, who bring their years of work experience to This program. 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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*Get your knowledge up-to-date in the hands from leading professionals, who will contribute all their experience to a quality master's degree"*

## Management



### Dr. Fumadó Queral, Josep

- ♦ Family Physician, Els Muntells Primary Care Center (Amposta, Tarragona)
- ♦ Teacher at the Spanish School of Emergencies of the Spanish Society of General and Family Physicians (SEMG)
- ♦ Graduate in Clinical Ultrasound and Training of Trainers from the University of Montpellier
- ♦ 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

- ♦ Primary Care Physician in the Canarian Health Service
- ♦ Family physician at the Primary Care Center of Arucas (Gran Canaria, Canary Islands)
- ♦ 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
- ♦ Postgraduate Diploma in Thoracic Ultrasound at the University of Barcelona
- ♦ Expert in Abdominal and Musculoskeletal Clinical Ultrasound for Emergency and Critical Care CEU Cardenal Herrera University
- ♦ Diploma of the Course P Ultrasound in Primary Care from the University Rovira y Virgili Institut Catalá de la Salut



## Professors

### Dr. Álvarez Fernández, Jesús Andrés

- ♦ Chief Medical Officer at Juaneda Miramar Hospital
- ♦ Specialist in Intensive Care Medicine and management of real patients Burns, Getafe University Hospital
- ♦ Associate Researcher of the Neurochemistry and Neuroimaging Area at the University of La Laguna

### Dr. Herrera Carcedo, Carmelo

- ♦ Head of the Ultrasound Unit at the Briviesca Health Center
- ♦ Physician at San Juan de Dios Hospital
- ♦ Family Physician of the Ultrasound Unit at the Briviesca Health Center
- ♦ Tutor at the Family and Community Medicine Teaching Unit in 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

- ♦ Expert in Sports Medicine and University Professor
- ♦ Founder and Director of Sportoledo
- ♦ Researcher at the Sports Performance and Injury Rehabilitation Laboratory of the University of Castilla La Mancha
- ♦ Member of the Medical Service at Club Basketball Fuenlabrada
- ♦ Doctor in Medicine and Surgery from the University of Cordoba
- ♦ President of the Spanish Society English Ultrasound
- ♦ Member of the Spanish Society of Sports Medicine and European Federation of Ultrasound Societies in Medicine and Biology

### Dr. Sánchez Sánchez, José Carlos

- ♦ Teacher at the Spanish School of Ultrasound of the Spanish Society of General and Family Physicians
- ♦ in Radiodiagnosis Area Specialist at the of Poniente Hospital
- ♦ Master's Degree in Update of Diagnostic and Therapeutic Techniques in Radiology. by the Cardenal Herrera Ceu University
- ♦ University Expert in Technique and instrumentation, emergencies in radiology and Interventional neuro radiology by the Francisco de Vitoria University
- ♦ University Expert in Technique and instrumentation, emergencies in radiology and Interventional neuro radiology by the Francisco de Vitoria University
- ♦ Expert in Imaging Techniques in Breast Pathology and Breast Radiology by the University of Barcelona

### Dr. Arancibia Zemelman, Germán

- ♦ Musculoskeletal Teleradiologist (MRI) at Hospital San José in Santiago de Chile
- ♦ Staff Radiologist Clínica Indisa in Santiago de Chile
- ♦ Staff Radiologist from Clínica Sports Medicine in Santiago de Chile
- ♦ Staff Radiologist of the Hospital del Trabajador de Santiago
- ♦ Zone General Physician and Director of the Puerto Aysén Hospital, Chilean Patagonia
- ♦ Specialization in Imaging at the Clinical Hospital of the University of Chile
- ♦ Training in Musculoskeletal Radiology at Henry Ford Hospital, Detroit, Michigan, USA
- ♦ Member of the Radiological Society of North America and the Argentine Society of Ultrasound and Ultrasonography

**Dr. Argüeso García, Mónica**

- ♦ Physician in the Department of Intensive Care Medicine of the Gran Canaria Maternity Hospital
- ♦ Internal Medicine Specialist at Hospiten Clinica Roca

**Dr. Barceló Galíndez, Juan Pablo**

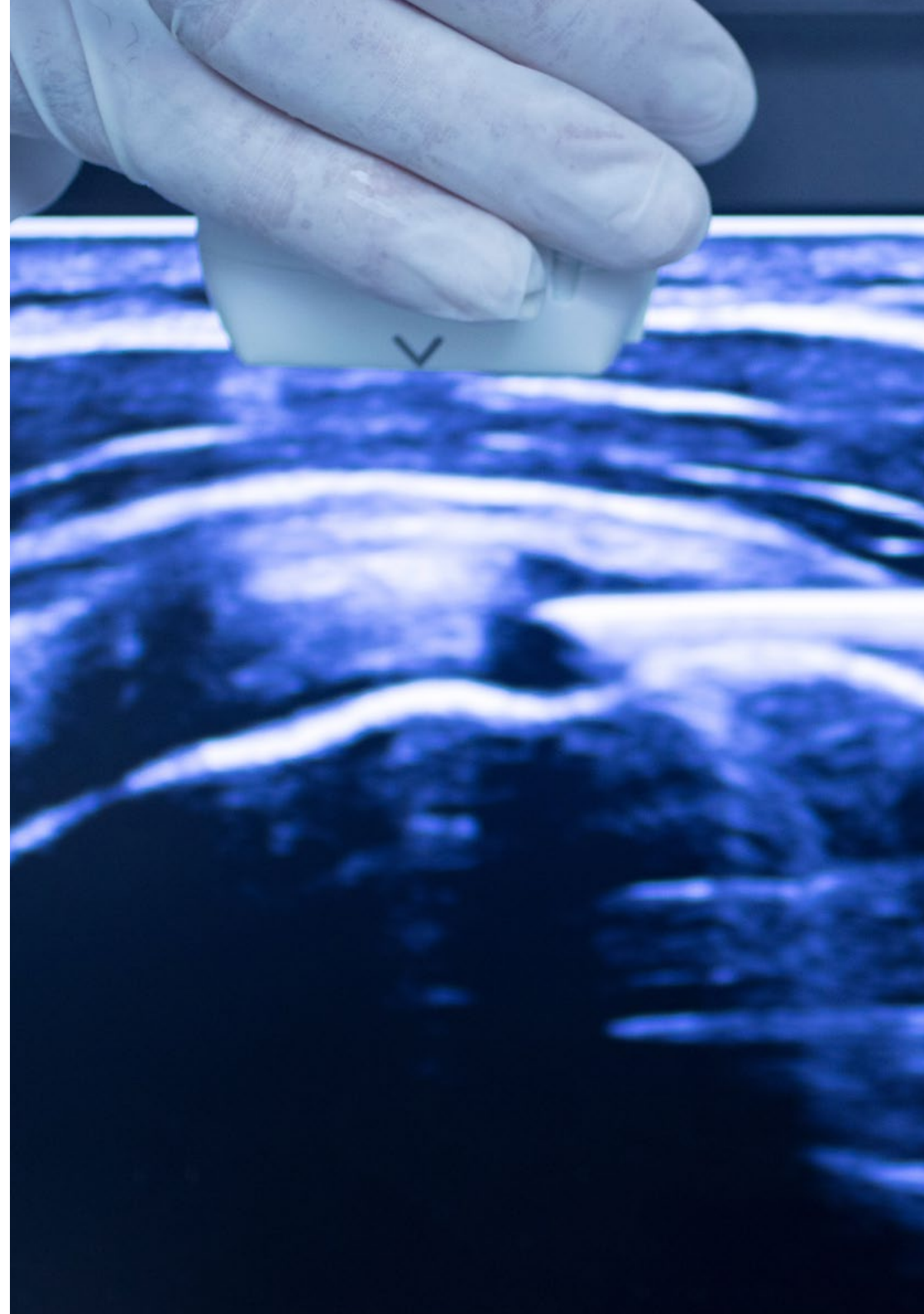
- ♦ Medical Director, Bridgestone Hispania, S.A., Bilbao
- ♦ Ultrasound Service at Mutualia Clinica Ercilla
- ♦ Medical Specialist in Occupational Medicine

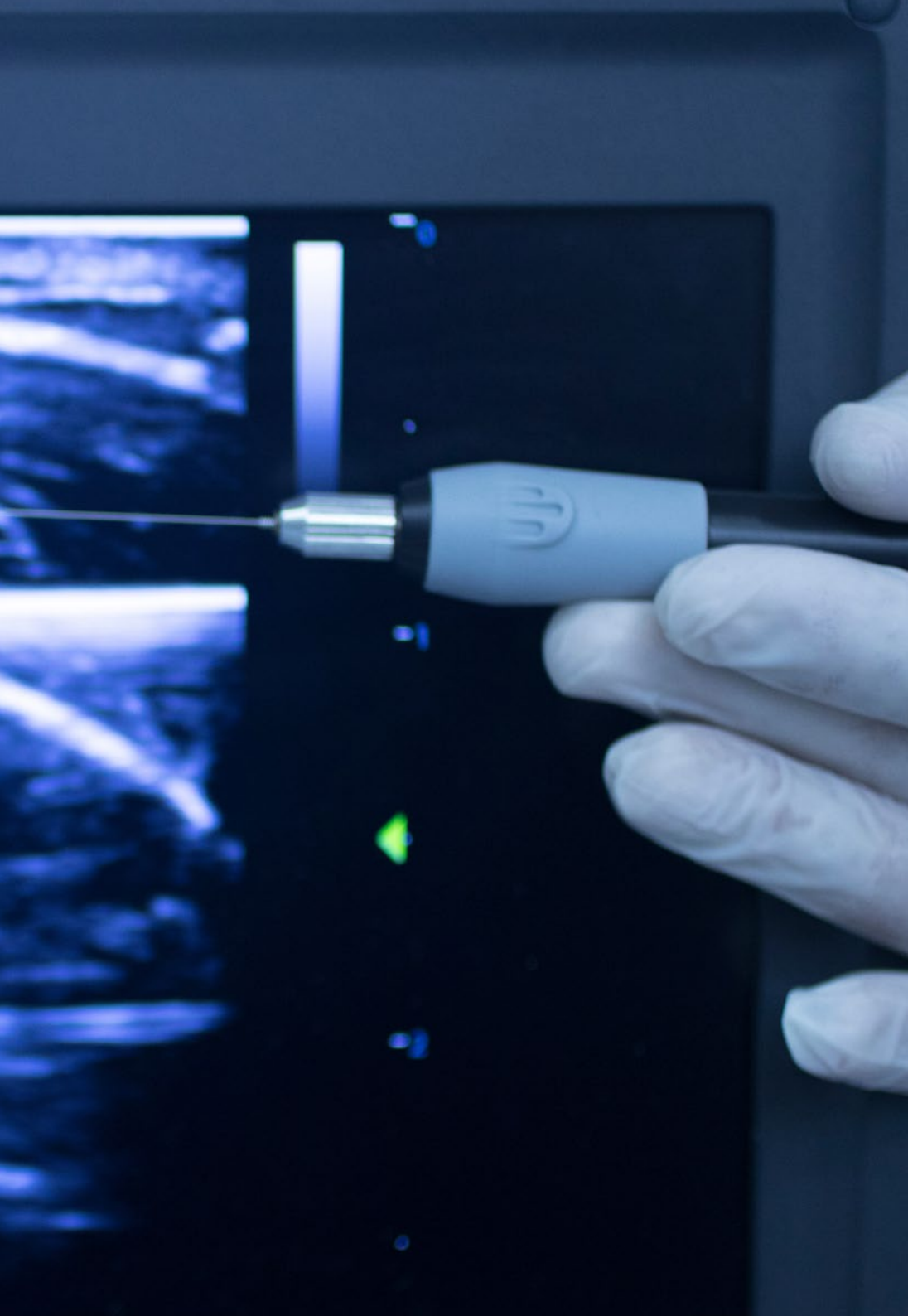
**Dr. Cabrera González, Antonio José**

- ♦ General Practitioner at the Medical Center of Arucas in Las Palmas de Gran Canaria
- ♦ General Practitioner at Tamaraceite Health Center in Las Palmas de Gran Canaria
- ♦ Expert in Medical Examination Services in Consultation and Radiodiagnostics

**Dr. Corcoll Reixach, Josep**

- ♦ Coordinator in charge of Clinical Ultrasound for the Medical Direction of the Primary Care Management of Mallorca
- ♦ Former General Director of Planning and Financing of the Health Department of the Balearic Islands
- ♦ Family Physician (Schamann Health Center)
- ♦ Master's Degree in Management and Administration from the National School of Health, Carlos III Institute of Health
- ♦ Diploma in Pulmonary Ultrasonography in COVID-19 Disease
- ♦ Member of the Spanish Society of Family Medicine



**Dr. Igeño Cano, José Carlos**

- ◆ Head of the Intensive Medicine and Emergency Department at San Juan de Dios Hospital in from Córdoba
- ◆ Responsible for the Patient Welfare Area in the HUCI Project, Humanizing Intensive Care
- ◆ Coordinator of the Planning and Organization and Management Working Group of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC)
- ◆ Medical Director of the Resuscitation and Post-Surgical Care Unit of the IDC Salud Hospital Virgen de Guadalupe
- ◆ ICU Attending Physician in the Castilla-La Mancha Health Service
- ◆ Assistant Physician, Medicine and Neurotrauma Unit, Nuestra Señora de la Candelaria Hospital
- ◆ Head of Critical Patient Transport Service in Ambulancias Juan Manuel SL
- ◆ Master's Degree in Clinical Management, Medical and Healthcare Management from the CEU Cardenal Herrera University
- ◆ Member of the Pan-American and Iberian Federation of Critical Medicine and Intensive Care, Spanish Society of Intensive Care, Critical Care and Coronary Units

**Dr. De Varona Froloy, Serguei**

- ◆ Medical Specialist in Angiology and Vascular Surgery of the Canary Islands Institute of Advanced Medicine
- ◆ Angiology at Dr. Negrin University Hospital of Gran Canaria
- ◆ Master in Endovascular Techniques by Boston Scientific PL

**Dr. Donaire Hoyas, Daniel**

- ♦ Specialist in Orthopedic Surgery and Traumatology in La Fe Polytechnic University Hospital De las Nieves
- ♦ Specialist, in Orthopedic Surgery and Traumatology in Hospital de Poniente El Almeria
- ♦ Orthopedic Physician in Orthopedic Institute Surgery and Traumatology
- ♦ Training in Periprosthetic Hip and Knee Infection at the Endoklinik Hospital Hamburg
- ♦ Training in Orthopedics and Traumatology at the Trauma Unit of the John Radcliff Hospital attached to Oxford University

**Dr. Fabián Feroso, Antonio**

- ♦ Software Engineer at GE Corporation
- ♦ Product Specialist of the Operating Room Unit for Prim S.A
- ♦ Medical, Endoscopy and Traumatology Business Unit Engineer of Skyter
- ♦ Professional Master's Degree in Business Administration from IE Business School

**D. Gálvez Gómez, Francisco Javier**

- ♦ Head of Marketing of the Ultrasound Division of SIEMENS Healthcare for Spain and Southern Europe
- ♦ Ultrasound General Imaging Application Specialist for SIEMENS Healthcare in Madrid
- ♦ GI modality leader and point of care for Ultrasound at GE Healthcare Spain
- ♦ Image Department Manager for Dissa- BK Distributor
- ♦ Researcher for the Analytical Laboratory Naturin GmbH

**Dr. Herrero Hernández, Raquel**

- ♦ Specialist in Intensive Care Medicine
- ♦ Interim Physician in the Intensive Care Medicine Medicine Unit at Getafe University Hospital
- ♦ Author of numerous scientific publications
- ♦ Doctorate in Medicine from the Autonomous University Madrid

**Dr. León Ledesma, Raquel**

- ♦ Physician of the General and Digestive System Surgery Department of the Hospital Universitario Getafe
- ♦ ginecología and Obstetrics Department of the Getafe University Hospital

**Dr. López Cuenca, Sonia**

- ♦ Specialist in Family and Intensive Care Medicine at Hospital Universitario Rey Juan Carlos, Madrid
- ♦ Intensivist at the University Hospital of Getafe
- ♦ Researcher of Murcia Health Service
- ♦ Intensivist at Los Madroños Hospital
- ♦ Out SUMMA of-hospital emergency physician

**Dr. López Rodríguez, Lucía**

- ♦ Doctor Specialist in the Intensive Care and Major Burns Department, Getafe University Hospital
- ♦ Doctor of Medicine, UCM
- ♦ Degree in Medicine and Surgery from the UCM
- ♦ Member of the Ecoclub of SOMIAMA

**Dr. Martín del Rosario, Francisco Manuel**

- ♦ Specialist of the Rehabilitation Service at the Complejo Hospitalario Insular Materno Infantil de Gran Canaria
- ♦ Physician of the Upper Limb and Hand Pathology Unit at the Complejo Hospitalario Insular Materno Infantil de Gran Canaria
- ♦ Private health care practitioner at Policlínico León y Castillo
- ♦ Private health care practitioner at Policlínico León y Castillo
- ♦ Consultant Rehabilitation Physician of Aeroméctica Canaria

**D. Moreno Valdés, Javier**

- ♦ Business Manager of the Ultrasound Division of Canon Medical Systems for Spain
- ♦ Counseling of Resident Working Group of the Spanish Society of Medical Radiology
- ♦ Masters Degree in business administration from EAE Business School

**Dr. Núñez Reiz, Antonio**

- ♦ Intensive Care Physician at the Hospital Clínico Universitario San Carlos
- ♦ Doctor of the and Intensive Care Unit, Fundación Alcorcón University Hospital
- ♦ Specialist of the Unit for Intensive Care Medicine of the Príncipe Asturias University Hospital
- ♦ Member of the Cuban Society of Emergency and Intensive Care Medicine

**Dr. Santos Sánchez, José Ángel**

- ♦ Medical Specialist, Salamanca University Hospital
- ♦ Specialist in Traumatology and Orthopedic Surgery at the Complejo Sanitario Provincial de Plasencia
- ♦ Master's Degree in Health Management and Management from the European Institute of Health and Social Welfare
- ♦ Master in ICT Resources in the Teaching and Learning Process by the University of Salamanca
- ♦ Member of the Advanced Medical Visualization Group of the University of Salamanca

**Dr. Segura Blázquez, José María**

- ♦ Family Physician at the Canary Islands Institute of Advanced Medicine
- ♦ Family Doctor at Tamaraceite Las Palmas de Gran Canaria Health in Center (Canary Islands)
- ♦ General Practitioner at the Medical Center three Las Palmas de Gran Canaria
- ♦ Master's Degree in Public Health and from the University of Las Palmas of Gran Canaria
- ♦ Member of the Spanish Society of Primary Care Physicians and the Canary Society of Ultrasound

**Dr. Wagüemert Pérez, Aurelio**

- ♦ Interventional Pneumologist at the San Juan de Dios University Hospital
- ♦ Cardivant Medical Center Interventional Pulmonologist
- ♦ Interventional Pulmonologist at Clinica Tu Consulta
- ♦ Interventional Pneumologist at the University Hospital of the Canary Islands

# 06

## Educational Plan

The theoretical part of this Hybrid Professional Master's Degree is made up of the study of 10 modules that include the basic and fundamental contents not only to learn how to use Clinical Ultrasound, but also to update the previously existing knowledge. Also, these contents have been created by active professionals who understand the relevance of this specialty, so they have endeavored to place special emphasis on those basic aspects for the profession, such as the use of Clinical Ultrasound for different parts of the body or the physical principles governing the ultrasound image among others.





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*This is the only program that offers the professional the opportunity to combine the latest theoretical advances in Clinical Ultrasound with high-level clinical practices in a prestigious health center”*

## Module 1. Ultrasound Imaging

- 1.1. Physical Principles
  - 1.1.1. Sounds and Ultrasound
  - 1.1.2. The Nature of Sound
  - 1.1.3. Interaction of Sound with Matter
  - 1.1.4. The Concept of Ultrasound
  - 1.1.5. Ultrasound Safety
- 1.2. Ultrasound Sequence
  - 1.2.1. Ultrasound Emission
  - 1.2.2. Tissue Interaction
  - 1.2.3. Echo Formation
  - 1.2.4. Ultrasound Reception
  - 1.2.5. Ultrasound Image Generation
- 1.3. Ultrasound Modes
  - 1.3.1. Modes A and M
  - 1.3.2. Mode B
  - 1.3.3. Doppler Modes (color, angio, and spectral)
  - 1.3.4. Combined Modes
- 1.4. Ultrasound Scanners
  - 1.4.1. Common Components
  - 1.4.2. Classification
  - 1.4.3. Transducers
- 1.5. Ultrasound Maps and Echonavigation
  - 1.5.1. Spatial Layout
  - 1.5.2. Ultrasound Maps
  - 1.5.3. Transducer Movements
  - 1.5.4. Practical Advice
- 1.6. Trends in Ultrasound
  - 1.6.1. 3D/4D Ultrasound
  - 1.6.2. Sonoelastography
  - 1.6.3. Echopotentialiation
  - 1.6.4. Other Modes and Techniques

## Module 2. Clinical Ultrasound of the Head and Neck

- 2.1. Anatomy Recap
  - 2.1.1. Cranium and Face
  - 2.1.2. Tubular Structures
  - 2.1.3. Glandular Structures
  - 2.1.4. Vascular Structures
- 2.2. Ocular Ultrasound
  - 2.2.1. Ultrasound Anatomy of the Eye
  - 2.2.2. Ocular Ultrasound Technique
  - 2.2.3. Indications and Contraindications of Ocular Ultrasonography
  - 2.2.4. Ultrasound Report
- 2.3. Ultrasound of Salivary Glands
  - 2.3.1. Regional Sonoanatomy
  - 2.3.2. Technical Aspects
  - 2.3.3. Most Common Tumor and Non-Tumor Pathologies
- 2.4. Thyroid Ultrasound
  - 2.4.1. Ultrasound Technique
  - 2.4.2. Indications
  - 2.4.3. Normal and Pathological Thyroid
  - 2.4.4. Diffuse Goiter
- 2.5. Ultrasound Examination of Adenopathies
  - 2.5.1. Reactive Lymph Nodes
  - 2.5.2. Non-Specific Inflammatory Diseases
  - 2.5.3. Specific Lymphadenitis (Tuberculosis)
  - 2.5.4. Primary Lymph Node Diseases (Sarcoidosis, Hodgkin's Lymphoma, Non-Hodgkin's Lymphoma)
  - 2.5.5. Lymph Node Metastases
- 2.6. Ultrasound of the Supra-Aortic Trunks
  - 2.6.1. Sonoanatomy
  - 2.6.2. Scanning Protocol
  - 2.6.3. Extracranial Carotid Pathology
  - 2.6.4. Vertebral Pathology and Subclavian Artery Steal Syndrome.



**Module 3. Thoracic Ultrasound**

- 3.1. Thoracic Ultrasound Fundamentals
  - 3.1.1. Anatomy Recap
  - 3.1.2. Echoes and Artifacts in the Thorax
  - 3.1.3. Technical Requirements
  - 3.1.4. Exploration Systematics
- 3.2. Ultrasound of the Chest Wall, Mediastinum, and Diaphragm
  - 3.2.1. Soft Tissues
  - 3.2.2. Thoracic Cage
  - 3.2.3. Mediastinum
  - 3.2.4. Diaphragm
- 3.3. Pleural Ultrasound
  - 3.3.1. Normal Pleura
  - 3.3.2. Pleural Effusion
  - 3.3.3. Pneumothorax
  - 3.3.4. Solid Pleural Pathology
- 3.4. Pulmonary Ultrasound
  - 3.4.1. Pneumonia and Atelectasis
  - 3.4.2. Pulmonary Neoplasms
  - 3.4.3. Diffuse Lung Disease
  - 3.4.4. Pulmonary Infarction
- 3.5. Cardiac Ultrasound and Basic Hemodynamics
  - 3.5.1. Normal Cardiac Sonoanatomy and Hemodynamics
  - 3.5.2. Examination Technique
  - 3.5.3. Structural Alterations
  - 3.5.4. Hemodynamic Alterations
- 3.6. Trends in Thoracic Ultrasound
  - 3.6.1. Pulmonary Sonoelastography
  - 3.6.2. 3D/4D Thoracic Ultrasound
  - 3.6.3. Other Modes and Techniques

**Module 4. Clinical Ultrasound of the Digestive Tract and Major Vessels**

- 4.1. Hepatic Ultrasound
  - 4.1.1. Anatomy
  - 4.1.2. Liquid Focal Lesions
  - 4.1.3. Solid Focal Lesions
  - 4.1.4. Diffuse Liver Disease
  - 4.1.5. Chronic Liver Disease
- 4.2. Ultrasound of Gallbladder and Bile Ducts
  - 4.2.1. Anatomy
  - 4.2.2. Cholelithiasis and Biliary Sludge
  - 4.2.3. Vesicular Polyps
  - 4.2.4. Cholecystitis
  - 4.2.5. Bile Duct Dilatation
  - 4.2.6. Bile Duct Malformations
- 4.3. Pancreatic Ultrasound
  - 4.3.1. Anatomy
  - 4.3.2. Acute Pancreatitis
  - 4.3.3. Chronic Pancreatitis
- 4.4. Ultrasound of the Major Vessels
  - 4.4.1. Abdominal Aortic Disease
  - 4.4.2. Vena Cava Pathology
  - 4.4.3. Pathology of Celiac Trunk, Hepatic Artery, and Splenic Artery.
  - 4.4.4. Aortomesenteric Clamp Pathology
- 4.5. Ultrasound of the Spleen and Retroperitoneum
  - 4.5.1. Spleen Anatomy
  - 4.5.2. Splenic Focal Lesions
  - 4.5.3. Study of Splenomegaly
  - 4.5.4. Adrenal Gland Anatomy
  - 4.5.5. Adrenal Pathology
  - 4.5.6. Retroperitoneal Lesions
- 4.6. The Digestive Tract
  - 4.6.1. Ultrasound Examination of the Stomach
  - 4.6.2. Ultrasound Examination of the Small Intestine
  - 4.6.3. Ultrasound Examination of the Colon

## Module 5. Clinical Genitourinary Ultrasound

- 5.1. Kidneys and Urinary Tract
  - 5.1.1. Anatomy Recap
  - 5.1.2. Structural Alterations
  - 5.1.3. Hydronephrosis. Urinary Tract Dilation
  - 5.1.4. Kidney Stones, Cysts, and Tumors
  - 5.1.5. Renal Insufficiency
- 5.2. Urinary Bladder
  - 5.2.1. Anatomy Recap
  - 5.2.2. Ultrasound Characteristics
  - 5.2.3. Benign Bladder Pathology
  - 5.2.4. Malignant Bladder Pathology
- 5.3. Prostate and Seminal Vesicles
  - 5.3.1. Anatomy Recap
  - 5.3.2. Ultrasound Characteristics
  - 5.3.3. Benign Prostatic Pathology
  - 5.3.4. Malignant Prostatic Pathology
  - 5.3.5. Benign Seminal Pathology
  - 5.3.6. Malignant Seminal Pathology
- 5.4. The Scrotum
  - 5.4.1. Anatomy Recap
  - 5.4.2. Ultrasound Characteristics
  - 5.4.3. Benign Scrotal Pathology
  - 5.4.4. Malignant Scrotal Pathology
- 5.5. The Uterus
  - 5.5.1. Anatomy Recap
  - 5.5.2. Ultrasound Characteristics
  - 5.5.3. Benign Uterine Pathology
  - 5.5.4. Malignant Uterine Pathology
- 5.6. The Ovaries
  - 5.6.1. Anatomy Recap
  - 5.6.2. Ultrasound Characteristics of the Ovaries
  - 5.6.3. Benign Ovarian Pathology
  - 5.6.4. Malignant Ovarian Pathology





## Module 6. Musculoskeletal Clinical Ultrasound

- 6.1. Anatomy Recap
  - 6.1.1. Anatomy of the Shoulder
  - 6.1.2. Anatomy of the Elbow
  - 6.1.3. Anatomy of the Wrist and Hand
  - 6.1.4. Anatomy of the Hip and Thigh
  - 6.1.5. Anatomy of the Knee
  - 6.1.6. Anatomy of the Ankle, Foot, and Leg
- 6.2. Technical Requirements
  - 6.2.1. Introduction
  - 6.2.2. Musculoskeletal Ultrasound Equipment
  - 6.2.3. Ultrasound Imaging Methods
  - 6.2.4. Validation, Reliability, and Standardization
  - 6.2.5. Ultrasound-Guided Procedures
- 6.3. Examination Technique
  - 6.3.1. Basic Concepts in Ultrasound
  - 6.3.2. Rules for Correct Examination
  - 6.3.3. Examination Technique in Ultrasound Study of the Shoulder
  - 6.3.4. Examination Technique in Ultrasound Study of the Elbow
  - 6.3.5. Examination Technique in Ultrasound Study of the Wrist and Hand
  - 6.3.6. Examination Technique in Ultrasound Study of the Hip
  - 6.3.7. Examination Technique in Ultrasound Study of the Thigh
  - 6.3.8. Examination Technique in Ultrasound Study of the Knee
  - 6.3.9. Examination Technique in Ultrasound Study of the Leg and Ankle
- 6.4. Sonoanatomy of the Musculoskeletal System: I. Upper Extremities
  - 6.4.1. Introduction
  - 6.4.2. Shoulder Ultrasound Anatomy
  - 6.4.3. Elbow Ultrasound Anatomy
  - 6.4.4. Wrist and Hand Ultrasound Anatomy

- 6.5. Sonoanatomy of the Musculoskeletal System: II. Lower Extremities
  - 6.5.1. Introduction
  - 6.5.2. Hip Ultrasound Anatomy
  - 6.5.3. Thigh Ultrasound Anatomy
  - 6.5.4. Knee Ultrasound Anatomy
  - 6.5.5. Ultrasound Anatomy
- 6.6. Ultrasound in the Most Frequent Acute Injuries of the Musculoskeletal System
  - 6.6.1. Introduction
  - 6.6.2. Muscle Injuries
  - 6.6.3. Tendon Injuries
  - 6.6.4. Ligament Injuries
  - 6.6.5. Subcutaneous Tissue Injuries
  - 6.6.6. Bone Injuries and Joint Injuries
  - 6.6.7. Peripheral Nerve Injuries

## Module 7. Clinical Vascular Ultrasound

- 7.1. Vascular Ultrasound
  - 7.1.1. Description and Applications
  - 7.1.2. Technical Requirements
  - 7.1.3. Procedure
  - 7.1.4. Interpretation of Results. - Risks and Benefits
  - 7.1.5. Limitations
- 7.2. Doppler
  - 7.2.1. Fundamentals
  - 7.2.2. Applications
  - 7.2.3. Types of Echo-Doppler
  - 7.2.4. Color Doppler
  - 7.2.5. Power Doppler
  - 7.2.6. Dynamic Doppler

- 7.3. Normal Ultrasound of the Venous System
  - 7.3.1. Anatomy Recap: Venous System of the Upper Extremities
  - 7.3.2. Anatomy Recap: Venous System of the Lower Extremities
  - 7.3.3. Normal Physiology
  - 7.3.4. Regions of Interest
  - 7.3.5. Functional Tests
  - 7.3.6. Report. Vocabulary
- 7.4. Upper Extremity Chronic Venous Disease
  - 7.4.1. Definition
  - 7.4.2. CEAP Classification.
  - 7.4.3. Morphological Criteria
  - 7.4.4. Examination Technique
  - 7.4.5. Diagnostic Manoeuvres
  - 7.4.6. Type of Report
- 7.5. Acute/Subacute Vascular Thrombosis of the Upper Extremities
  - 7.5.1. Anatomy Recap
  - 7.5.2. Manifestations of Vascular Thrombosis of the Upper Extremities
  - 7.5.3. Ultrasound Characteristics
  - 7.5.4. Examination Technique
  - 7.5.5. Diagnostic Manoeuvres
  - 7.5.6. Technical Limitations
- 7.6. Acute/Subacute Vascular Thrombosis of the Lower Extremities
  - 7.6.1. Description
  - 7.6.2. Manifestations of Vascular Thrombosis of the Lower Extremities
  - 7.6.3. Ultrasound Characteristics
  - 7.6.4. Examination Technique
  - 7.6.5. Differential Diagnosis
  - 7.6.6. Vascular Report

**Module 8. Clinical Ultrasound in Emergencies**

- 8.1. Ultrasound in Respiratory Failure
  - 8.1.1. Spontaneous Pneumothorax
  - 8.1.2. Bronchospasm
  - 8.1.3. Pneumonia
  - 8.1.4. Pleural Effusion
  - 8.1.5. Heart Failure
- 8.2. Ultrasound in Shock and Cardiac Arrest
  - 8.2.1. Hypovolemic Shock
  - 8.2.2. Obstructive Shock
  - 8.2.3. Cardiogenic Shock
  - 8.2.4. Distributive Shock
  - 8.2.5. Cardiac Arrest
- 8.3. Ultrasound in Polytrauma: Eco-FAST
  - 8.3.1. Pericardial Effusion
  - 8.3.2. Hemothorax and Pneumothorax
  - 8.3.3. Hepatorenal or Perihepatic Effusion
  - 8.3.4. Splenorenal or Perisplenic Effusion
  - 8.3.5. Perivesical Effusion
  - 8.3.6. Post-Traumatic Aortic Dissection
  - 8.3.7. Musculoskeletal Injuries
- 8.4. Genitourinary Emergencies
  - 8.4.1. Obstructive Uropathy
  - 8.4.2. Uterine Emergencies
  - 8.4.3. Ovarian Emergencies
  - 8.4.4. Bladder Emergencies
  - 8.4.5. Prostatic Emergencies.
  - 8.4.6. Scrotal Emergencies
- 8.5. Acute Abdomen
  - 8.5.1. Cholecystitis
  - 8.5.2. Pancreatitis
  - 8.5.3. Mesenteric Ischemia
  - 8.5.4. Appendicitis
  - 8.5.5. Perforation of the Hollow Viscus

- 8.6. Ultrasound in Sepsis
  - 8.6.1. Hemodynamic Diagnosis
  - 8.6.2. Source Detection
  - 8.6.3. Handling of Liquids

**Module 9. Ultrasound-Guided Procedures**

- 9.1. Ultrasound-Guided FNA
  - 9.1.1. Indications/Contraindications
  - 9.1.2. Material
  - 9.1.3. Informed Consent
  - 9.1.4. Procedure
  - 9.1.5. Results
  - 9.1.6. Complications
  - 9.1.7. Quality Control
- 9.2. Ultrasound-Guided Percutaneous Biopsy
  - 9.2.1. Informed Consent
  - 9.2.2. Biopsy Materials (Types of Biopsy Needles)
  - 9.2.3. Procedure
  - 9.2.4. Complications
  - 9.2.5. Care
  - 9.2.6. Quality Control
- 9.3. Drainage of Abscesses and Fluid Collections
  - 9.3.1. Indications and Contraindications
  - 9.3.2. Informed Consent
  - 9.3.3. Requirements and Materials
  - 9.3.4. Technique and Approach Route: Direct Puncture (Trocar) vs. Step to Step (Seldinger)
  - 9.3.5. Catheter Management and Patient Care
  - 9.3.6. Side Effects and Complications
  - 9.3.7. Quality Control

- 9.4. Ultrasound-Guided Thoracentesis, Pericardiocentesis, and Paracentesis
  - 9.4.1. Indications and Advantages over the Anatomical Reference Technique
  - 9.4.2. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
  - 9.4.3. Ultrasound Specifications and Pericardial Drainage Technique
  - 9.4.4. Ultrasound Specifications and Thoracic Drainage Technique
  - 9.4.5. Ultrasound Specifications and Abdominal Drainage Technique
  - 9.4.6. Common Problems, Complications, and Practical Advice
- 9.5. Ultrasound-Guided Vascular Cannulation
  - 9.5.1. Indications and Advantages over the Anatomical Reference Technique
  - 9.5.2. Current Evidence on Ultrasound-Guided Vascular Cannulation
  - 9.5.3. Basic Aspects: Ultrasound Specifications and Ultrasound Anatomy
  - 9.5.4. Ultrasound-Guided Central Venous Cannulation Technique
  - 9.5.5. Single Peripheral Catheter and Peripherally Inserted Central Catheter (PICC) Cannulation Technique
  - 9.5.6. Arterial Cannulation Technique
- 9.6. Ultrasound-Guided Infiltration and Chronic Pain Treatment
  - 9.6.1. Infiltrations and Pain
  - 9.6.2. Large Joints: Intra-articular and Myotendinous
  - 9.6.3. Small Joints: Intra-articular and Myotendinous
  - 9.6.4. Spinal Column

## Module 10. Other Uses of Clinical Ultrasound

- 10.1. Radial Breast Ultrasound
  - 10.1.1. Anatomy Recap
  - 10.1.2. Technical Requirements
  - 10.1.3. Ultrasound Slices
  - 10.1.4. Ultrasound Features - Breast Pathology
  - 10.1.5. Breast Elastography
- 10.2. Dermatological Ultrasound
  - 10.2.1. Echoanatomy of the Skin and Appendages
  - 10.2.2. Ultrasound of Skin Tumors
  - 10.2.3. Ultrasound of Inflammatory Skin Diseases
  - 10.2.4. Ultrasound in Dermoesthetics and its Complications



- 10.3. Introduction to Cerebral Clinical Ultrasound
  - 10.3.1. Brain Anatomy and of Ultrasound Interest
  - 10.3.2. Ultrasound Techniques and Procedures
  - 10.3.3. Structural Alterations
  - 10.3.4. Functional Alterations
  - 10.3.5. Intracranial Hypertension
- 10.4. Ultrasound in Diabetes
  - 10.4.1. Aortic/Carotid Atheromatosis in Diabetics
  - 10.4.2. Parenchymal Echogenicity in Diabetic Patients
  - 10.4.3. Biliary Lithiasis in Diabetic Patients
  - 10.4.4. Neurogenic Bladder in Diabetic Patients
  - 10.4.5. Cardiomyopathy in Diabetic Patients
- 10.5. Ultrasound in the Study of Frailty in the Elderly
  - 10.5.1. Frail Elderly
  - 10.5.2. ABCDE Ultrasound in the Frail Elderly Patient
  - 10.5.3. Ultrasound Examination of Sarcopenia
  - 10.5.4. Ultrasound Examination of Cognitive Deterioration
- 10.6. Ultrasound Report
  - 10.6.1. Ultrasound Note
  - 10.6.2. Ultrasound Derivation
  - 10.6.3. Ultrasound Report in PC

“*TECH offers you the most complete and advanced content on the market in the field of Clinical Ultrasound and its applications in Primary Care, allowing you to get up to date in a dynamic way, thanks to its online methodology*”

07

# Clinical Internship

After passing the online of empowerment period, the program includes a practical training period in a reference clinical center. The student will have at their disposal the support of a tutor who will accompany them during the whole process, both in the preparation and in the development of the clinical practice.





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*Carry out your internship in a prestigious clinical center, where you will be able to develop yourself dynamically in a real working environment"*

Present Primary care is undoubtedly one of the areas where Clinical Ultrasound is most widely used. The nursing professional can benefit from of Clinical Ultrasound to favorably influence the diagnosis and treatment of different pathologies, improving patient safety, reducing waiting times and possible errors.

The Internship Program consists of a Practice in a prestigious center, a 3-week period, from Monday to Friday with 8 consecutive hours of work with an attending specialist. This stay will allow the Students will real patients alongside a team of professionals of reference in the area of Aesthetic Medicine applied to Dentistry. All of this undoubtedly offers the student an unparalleled opportunity to learn about a specialty that, due to its capacity to offer instantaneous and appropriate responses to each case, continually demands specialized nurses.

In this practical Internship Program, the activities are aimed at developing and perfecting the skills necessary to provide healthcare in areas of Toxicology, Demand. highly qualified professionals, and are oriented towards specific expertise for practicing the activity, in a safe environment for the patient and with highly professional performance.

The practical education will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for clinical For Ultrasound practice (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:



*Get up to date, in a practical and participative way, on the latest techniques and protocols in the application of Clinical Ultrasound in Primary Care for Nurses"*



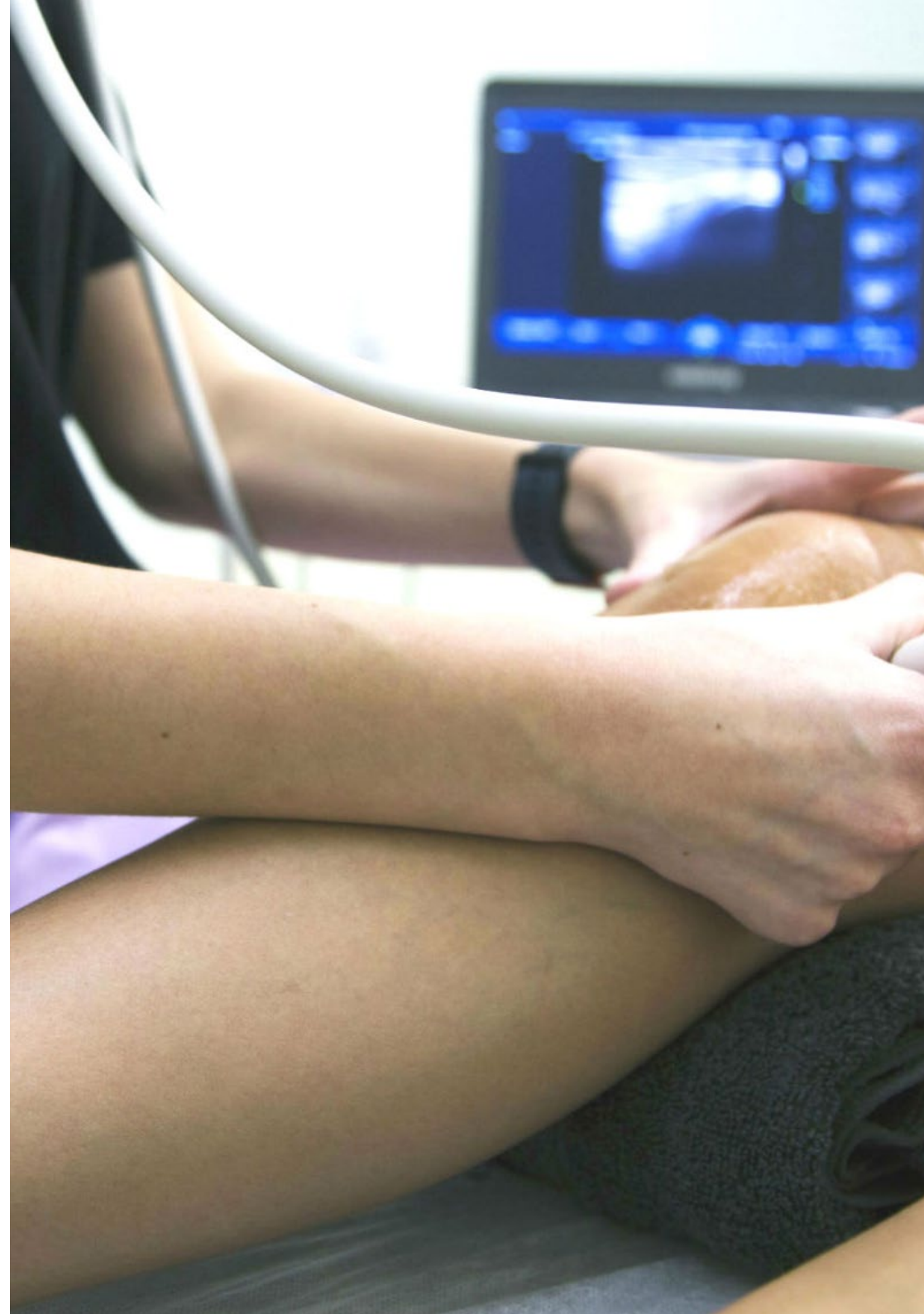
Module	Practical Activity
<b>Ultrasound techniques and ultrasound-guided procedures</b>	Use the different modes (Modes A and M, Mode B, Color Doppler Modes, and combined modes) in ultrasound examinations.
	Participate in the performance of percutaneous biopsies using Clinical Ultrasound.
	Collaborate in the echoguided procedures of Thoracentesis, Pericardiocentesis and Paracentesis.
	Handle ultrasound to assess and examine the drainage of abscesses and collections.
	Participate in radial breast ultrasound procedure, as well as in dermatological ultrasound and in patients with diabetes.
	Perform the ultrasound report after the scan
<b>Clinical ultrasound examination methods of the Musculoskeletal system and the head, neck and thorax.</b>	Participate in the exploration, by ultrasound, of the salivary glands, thyroid and supra-aortic trunks.
	Ultrasound examination of the of the Chest Wall, Mediastinum, and Diaphragm
	Assist in the evaluation, through ultrasound, of different pulmonary pathologies and conditions such as pneumonia, atelectasis, pulmonary neoplasms and pulmonary infarction.
	Perform support and clinical care in ultrasound examination of the shoulder, elbow, wrist and hand, hip, thigh, knee, leg and ankle.
<b>Clinical ultrasound examination techniques of the vascular system, digestive system and genitourinary system.</b>	Assist in the ultrasound examination of the hepatic, pancreatic, and gallbladder and biliary tract.
	Participate in the ultrasound evaluation of the great vessels, spleen and retroperitoneum, as well as the gastrointestinal tract.
	Use ultrasonography as a method of detection and evaluation of vascular pathologies.
	Support in the examination of kidneys, urinary vi, urinary bladder, prostate and seminal vesicles by means of clinical ultrasound.
	Participate in the application of Clinical Ultrasound as a method of scrotal examination.
	Assess, together with the health care team, the uterus and ovaries using ultrasound.
<b>Clinical Ultrasound in Emergencies</b>	Participate in ultrasound examination in cases of respiratory failure (spontaneous pneumothorax, bronchospasm, pneumonia, pleural effusion and heart failure).
	Perform ultrasound examination in shock and cardiac arrest, specifically in cases of hypovolemic shock, obstructive shock, cardiogenic shock, distributive shock and cardiac arrest.
	Evaluate ultrasound findings in polytrauma, pericardial effusion, hemothorax and pneumothorax, hepatorenal or perihepatic effusion, splenorenal or perisplenic effusion, perivesical effusion, post-traumatic aortic dissection and musculoskeletal injuries.

## Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

**1. TUTOR:** During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

# Where Can I Do the Clinical Internship?

In order to offer students the best possibilities, TECH makes a major effort to establish strategic synergies with prestigious centers in each specialty. Institutions committed to graduating the best professionals in the sector that place all their tools at the student's service so that they can acquire the best competencies in a 100% practical way.



“

*TECH gives you access to the best clinical centers and the best team of professionals, an opportunity that only this institution can give you"*

## tech 48 | Where Can I Do the Clinical Internship?



The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



**Madrid Fertility Institute (IMF)**

Country	City
Spain	Madrid

Management: C. de Joaquín María López, 44, 28015 Madrid

Specialized fertility center offering Assisted Reproduction techniques and procedures.

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**Related internship programs:**

- Clinical ultrasound in Primary Care for Nursing







Nurses

### Centro Médico Villanueva de la Cañada

Country City  
Spain Madrid

Management: C. Arquitecto Juan de Herrera, 2,  
28691 Villanueva de la Cañada, Madrid

Medical center with services in the main clinical specialties  
and diagnostic tests.

**Related internship programs:**

- Clinical Nutrition in Pediatrics
- Primary Care Clinical Ultrasound



Nurses

### Diagnoslab

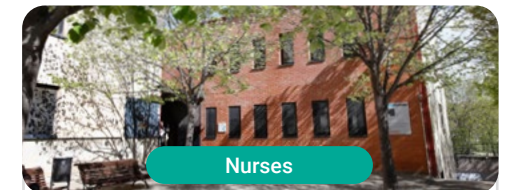
Country City  
Spain Madrid

Management: C. Cam. del Berrocal, 4, 28400  
Collado Villalba, Madrid

Clinical analysis laboratory  
for medical diagnostics

**Related internship programs:**

- Clinical Analysis
- Nursing in the Gynecology Service



Nurses

### Centre d'Atenció Primària Sant Cugat


Country City  
Spain Barcelona

Management: Carrer de la Mina, 2, 08173 Sant  
Cugat del Vallès, Barcelona

Primary Care Centers

**Related internship programs:**

- Primary Care Clinical Ultrasound  
for Nursing



**Nurses**

### Central Sanatorium

Country	City
Argentina	Tucumán

Management: Av. Mitre 268, T4000 San Miguel de Tucumán, Tucumán


Sanatorium of General Medicine, hospitalization, diagnosis and treatment

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**Related internship programs:**

- Advanced Operating Room Nursing
- Pediatric Nursing





**Nurses**

### Central Banda Sanatorium

Country	City
Argentina	Santiago del Estero

Management: Amadeo Jacques N° 175  
4300, La Banda , Santiago del Estero

Clinical center for comprehensive inpatient and surgical care

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**Related internship programs:**

- Hepatology
- Primary Care Clinical Ultrasound



*Boost your career path with holistic teaching, allowing you to advance both theoretically and practically"*

# 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 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.



# 10 Certificate

The Hybrid Professional Master's Degree in Clinical Ultrasound in Primary Care for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma 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 **Hybrid Professional Master's Degree in Clinical Ultrasound in Primary Care for Nursing** contains the most complete and up-to-date program on the market.

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

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

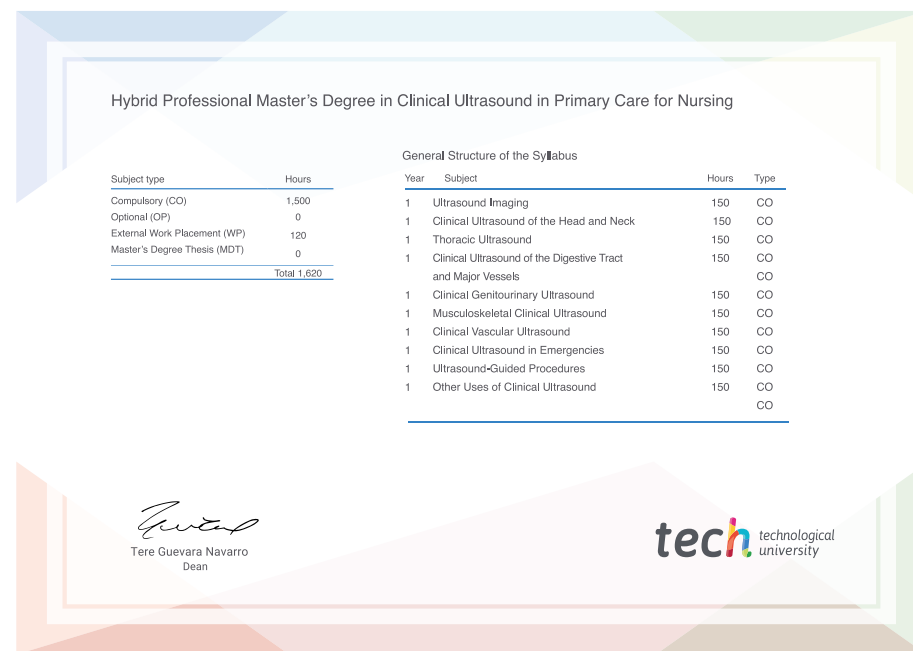
Title: **Hybrid Professional Master's Degree in Clinical Ultrasound in Primary Care for Nursing**

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Technological University**

Teaching Hours: **1,620 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma 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  
personalized service innovation  
knowledge present quality  
development languages  
virtual classroom



## Hybrid Professional Master's Degree

Clinical ultrasound in Primary Care for Nursing

Modality: Hybrid (Online + Clinical Internship)

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# Hybrid Professional Master's Degree

Clinical Ultrasound in Primary  
Care for Nursing

