

# Postgraduate Certificate Nursing in the Radiology Service





## Postgraduate Certificate Nursing in the Radiology Service

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/in/nursing/postgraduate-certificate/nursing-radiology-service](http://www.techtute.com/in/nursing/postgraduate-certificate/nursing-radiology-service)

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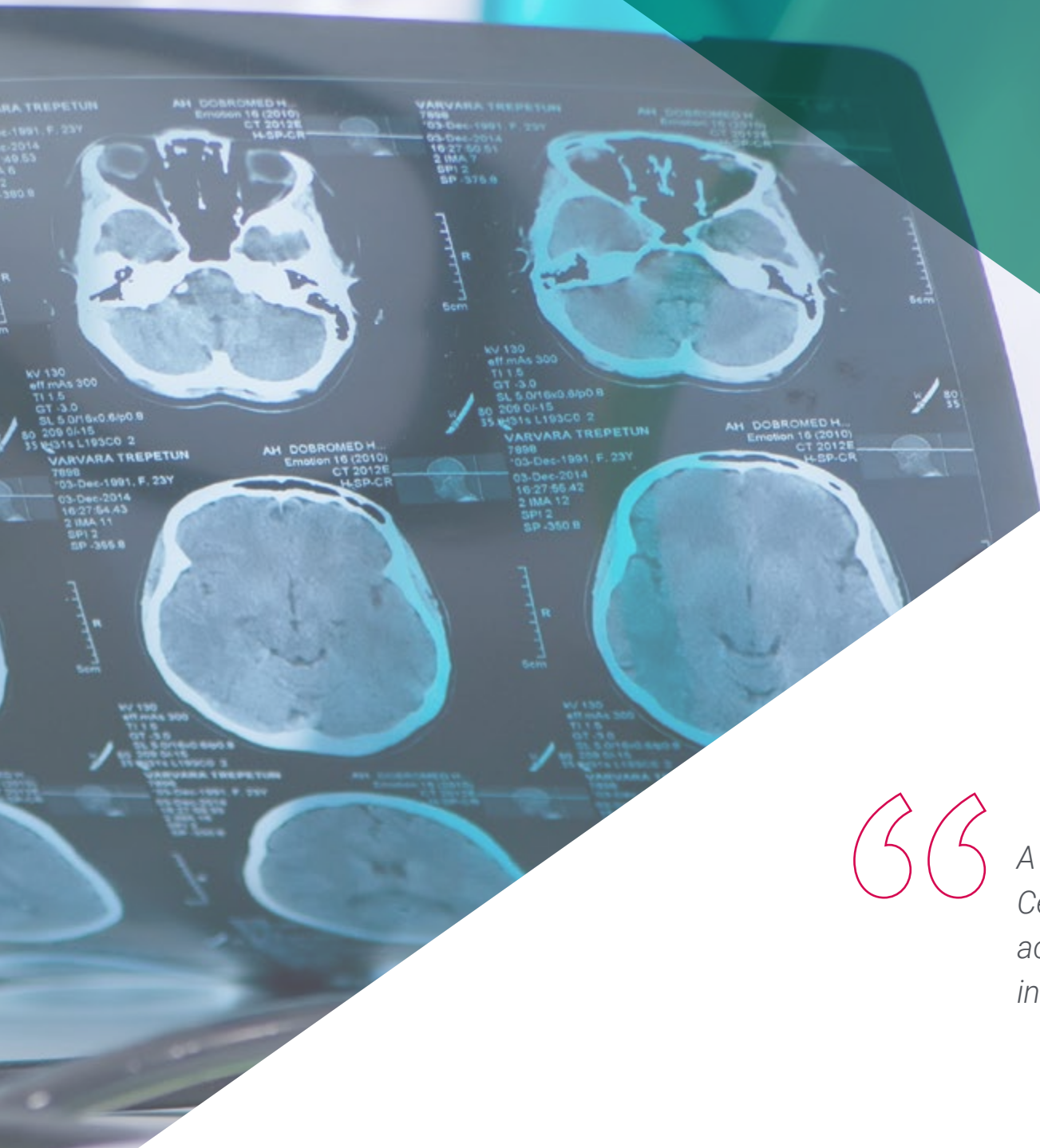
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# 01

# Introduction

In the Diagnostic and Imaging Services there have been important technological advances that have allowed the development of minimally invasive therapies and the safety of the techniques used. A scenario where the nurse's assistance and specialization in this field confers a great value, in an environment that requires a holistic health care. In this line, this academic proposal enters in a 100% online pedagogical format and with the most updated agenda on procedures, methodologies and future challenges of this area within the field of Nursing. All this, with the highest quality didactic material, elaborated by professionals with an extensive career in this health field.





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*A 100% online Postgraduate Certificate with which you will achieve in a short time an update in Nursing in the Radiology Service”*

The continuous technological evolution has made it possible to improve the equipment used in Radiology Services, as well as to improve the techniques used in the administration of radiopharmaceuticals and in the performance of diagnostic tests. A process where multidisciplinary work is key for the patient.

In this context, the role of the nurses has become increasingly important, so it is essential that they master the entire field of Radiological Nursing. To facilitate this update, TECH has designed this 6-week Postgraduate Certificate, which includes the most complete and advanced updating process in the current academic panorama.

Therefore, the graduates of this program will be aware of the organizational structure of a hospital with this Service or Unit, the management and coordination of human talent, the care process or the challenges faced. In addition, thanks to the multimedia didactic tools, students will delve in a dynamic way into the role of the professional in this field, the techniques used for contrast administration, as well as the action to be taken in case of possible complications.

This is an excellent opportunity to take a program that meets the needs of healthcare professionals, providing them with the most recent and exhaustive information while at the same time giving them the flexibility to take it. The students of this program only need a digital device with an Internet connection to view its content at any time of the day. An ideal option that only this institution offers.

This **Postgraduate Certificate in Nursing in the Radiology Service** contains the most complete and up-to-date educational program on the market. Its most outstanding features are:

- ♦ The development of case studies presented by experts in Nursing in the area of Diagnostic and Imaging Treatment
- ♦ 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



*Reduce your study hours  
with the Relearning method  
and consolidate the most  
important concepts thanks  
to this system used by TECH"*

“*Study a university program with all the guarantees of access to an advanced syllabus and with the flexibility you need to make it compatible with your day-to-day life*”

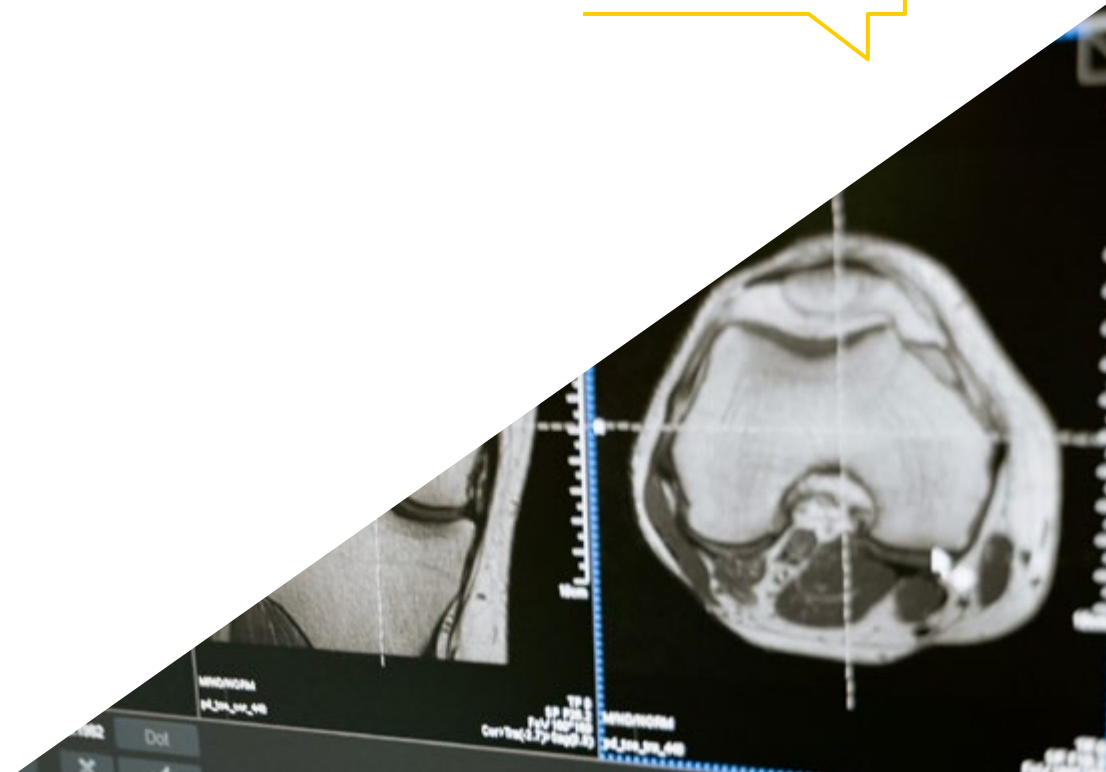
The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

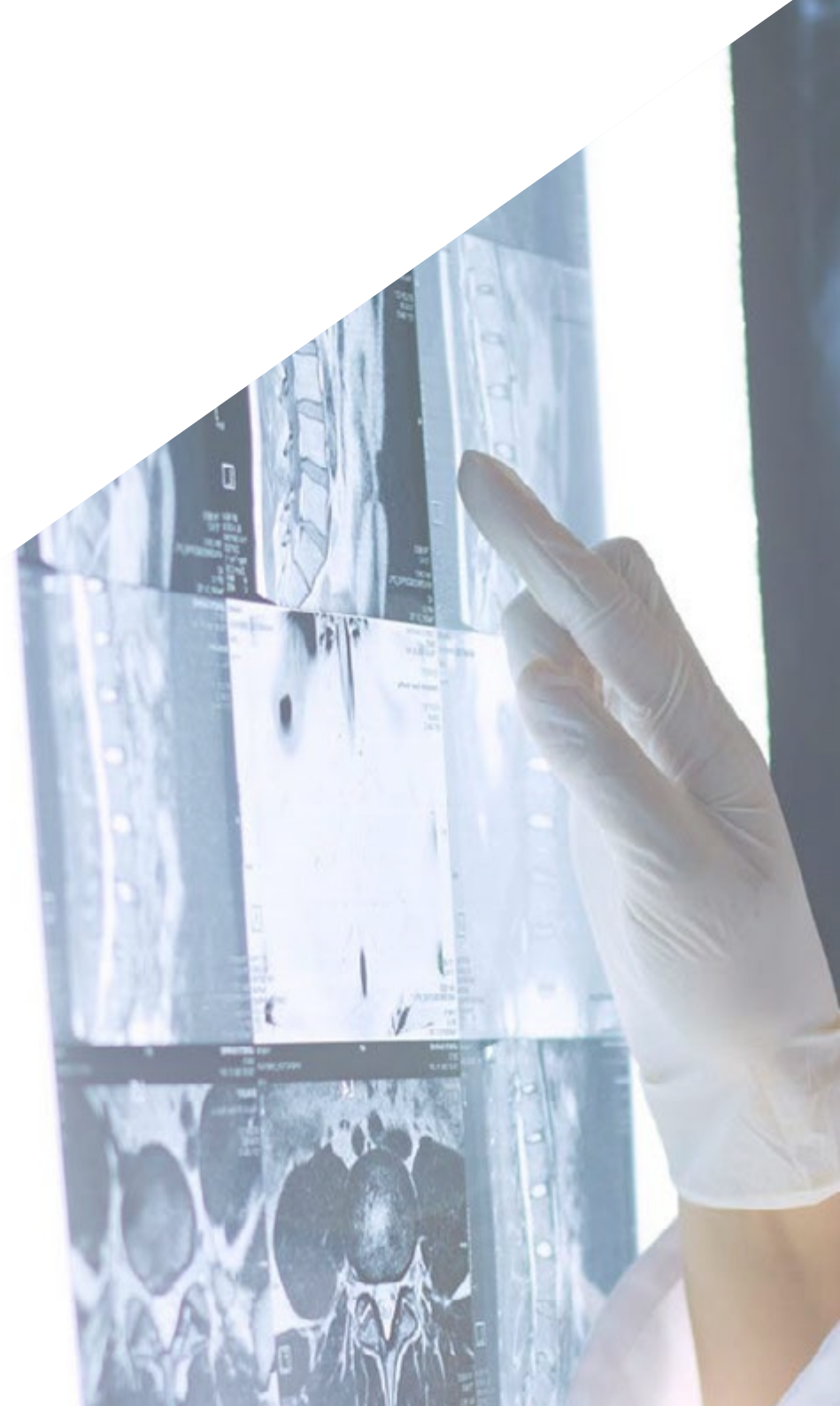
*This is a program that will allow you to be up to date with the most effective care processes in Radiological Nursing thanks to the contribution of specialized faculty.*

*Do you want to be up to date with the most advanced health equipment in Diagnostic and Image Treatment? Get it with this Postgraduate Certificate.*



# 02 Objectives

The nursing professionals who complete this university program will enhance their competencies and skills to carry out an integral care of the patient who comes to the Radiology Service. These competencies can be increased thanks to the theoretical-practical approach of this program and the simulations of case studies that bring the graduate closer to the methodology used in this area. A unique opportunity for updating that only TECH offers.





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*You will be up to date with the future challenges facing Radiological Nursing Services in 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



*Access from your computer with an Internet connection to the most rigorous information on contrast administration in both allergic and renal insufficiency patients"*





## Specific Objectives

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- ◆ Delve into the organization of the Diagnostic Imaging and Treatment Area, its history, legislation, regulations and health equipment
- ◆ Update knowledge of the radiological nurse's scope of action within an organizational structure and its portfolio of services
- ◆ Deepen knowledge in undergraduate and postgraduate training in Radiological Nursing
- ◆ Understand the work of supervising nursing and technical staff, as well as the control of equipment and facilities
- ◆ Describe the environmental and financial sustainability implemented and the challenge it represents
- ◆ Value the importance of health humanization implemented in the Diagnostic and Imaging Treatment Area
- ◆ Delve into the competences to be developed by the nurse in the consultation
- ◆ Deepen in the management of the prevention of unwanted effects after contrast administration, both in allergic patients and in patients with renal insufficiency
- ◆ Establish priorities in the different management activities
- ◆ Delve into the recommendations of the evaluating physicians of the diagnostic tests and to communicate them if necessary to whom it is necessary, managing an agenda of case managers and secretaries, as well as general practitioners

03

# Course Management

TECH has selected for this university program a management and teaching staff of reference in the field of Radiological Nursing. Their extensive experience in health care, as well as their interest in research in this field provide this program with quality and updated content. In this way, students will have the guarantee of access to a Postgraduate Certificate that meets their needs for updating in just 6 weeks and from the hand of real specialized nurses.



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*Nursing professionals with extensive experience in the area of Diagnostic Imaging and Treatment are responsible for providing you with the latest information in this field"*

## Management



### Ms. Viciana 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, MARÍA 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

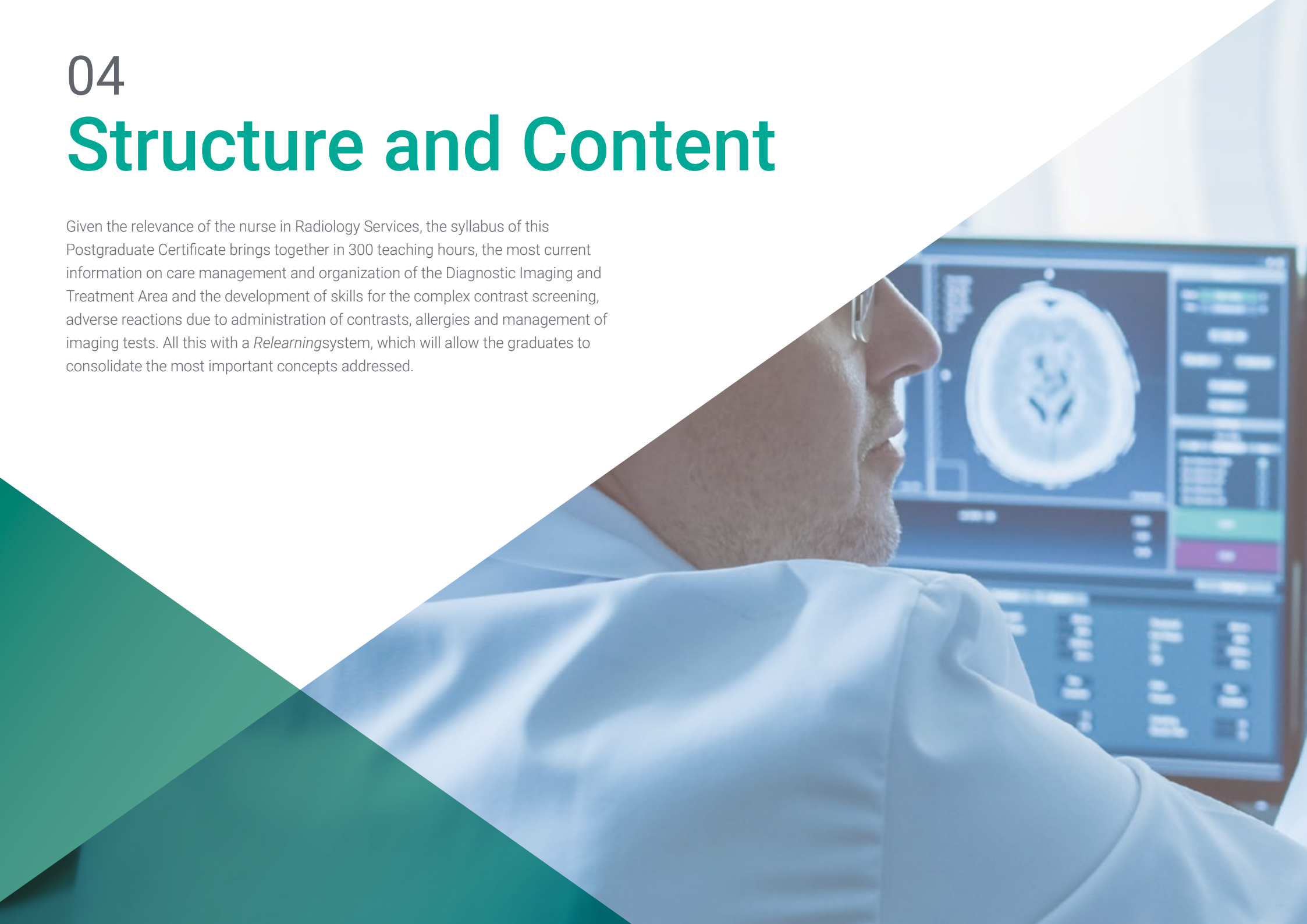
### Ms. Álvarez Noriega, Paula

- ◆ Supervisor of the Radiodiagnostics Service at the Central University Hospital of Asturias
- ◆ Honorary Collaborator attached to the Department of Medicine of the University of Oviedo and the Adolfo Posada Institute
- ◆ Postgraduate Certificate in Nursing
- ◆ Professional Master's Degree in Prevention Management in the Company
- ◆ Professional Master's Degree in Support Treatment and Palliative Care in Oncology Patients
- ◆ Postgraduate Diploma from in Hemotherapy Nursing
- ◆ Nuclear Medicine Radioactive Installations Operator License by the Nuclear Safety Council

# 04

# Structure and Content

Given the relevance of the nurse in Radiology Services, the syllabus of this Postgraduate Certificate brings together in 300 teaching hours, the most current information on care management and organization of the Diagnostic Imaging and Treatment Area and the development of skills for the complex contrast screening, adverse reactions due to administration of contrasts, allergies and management of imaging tests. All this with a *Relearningsystem*, which will allow the graduates to consolidate the most important concepts addressed.







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*You have at your disposal a Library of didactic resources 24 hours a day and with material that stands out for its quality”*

**Module 1.** Radiological Nursing Care management and organization of the Diagnostic Imaging and Diagnostic Treatment Area

- 1.1. Diagnostic Imaging and Treatment
  - 1.1.1. History of Diagnostic Imaging and Treatment
  - 1.1.2. Introduction to X-rays: Ionizing Radiation
  - 1.1.3. Legislation and Current Regulations
  - 1.1.4. Biophysical Fundamentals of Radiation, Ultrasound and Magnetic Fields
  - 1.1.5. Health Equipment in the Field of Electromagnetic Radiations or Radioactive Sources
- 1.2. Radiological Nursing Training and Performance
  - 1.2.1. History of Radiological Nursing
  - 1.2.2. Radiological Nursing Scope of Action
  - 1.2.3. Radiological Anatomy and Physiology
  - 1.2.4. Management of the Surgical Environment, Life Support and Patient Safety
  - 1.2.5. Contrast Media, Radiopharmaceuticals and Medication
- 1.3. Diagnostic Imaging and Treatment Area: Diagnostic Imaging and Treatment Services, Nuclear Medicine, Radiation Oncology and Brachytherapy, Radiophysics and Radiological Protection
  - 1.3.1. Organizational Structure of the Hospital
  - 1.3.2. Organizational Chart of the Area
  - 1.3.3. Organizational Chart of the Service or Unit
  - 1.3.4. Portfolio of Services
  - 1.3.5. Nursing Care Management
- 1.4. Organization and Coordination of Human Talent
  - 1.4.1. Theoretical Framework
  - 1.4.2. CFW and Competency Management
  - 1.4.3. Multidisciplinary Team
  - 1.4.4. Welcome Plan for New Professionals
- 1.5. Knowledge Management
  - 1.5.1. Undergraduate and Postgraduate Training
  - 1.5.2. Continuous and Refresher Training
  - 1.5.3. Socialization of Knowledge
    - 1.5.3.1. Clinical Sessions
    - 1.5.3.2. Conferences
    - 1.5.3.3. Workshops
    - 1.5.3.4. Training Pills
  - 1.5.4. Specific Trainings
- 1.6. Supervision and Control of Equipment and Installations
  - 1.6.1. Equipment Inventory
  - 1.6.2. Maintenance and Calibrations
  - 1.6.3. Technical and Legal Requirements for Structures
  - 1.6.4. Incident Management
- 1.7. Care process
  - 1.7.1. Reception and Unequivocal Identification
  - 1.7.2. Medical Records, Specific Digital Supports and Registers
  - 1.7.3. Effective Communication
  - 1.7.4. SOPs (standardized work plans), Protocols and Clinical Guidelines
  - 1.7.5. PAE (Nursing Care Process)
- 1.8. Humanization of Care
  - 1.8.1. Holistic Health Care
  - 1.8.2. User and Professional Satisfaction
  - 1.8.3. The Nurse's Viewpoint
- 1.9. Environmental and Financial Sustainability
  - 1.9.1. Waste Management
  - 1.9.2. Sustainable Consumption: Recycling of contrasts
  - 1.9.3. Contrasts of the Future, Sustainable Use
- 1.10. Future Challenges
  - 1.10.1. Training in the Nursing Degree: Practicum Rotations
  - 1.10.2. Specific Training in Radiological Nursing
  - 1.10.3. Performance Evaluation
  - 1.10.4. DTI Service Day Hospital

## Module 2. Nursing in the Diagnostic Imaging and Treatment Service (DTI). Nursing Consultation

- 2.1. Nursing Role in a DTI Service
  - 2.1.1. Definition of Advanced Practice Nursing (APN)
  - 2.1.2. History of Advanced Practice Nursing
  - 2.1.3. Current status of Advanced Practice Nursing
- 2.2. Role of the PPS in the Nursing Consultation of a DTI Department
  - 2.2.1. Historical Development of an ITN Service
  - 2.2.2. Historical Evolution of Care in an ITD Department
  - 2.2.3. Role of the PPS in the Nursing Consultation of a DTI Department
- 2.3. Contrast Media in Diagnostic Imaging and Treatment
  - 2.3.1. Definition and Types of Contrast Media
  - 2.3.2. Chemical Properties of Contrast Media
  - 2.3.3. Classification of Contrast Media
  - 2.3.4. Routes of administration of contrast media in Diagnostic and Treatment Imaging
- 2.4. Adverse Reactions Due to Contrast Media Administration
  - 2.4.1. Toxicity Due to Contrast Media Administration
  - 2.4.2. Renal Toxicity Due to Contrast Media Administration
  - 2.4.3. Hypersensitivity Reactions Due to the Administration of Contrast Media
  - 2.4.4. Others Toxicity Due to Contrast Media Administration
  - 2.4.5. Extravasation of Peripheral Venous Route Due to Contrast Administration
- 2.5. Contrast Screening. The Importance of Renal Function in the Administration of Contrast Media
  - 2.5.1. Contrast-induced Nephropathy. Definition
  - 2.5.2. Risk Factors in Contrast-Induced Nephropathy
  - 2.5.3. Risk Diagnosis in Contrast-Induced Nephropathy
- 2.6. Contrast Screening. Role of the EPA in the Indication of an Iodinated Contrast Medium according to Renal Function
  - 2.6.1. Review of the Patient's Medical History
  - 2.6.2. General Recommendations Before the Administration of an Iodinated Contrast Medium
  - 2.6.3. Prevention and Follow-up of Iodinated Contrast-induced Nephropathy
- 2.7. Contrast Screening. Role of EPA in the Administration of Other Contrast Media According to Renal Function
  - 2.7.1. Impact of the Administration of Non-Iodinated Contrast Media on Renal Function
  - 2.7.2. Gadolinium-based Contrast Media and Renal Function
  - 2.7.3. Impact of Other Contrast Media on Renal Function
- 2.8. Contrast Screening. Hypersensitivity Reactions to Contrast Media
  - 2.8.1. Definition of Hypersensitivity Reaction
  - 2.8.2. Classification of Hypersensitivity Reactions
  - 2.8.3. Risk Factors for Hypersensitivity Reactions to Contrast Media
  - 2.8.4. Diagnosis of a Hypersensitivity Reactions to Contrast Media
- 2.9. Contrast Screening. Role of the EPA in the Presence of a Previous History of Contrast Hypersensitivity Reactions
  - 2.9.1. Review of the Patient's Medical History
  - 2.9.2. Prevention of Hypersensitivity Reactions to Iodinated Contrast Media
  - 2.9.3. Prevention of Hypersensitivity Reactions to Gadolinium-based Contrast Media
  - 2.9.4. Prevention of Hypersensitivity Reactions to Other Contrast Agents
- 2.10. Management of Imaging Tests
  - 2.10.1. The Importance of the Diagnostic Imaging and Treatment Service in the Health System
  - 2.10.2. Nursing Knowledge
  - 2.10.3. The Need to Record



*Inquire whenever you wish on the management of imaging tests and the most effective processes in the records to be performed by the nurses"*

# 05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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

## At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Nurses learn better, faster, and more sustainably over time.

*With TECH, nurses can experience a learning methodology that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the real conditions in professional nursing practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



*The nurse will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Nursing Techniques and Procedures on Video

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



### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.  
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



**Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Certificate in Nursing in the Radiology Service guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Nursing in the Radiology Service** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Nursing in the Radiology Service**

Official N° of Hours: **300 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate 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  
development language  
virtual classroom



## Postgraduate Certificate Nursing in the Radiology Service

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate

## Nursing in the Radiology Service

