

# Postgraduate Certificate Clinical Cerebral Ultrasound for Nursing





## Postgraduate Certificate Clinical Cerebral Ultrasound for Nursing

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

Website: [www.techtute.com/us/nursing/postgraduate-certificate/clinical-cerebral-ultrasound-nursing](http://www.techtute.com/us/nursing/postgraduate-certificate/clinical-cerebral-ultrasound-nursing)

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Certificate

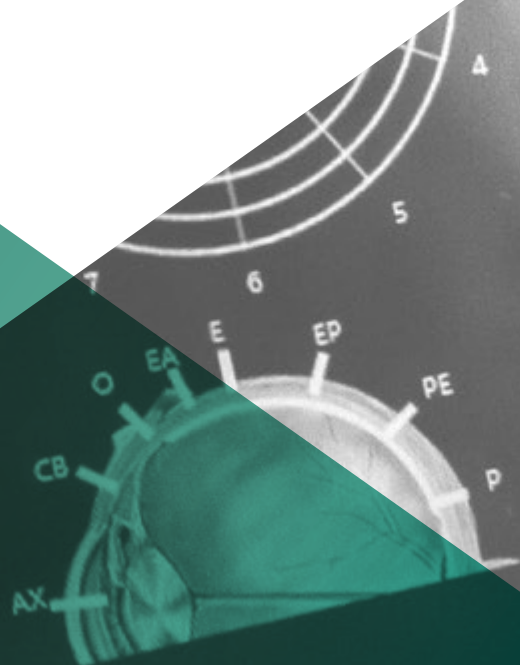
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# 01

# Introduction

Clinical ultrasonography increases the possibility of diagnosing and treating patients in an emergency situation or those who need critical care. It is becoming an ever increasingly popular and valuable tool for aiding diagnostic and therapeutic interventions. TECH offers nurses the most comprehensive training on clinical cerebral ultrasound, with the aim of boosting their training and helping them make an exponential leap in their profession.



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*The most up-to-date information on clinical cerebral ultrasound in just one Postgraduate Certificate of very high teching quality, created to help you become qualified to take part in this type of health care service”*

Ultrasound has been associated with many medical care advances in the last 40 years and has become an essential tool in dealing with all kinds of patients. The use of ultrasound is an evolving medical paradigm of the 21st century, changing from being restricted to radio diagnostic services to now being implemented in all healthcare environments. That is why, on this occasion, TECH empowers nursing professionals in the field of clinical brain ultrasound, to acquire knowledge of the latest concepts in this field.

In addition, it is necessary to take into account that technological advances have made it possible to reduce the size of the equipment, making it cheaper and more portable, and they have increased the capacity of clinical ultrasound, leading to a notable increase in its applications. Nowadays, more accurate ultrasound diagnosis, safe ultrasound-guided interventions, precise non-invasive hemodynamic evaluations and rapid assessment of traumatic injuries are all possible.

TECH offers the most complete and innovative information on clinical ultrasound, in this case, specialized in the cerebral area. A specific training for nursing professionals, who are increasingly immersed in all areas of healthcare. Their multisectoral work allows them to specialize in different fields, obtaining general knowledge of each healthcare area.

Specifically, this Postgraduate Certificate focuses on clinical ultrasound, specifying its use in the management of patients in emergency situations or in need of critical care. Additionally, as it is a 100% online training, the student will have the opportunity to balance their studies with the rest of their daily commitments, so that they will be able to improve their training in a comfortable way.

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

- ♦ 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
- ♦ The latest developments in Clinical Cerebral Ultrasound
- ♦ Practical exercises where self-assessment can be used 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



*Technological advances have led to improved ultrasound scanners, which are becoming more useful and can be used in more situations"*

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*This Postgraduate Certificate is the best investment you can make when choosing a specialist course for two reasons: you will acquire the best and most up-to-date education in Clinical Cerebral Ultrasound and you will obtain a qualification from the online university: TECH Global University”*

The teaching staff includes professionals from the field of clinical ultrasound, who contribute their experience to this program, as well as renowned specialists from leading scientific societies.

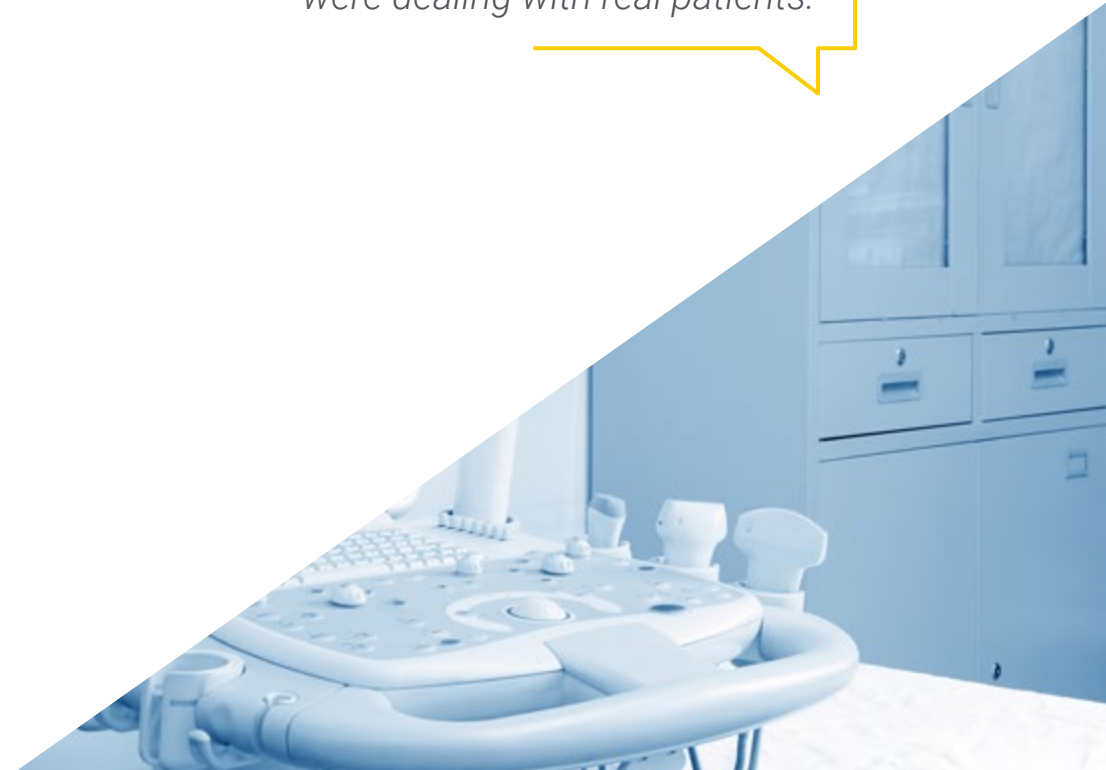
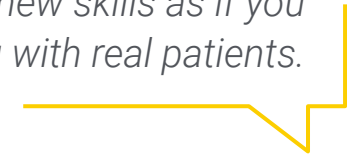
The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive training program designed to train in real situations.

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 professional will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of clinical cerebral ultrasound with extensive teaching experience.

*Our trainings have the best teaching methodology and the latest didactic tools, which will allow you to study from home, but without losing the possibilities offered by on-site classes.*



*We offer you the opportunity to study with a multitude of practical cases in such a way that you can learn new skills as if you were dealing with real patients.*



# 02 Objectives

This Postgraduate Certificate in Clinical Cerebral Ultrasound for Nursing is aimed at improving the nurse's professional performance and enhancing their ability to treat patients in emergency or intensive care situations.







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*Our goal is to offer our students the most complete training on the market so that they are able to excel and broaden their knowledge and, therefore, become more efficient in their profession"*



### General Objective

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- Help nurses become masters in the use of ultrasound for the management of emergency situations and critically ill patients, regardless of the environment in which they find themselves.



*Acquire the most up-to-date knowledge in this field of work and apply advanced protocols in this intervention in your day-to-day work"*





## Specific Objectives

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- ♦ Describe cerebral hemodynamics
- ♦ Explain the location and visualization of the acoustic windows in cerebral ultrasound
- ♦ Define the different ultrasound modes in cerebral ultrasounds
- ♦ Explain the examination technique for cerebral ultrasounds.
- ♦ Explain the different structural alterations to identify in cerebral ultrasounds
- ♦ Explain the different hemodynamic alterations to identify in cerebral ultrasound
- ♦ Describe the process for performing an ocular ultrasound

03

# Course Management

The program includes in its teaching staff renowned experts in Clinical Ultrasound, who contribute their 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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*Leading experts in the field are at the best university to help you achieve professional success”*

## Management



### Dr. Álvarez Fernández, Jesús Andrés

- ♦ Doctor of Medicine (PhD)
- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Intensive Care Medicine.
- ♦ Attending Physician of Intensive Care Medicine and Major Burns University, Getafe University Hospital (Madrid)
- ♦ Collaborating Professor of the Master's Degree in Update on Intensive Care Medicine at the CEU Cardenal Herrera University of Valencia.
- ♦ Founding Member of the Ecoclub of SOMIAMA
- ♦ Collaborating Professor of SOCANECO

## Professors

### Dr. Yus Teruel, Santiago

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Intensive Care Medicine.
- ♦ Attending Physician in Intensive Medicine.
- ♦ La Paz- Carlos III University Hospital Complex, Madrid
- ♦ Member of the Ecoclub of SOMIAMA.

### Dr. De la Calle Reviriego, Braulio

- ♦ Degree in Medicine and Surgery
- ♦ Specialist in Intensive Care Medicine.
- ♦ Head of Department in Intensive Medicine and Transplants Coordinator.
- ♦ Gregorio Marañón General University Hospital, Madrid
- ♦ Collaborating Professor at Complutense University of Madrid
- ♦ Trainer in Brain Ultrasound, National Transplant Organization.

**Dr. Álvarez González, Manuel**

- Degree in Medicine and Surgery
- Specialist in Intensive Care Medicine.
- Attending Physician in Intensive Medicine.
- San Carlos Clinical University Hospital, Madrid.
- Founding Member of the Ecoclub of SOMIAMA



04

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospitals and universities in the country, who are aware of the relevance of up-to-date education, and are committed to quality teaching using new educational technologies.





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

## Module 1. Clinical Cerebral and Vascular Ultrasound

- 1.1. Cerebral Hemodynamics
  - 1.1.1. Carotid Circulation
  - 1.1.2. Vertebro-Basilar Circulation
  - 1.1.3. Cerebral Microcirculation
- 1.2. Ultrasound Modes
  - 1.2.1. Transcranial Doppler
  - 1.2.2. Cerebral Ultrasound
  - 1.2.3. Special Tests (Vascular Reaction, HITS, etc)
- 1.3. Acoustic Windows and Examination Technique
  - 1.3.1. Acoustic Windows
  - 1.3.2. Operator Position
  - 1.3.3. Study Sequence
- 1.4. Structural Alterations
  - 1.4.1. Collections and Masses
  - 1.4.2. Vascular Anomalies
  - 1.4.3. Hydrocephalus
  - 1.4.4. Venous Pathology
- 1.5. Hemodynamic Alterations
  - 1.5.1. Spectral Analysis
  - 1.5.2. Hyperdynamics
  - 1.5.3. Hypodynamics
  - 1.5.4. Asystole of the Brain
- 1.6. Ocular Ultrasonography
  - 1.6.1. Pupil Size and Reactivity
  - 1.6.2. Diameter of the Optic Nerve Sheath





“ *A unique training opportunity to advance your career*”

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.
3. 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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*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 adapted in 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.



06

# Certificate

The Postgraduate Certificate in Clinical Cerebral Ultrasound for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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

This private qualification will allow you to obtain a **Postgraduate Certificate in Clinical Cerebral Ultrasound for Nursing** 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 Clinical Cerebral Ultrasound for Nursing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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

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



**Postgraduate Certificate**  
Clinical Cerebral  
Ultrasound for Nursing

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

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