



Clinical Vascular Ultrasound for Nursing

» Modality: Online

» Duration: 6 weeks

» Certificate: TECH Global University

» Accreditation: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/nursing/postgraduate-certificate/clinical-vascular-ultrasound-nursing

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# 01 Introduction

The ability to perform Clinical Ultrasounds is considered an essential skill in the practice of Nursing, especially in the field of Vascular assessment. These instruments offer professionals the opportunity to accurately analyze both anatomy and blood flow, facilitating earlier and more effective intervention for a variety of conditions. These include Arterial Diseases, Pulmonary Embolisms or Aneurysms. Faced with this reality, it is essential that experts update their knowledge frequently to stay at the forefront of advances in this health field. For this reason, TECH presents a revolutionary online university program focused on the most innovative imaging techniques to analyze diseases related to blood vessels.



## tech 06 | Introduction

The World Health Organization estimates that Cardiovascular Diseases have become the leading cause of death, accounting for approximately 31% of all global deaths. In this context, Clinical Vascular Ultrasound has emerged as a vital tool in the diagnosis and management of vascular diseases, enabling experts to make an accurate assessment of conditions contributing to morbidity. In this way, nurses identify critical conditions such as Deep Venous Thrombosis or Chronic Arterial Insufficiency early, helping them to provide more comprehensive care.

Within this framework, TECH has developed an innovative program in Clinical Vascular Ultrasound for Nursing. Conceived by experts in this field, the academic itinerary will delve into the anatomical memory of the limbs, which will allow graduates to quickly detect abnormalities such as aneurysms or stenosis. Likewise, the syllabus will delve into the technical specificities of ultrasound equipment and will offer professionals the most avant-garde techniques to ensure the obtaining of top quality images. In addition, the program will analyze the most common venous diseases, including problems in the arterial circulation.

On the other hand, this university qualification is based on the disruptive Relearning method, of which TECH is a pioneer. This teaching system uses the reiteration of key content in a natural way, ensuring that it remains in the memory of nurses without the need to memorize. In this line, the only thing graduates will need to access the Virtual Campus is to have an electronic device with an Internet connection (such as cell phones, tablets or computers). On this platform they will find a library full of different multimedia resources, among which case studies and explanatory videos stand out.

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

- Development of clinical cases presented by experts in Clinical Ultrasound in Emergencies and Intensive Care
- The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- Latest developments on the Ultrasound Approach to Major Syndromes
- Practical exercises where the self-assessment 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
- 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



You will have all the support of TECH, the largest online academic institution in the world with the latest educational technology at your disposal"

## Introduction | 07 tech

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Do you want to incorporate the innovative ultrasound technique of Color Doppler into your daily clinical practice? Achieve it through this program"

The program's teaching staff includes professionals from the industry who contribute their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will delve into the Abdominal Vascular Anatomy to visualize the venous structures in real time.

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.





**Objectives** Through this program, physicians will have a holistic understanding of both the physical and technical fundamentals of Clinical Vascular Ultrasound. In tune with this, graduates will develop advanced competencies to identify a wide range of conditions through high resolution ultrasound imaging, such as Venous Insufficiency. In addition, professionals will use the findings obtained to contribute to informed clinical decision making.



## tech 10 | Objectives

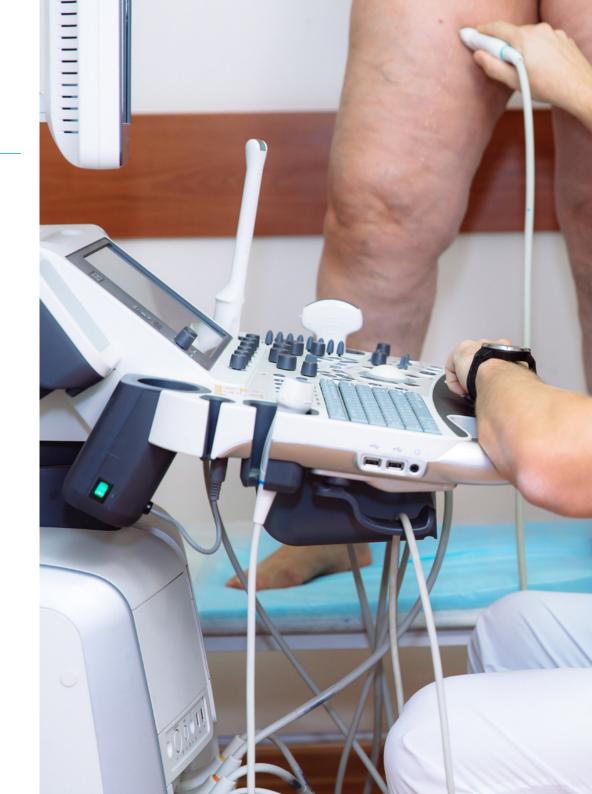


## **General Objectives**

- Complete the educational itinerary by making nurses masters in the use of ultrasound for the management of emergency situations and critical patients, regardless of the environment in which they find themselves
- Update your knowledge of ultrasound imaging and its multiple possibilities



Interactive summaries of each topic will allow you to consolidate the concepts of the Great Thoracoabdominal Vessels in a more enjoyable way"







## **Specific Objectives**

- Explain the vascular anatomy
- Describe the technical requirements of vascular ultrasounds
- Explain the examination technique for vascular ultrasounds
- Explain the principles of ultrasound for the main thoracoabdominal vessels
- Define the principles of ultrasounds of the supra-aortic trunks
- Explain the principles of ultrasound of peripheral arterial circulation







## tech 14 | Course Management

#### Management



#### Dr. Álvarez Fernández, Jesús Andrés

- Head Physician at the Juaneda Miramar Hospital
- Specialist in Intensive Care Medicine and Burn Patient Management at the University Hospital of Getafe
- Associate Researcher in the Area of Neurochemistry and Neuroimaging at the University of La Laguna

#### **Professors**

#### Dr. Flores Herrero, Ángel

- Coordinator of the Angiology, Vascular and Endovascular Surgery Service of the Quirón Salud Toledo Hospital
- Specialist of Vascular Surgery at the Enova Medical Center
- Assistant Physician of Vascular Surgery at the Toledo Hospital Complex
- Member of the American Society of Surgeons
- Collaborating Professor at the Catholic University San Antonio de Murcia (UCAM)
- European Board of Vascular Surgery Examiner and Fellow of the American College of Surgeons
- Doctor of Medicine and Surgery
- Master's Degree in Hospital Management

#### Dr. Lamarca Mendoza, María Pilar

- Assistant Physician of the Department of Angiology, Vascular and Endovascular Surgery of the Toledo Hospital Complex
- Medical specialist in SESCAM (Health Service of Castilla-La Mancha)
- Author of numerous publications and scientific essays at national and international level
- Degree in Medicine and Surgery from the Autonomous University of Madrid





Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"





## tech 18 | Structure and Content

#### Module 1. Clinical Cerebrovascular Ultrasound for Emergencies and Primary Care

- 1.1. Anatomy Recapitulation
  - 1.1.1. Venous Vascular Anatomy of the Upper Limbs
  - 1.1.2. Arterial Vascular Anatomy of the Upper Limbs
  - 1.1.3. Venous Vascular Anatomy of the Lower Limbs
  - 1.1.4. Arterial Vascular Anatomy of the Lower Limbs
- 1.2. Technical Requirements
  - 1.2.1. Ultrasound Scanners and Probes
  - 1.2.2. Curve Analysis
  - 1.2.3. Image-Color Media
  - 1.2.4. Echo Contrasts
- 1.3. Examination Technique
  - 1.3.1. Positioning
  - 1.3.2. Insonation. Examining Technique
  - 1.3.3. Study of Normal Curves and Speeds
- 1.4. Large Thoracoabdominal Vessels
  - 1.4.1. Venous Vascular Anatomy of the Abdomen
  - 1.4.2. Arterial Vascular Anatomy of the Abdomen
  - 1.4.3. Abdomino-Pelvic Venous Pathology
  - 1.4.4. Abdomino-Pelvic Arterial Pathology
- 1.5. Supra-Aortic Trunks
  - 1.5.1. Venous Vascular Anatomy of the Supra-Aortic Trunks
  - 1.5.2. Arterial Vascular Anatomy of the Supra-Aortic Trunks
  - 1.5.3. Venous Pathology of the Supra-Aortic Trunks
  - 1.5.4. Arterial Pathology of the Supra-Aortic Trunks
- 1.6. Peripheral Arterial and Venous Circulation
  - 1.6.1. Venous Pathology of Lower and Upper Limbs
  - 1.6.2. Arterial Pathology of Lower and Upper Limbs





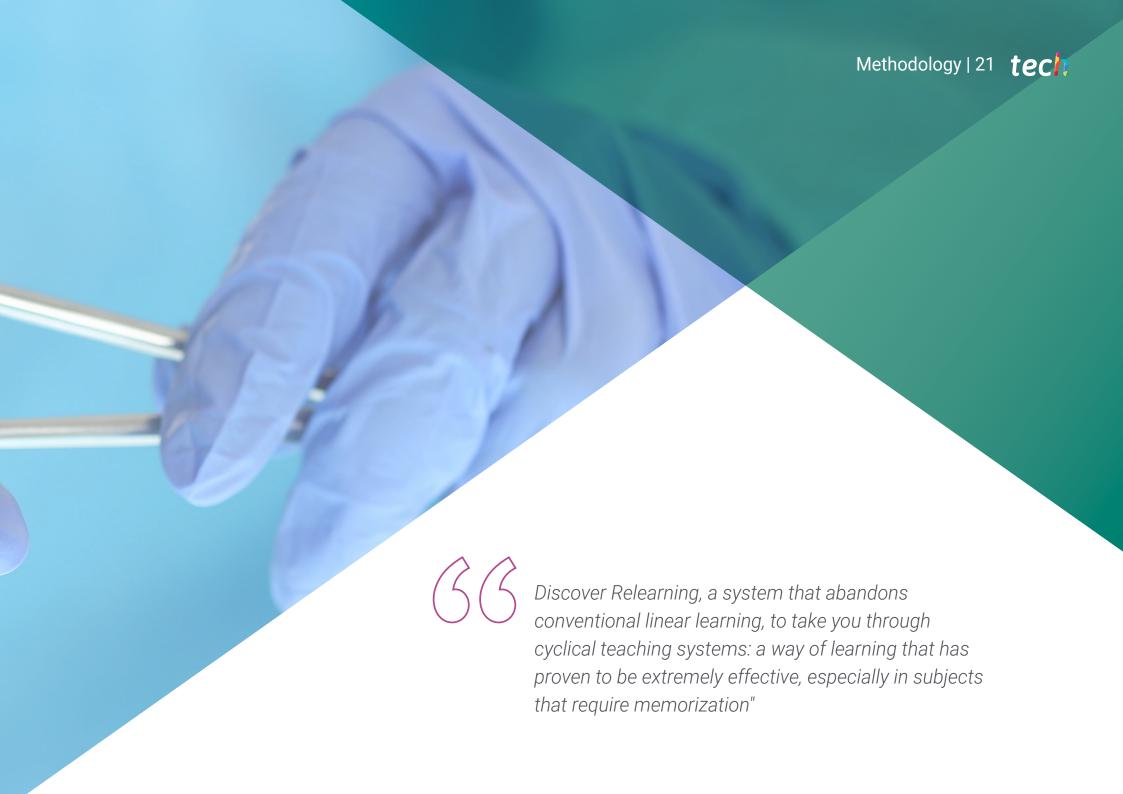


You will have unrestricted access to all the contents of the Virtual Campus and you will be able to download them so consult them whenever you need them. Enroll now!"



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.

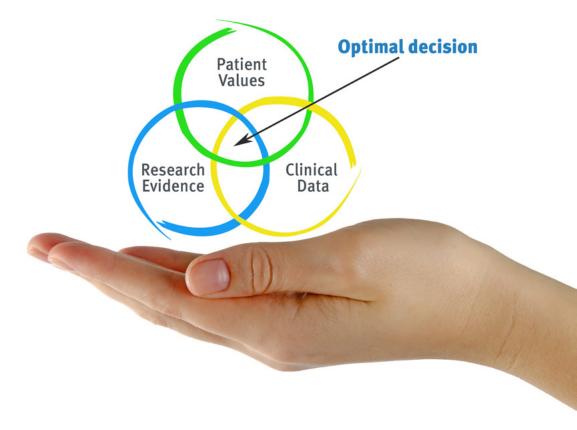


## tech 22 | Methodology

#### 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.



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:

- 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.



## Methodology | 25 tech

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**

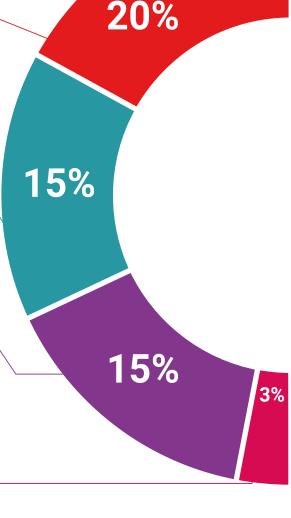
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you 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

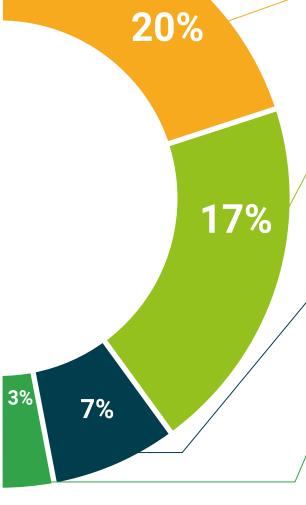
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







## tech 30 | Certificate

This private qualification will allow you to obtain a **Postgraduate Certificate in Clinical Vascular Ultrasound for Nursing** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University**, is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: Postgraduate Certificate in Vascular Clinical Ultrasound for Nursing

Modality: **online** 

Duration: 6 weeks

Accreditation: 6 ECTS



Mr./Ms. \_\_\_\_\_, with identification document \_\_\_\_\_ has successfully passed and obtained the title of:

#### Postgraduate Certificate in Vascular Clinical Ultrasound for Nursing

This is a private qualification of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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# Postgraduate Certificate Clinical Vascular Ultrasound

for Nursing

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- » Exams: online

