

# Postgraduate Certificate

## Nursing in Interventional Vascular Radiology and Neuroradiology





## Postgraduate Certificate Nursing in Interventional Vascular Radiology and Neuroradiology

- » 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/nursing-interventional-vascular-radiology-neuroradiology](http://www.techtute.com/us/nursing/postgraduate-certificate/nursing-interventional-vascular-radiology-neuroradiology)

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# 01

# Introduction

Interventional Vascular Radiology areas have evolved to be considered as high-definition operating rooms, where efficient and minimally invasive care is provided, reducing hospitalization time. For this reason, the adequate management and organization of human and material resources is essential, as well as the on-site preparation of the nursing staff. And this is what these health professionals will be able to delve into with this program, with which they will learn about the concept of Radioprotection, establish the necessary human resources and their characteristics, and delve into the history of Interventional Radiology. Always in an online format, the graduates will have everything they need to develop in this area of competence with the resources of the Virtual Campus.





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*Benefit from a convenient online modality to launch your career in the area of Interventional Vascular Radiology and Neuroradiology”*

Interventional Vascular Radiology and Neuroradiology are areas of specialization in Radiology that require high precision and advanced technical skills. In both specialties, nurses play an important role in patient care by collaborating with the multidisciplinary team, providing high quality and safe care. For example, in the first case nurses may assist in planning procedures, administering medications or monitoring the patient before, during and after the procedure.

Therefore, it is important that nursing professionals are kept fully updated in Interventional Vascular Radiology and Neuroradiology, which is the reason for this Postgraduate Diploma. In this way, they will provide the highest quality care in tune with the latest scientific advances in this field. To this end, important topics such as radiation protection, asepsis and sterility in the operating room, the use of anesthesia or the basics of vascular and non-vascular procedures will be addressed.

All this and more in an academic course condensed in 180 hours. In addition, this Postgraduate Certificate is 100% online and uses the Relearning pedagogical methodology to save dozens of hours of study. In addition, the program has a teaching staff with extensive experience in vascular and non-vascular procedures, who will transmit all the keys to the students.

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

- ♦ The development of case studies presented by experts in Nursing in Interventional Vascular Radiology and Neuroradiology
- ♦ Graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ 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



*Take the opportunity to catch up on advances in non-vascular procedures by examining the renal pathway"*

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*Access an extensive digital catalog full of explanatory videos, self-knowledge exercises or case studies on Interventional Vascular Radiology and Neuroradiology”*

The program includes in its teaching staff professionals from the sector who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

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

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

*Position yourself as an expert nurse in Interventional Vascular Radiology and Neuroradiology by investing only 180 hours of your time.*

*Master with solvency the basics of asepsis or sterility in the operating room thanks to this Postgraduate Certificate.*



# 02 Objectives

The main objective of the Postgraduate Certificate in Nursing in Interventional Vascular Radiology and Neuroradiology is to prepare nurses with guarantees in these areas of Radiology. Therefore, the contents will provide them with the advanced knowledge, skills and abilities necessary to provide comprehensive and quality care to patients requiring procedures of this nature. In fact, they will have the most updated vision on this subject in the syllabus, always in line with the latest scientific evidence.



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*Boost your career with TECH to become an essential nurse in the Radiology service of hospitals"*



## General Objectives

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- ◆ Promote work strategies based on the practical knowledge of a tertiary level hospital and its application in Diagnostic Imaging, Nuclear Medicine and Radiation Oncology services
- ◆ Favor the enhancement of technical skills and abilities through care procedures and case studies
- ◆ Provide nurses with a process of updating their knowledge in the field of Radiology
- ◆ Be up to date with the care management and organization of the Diagnostic Imaging and Treatment Area, in order to optimize the operation of the Radiology Service
- ◆ Develop skills and competencies in nurses for their performance in the nursing consultation in the Diagnostic Imaging and Treatment Department (DTI)
- ◆ Expand nurses' knowledge of radiation oncology, interventional vascular radiology and neuroradiology to improve patient care in these specific areas
- ◆ Develop nurses' skills in performing image-guided procedures, including breast and brachytherapy, to improve the quality of patient care and optimize clinical outcomes





## Specific Objectives

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- ◆ Delve into the history of interventional radiology, the role of the nurse and the requirements of the vascular and neuroradiology operating room
- ◆ Learn the concepts of radioprotection and the specific rules of the interventional operating room
- ◆ Describe the human and material equipment and its specific characteristics
- ◆ List the care derived from anesthesia assistance, as well as life-threatening situations and how to be prepared to respond to them with previous training
- ◆ Update knowledge on all non-vascular procedures, diagnostic and therapeutic vascular procedures, diagnostic and therapeutic neuroradiological procedures currently performed in a tertiary hospital and the nursing care process in each of them



*Delve into the history of Interventional Radiology and determine the role nurses have played in its evolution"*

03

# Course Management

The teaching team in charge of teaching the Postgraduate Certificate is made up of highly qualified professionals with vast experience in the field of Nursing and Radiology. This teaching staff is made up of nurses specialized in Interventional Vascular Radiology and Neuroradiology, with a solid academic preparation and an exceptional care trajectory in this field. In addition, as they are active professionals, they are up to date with the latest radiological advances, which they will transmit to the students through the Virtual Campus.



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*A powerful teaching team specialized in Interventional Radiology will prepare you for various life-threatening situations. You are late in enrolling!”*

## Management



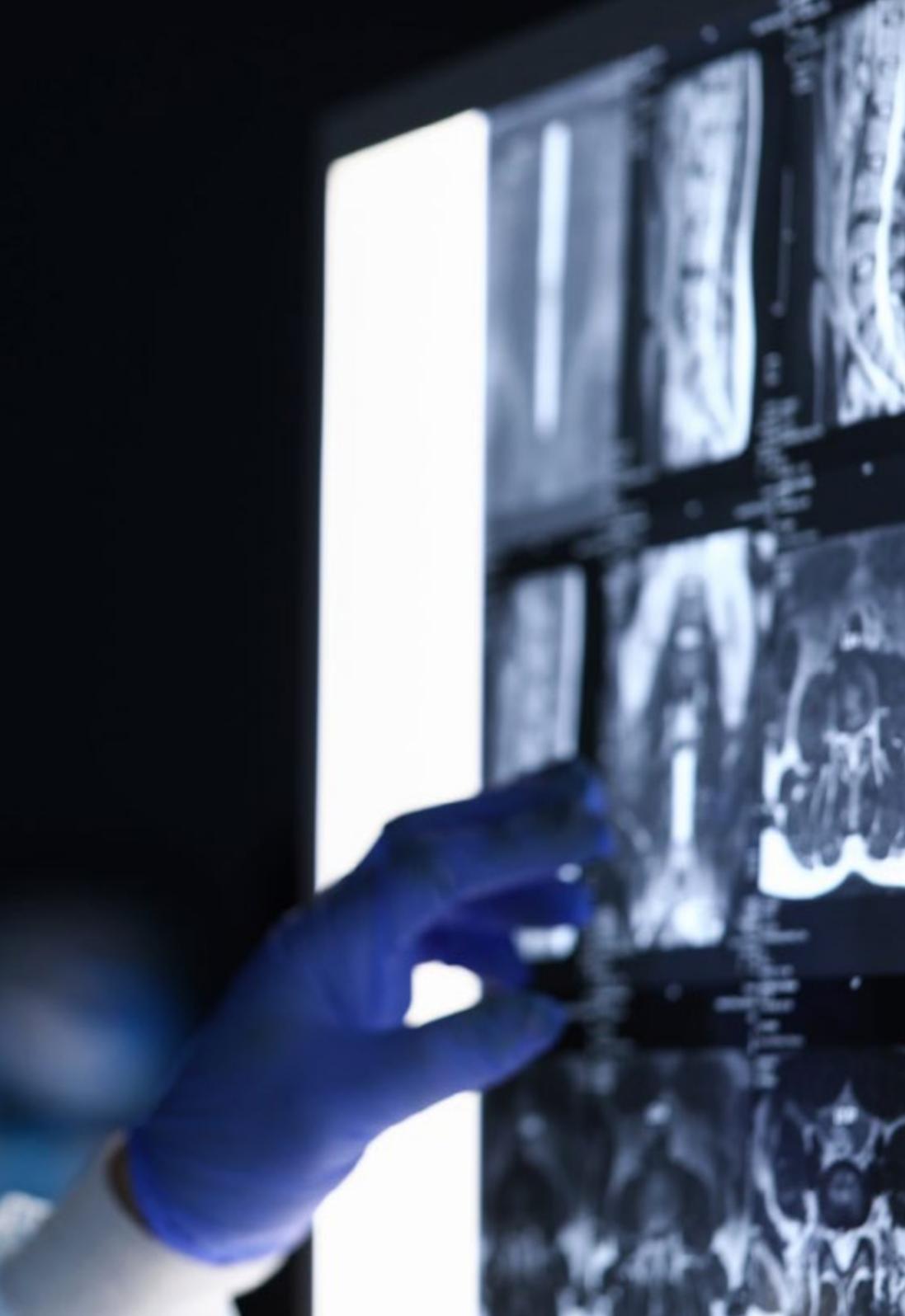
### Ms. Viciano Fernández, Carolina

- Nurse in the Radiodiagnosis and Nuclear Medicine
- Postgraduate Certificate in Nursing
- Professional Master's Degree in Pediatric Nursing
- University Specialist in Emergency and Catastrophe Nursing
- University Specialist in Nursing in the Surgical Area
- Nuclear Medicine Radioactive Installations Operator License by the Nuclear Safety Council



### Ms. García Argüelles, Noelia

- Area Supervisor of Diagnostic Imaging and Treatment at the Asturias University Central Hospital
- Professor in the Department of Medicine at the University of Oviedo
- Professor at numerous conferences and congresses, including the Congress of the Society of Radiological Nursing
- Postgraduate Certificate in Nursing
- Professional Master's Degree in Prevention Management in the Company
- Professional Master's Degree in Urgency, Emergencies and Catastrophes
- Member of the panel of auditors authorized by the Quality Assessment Unit of the Health Service of the Principality of Asturias
- Certificate of Pedagogical Aptitude for Secondary Education Teachers
- Radioactive Facilities Operator License in Nuclear Medicine by the Nuclear Safety Council



## Professors

### Mr. Castaño Pérez, Jesús

- ◆ Nurse in the Interventional Vascular Radiology Service at the Asturias University Central Hospital
- ◆ Tutor of MIR Residents in the Specialty of Family and Community Medicine
- ◆ Honorary Collaborator at the University of Oviedo, attached to the Department of Medicine
- ◆ University Diploma in Nursing
- ◆ Specialist Technician in Radiodiagnosis
- ◆ Postgraduate Diploma in Surgical Fields in Nursing
- ◆ Specialist in Family and Community Nursing
- ◆ Nuclear Safety Council Radioactive Facilities Operator's License



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

# 04

## Structure and Content

In order to provide the student with all the comforts imaginable, TECH has opted for a flexible and customizable format in this Postgraduate Certificate. In addition, the students will internalize all the concepts more quickly thanks to the Relearning pedagogical methodology, which is based on the targeted reiteration of ideas through interactive resources. This will allow you to save study time that you will be able to dedicate to reflect on the syllabus, enhancing your critical thinking.



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*Determine the role of the angiographer and the composition of the Interventional Vascular Radiology room with the convenience of an online format”*

## Module 1. Nursing in Interventional Vascular Radiology and Neuroradiology

- 1.1. Interventions
  - 1.1.1. Interventional Radiology History
  - 1.1.2. Nursing in interventional radiology
  - 1.1.3. The Interventional Vascular Radiology Operating Room (IVR)
- 1.2. Radiological protection and characteristics of the IVR room
  - 1.2.1. Radiological Protection
  - 1.2.2. RVI room, composition
  - 1.2.3. The Angiograph
- 1.3. Asepsis and sterility in the Operating Room of Interventional Vascular Radiology (IVR)
  - 1.3.1. Concept of Asepsis
  - 1.3.2. Concept of Sterility
  - 1.3.3. Circulation in the operating room
  - 1.3.4. IVR room ventilation
- 1.4. Anesthesia
  - 1.4.1. Anesthesia cart
  - 1.4.2. Patient Monitoring
  - 1.4.3. General Anesthesia
  - 1.4.4. Allergic Reaction
  - 1.4.5. Medication
  - 1.4.6. Knowledge of basic and advanced CPR maneuvers
- 1.5. Nursing care in Interventional Radiology
  - 1.5.1. Review of the clinical history
  - 1.5.2. Reception of the patient in the service
  - 1.5.3. Surveillance and care of the patient in the operating room
  - 1.5.4. Recording of nursing care (Nursing care process PAE)
  - 1.5.5. Transfer to the inpatient ward



- 1.6. Non-Vascular Procedures
  - 1.6.1. Renal Via
    - 1.6.1.1. Percutaneous Nephrostomy
    - 1.6.1.2. Nephrostomy Catheter Replacement
      - 1.6.1.2.1. Simple
      - 1.6.1.2.2. Mixed
  - 1.6.2. Biliary Tract
    - 1.6.2.1. Bile Duct Drainages
    - 1.6.2.2. Bile Duct Dilatation
    - 1.6.2.3. Bile Duct Prosthesis
    - 1.6.2.4. Brushing and biopsy Biliary tract
    - 1.6.2.5. Bile duct pressures
  - 1.6.3. Gastric Tract
    - 1.6.3.1. PEG (Gastrostomy)
    - 1.6.3.2. Alpha maneuver
    - 1.6.3.3. Rendez Vous
- 1.7. Diagnostic Vascular Procedures
  - 1.7.1. Diagnostic arteriography
  - 1.7.2. Fistulography
  - 1.7.3. Phlebography
  - 1.7.4. Hepatic transjugular biopsy
  - 1.7.5. Taking of vena cava pressures
  - 1.7.6. Suprarenal Vein Sampling
- 1.8. Therapeutics Vascular Procedures
  - 1.8.1. Hickman
  - 1.8.2. Shaldon
  - 1.8.3. Reservoir
  - 1.8.4. Arterial angioplasty
    - 1.8.1.2.4.1. Angioplasty MMII arteries
    - 1.8.1.2.4.2. Visceral arteries angioplasty (Renal, Hepatic)
  - 1.8.5. Placement of prosthesis (Stent)
  - 1.8.6. Vena Cava Filter Implantation and Removal
  - 1.8.7. Porto-caval shunt
  - 1.8.8. Embolization Active bleeding
    - 1.8.8.1. Hemoptysis
    - 1.8.8.2. Prostate Embolization
    - 1.8.8.3. Postpartum uterine bleeding
  - 1.8.9. Tumor Embolizations (TACE ,TARE)
  - 1.8.10. VaricoceleVaricocele
  - 1.8.11. Renal Embolization
  - 1.8.12. Fibrinolysis
  - 1.8.13. Pulmonary thrombectomy
  - 1.8.14. Angioplasty Fistulography
  - 1.8.15. Superior Cava Territory Angioplasty
- 1.9. Neuroradiology Diagnostic Procedures
  - 1.9.1. Cerebral Arteriography
    - 1.9.1.1. Cerebral arteriography radial access, benefits
    - 1.9.1.2. Medullary arteriography
    - 1.9.1.3. T.SA arteriography
    - 1.9.1.4. Occlusion test
    - 1.9.1.5. Petrosal Sinus Test
- 1.10. Neuroradiology Therapeutics Procedures
  - 1.10.1. Epistaxis
  - 1.10.2. External Carotid Embolization
  - 1.10.3. Vasospasm
  - 1.10.4. Embolization Subarachnoid Hemorrhage (aneurysm)
  - 1.10.5. AVM embolization
  - 1.10.6. AVF embolization
  - 1.10.7. ICTUS
  - 1.10.8. Stents
    - 1.10.8.1. Internal Carotid Stent
    - 1.10.8.2. Flow Diverter Stent (flow diverter)
    - 1.10.8.3. Intracranial Stent
  - 1.10.9. Vertebroplasty

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. Gervas, 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.



06

# Certificate

The Postgraduate Certificate in Nursing in Interventional Vascular Radiology and Neuroradiology 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 program will allow you to obtain your **Postgraduate Certificate in Nursing in Interventional Vascular Radiology and Neuroradiology** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Certificate in Nursing in Interventional Vascular Radiology and Neuroradiology**

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



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Nursing in Interventional Vascular  
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