



Postgraduate Diploma

Radiation Oncology in Radiological Nursing

» Modality: online

» Duration: 6 months

» Certificate: TECH Global University

» Credits: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/nursing/postgraduate-diploma/radiation-oncology-radiological-nursing

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Certificate

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tech 06 | Introduction

One of the great achievements of the last decades in Radiation Oncology treatments is the reduction of the number of sessions and the more accurate targeting of tumors. A work that requires specialized nursing professionals and aware of the most notorious advances in this field.

For this reason, there is no doubt that the healthcare professionals who keep up to date in this field will be able to increase their performance competencies in their daily performance and in the essential care of oncology patients. For this reason, this 6-month Postgraduate Diploma was created by an excellent team of teachers with a consolidated trajectory in Radiological Nursing.

It is a program that will lead the graduates to carry out a complete update in the work of the OR nurse. From their intervention from the beginning of treatment with the assessment to the patient's health education. Likewise, in this training, the graduates will be updated on the approach to the main complications, the techniques used in Interventional Vascular Radiology, as well as the operation of the most advanced Diagnostic and Treatment Imaging Services (DTI).

A quality academic itinerary, where the students will have video summaries of each topic, videos in detail, specialized readings and case studies to access, comfortably, whenever and wherever they wish. TECH adapts to the real needs of healthcare professionals and for this reason provides a degree with 24-hour access to its content, from any cell phone, *Tablet* or computer with an Internet connection.

Undoubtedly, a unique opportunity to be updated by the best experts and with a study plan compatible with the most demanding personal and work responsibilities.

This **Postgraduate Diploma in Radiation Oncology in Radiological Nursing** 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 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



Thanks to the Relearning system you will be able to reduce the long hours of study and consolidate the most relevant concepts in an easy way"



Do you want to be up to date on care management and organization of the Diagnostic and Imaging Treatment Area? Do it through a quality Postgraduate Diploma"

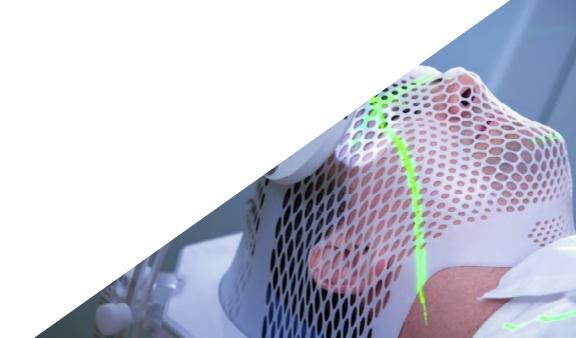
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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.

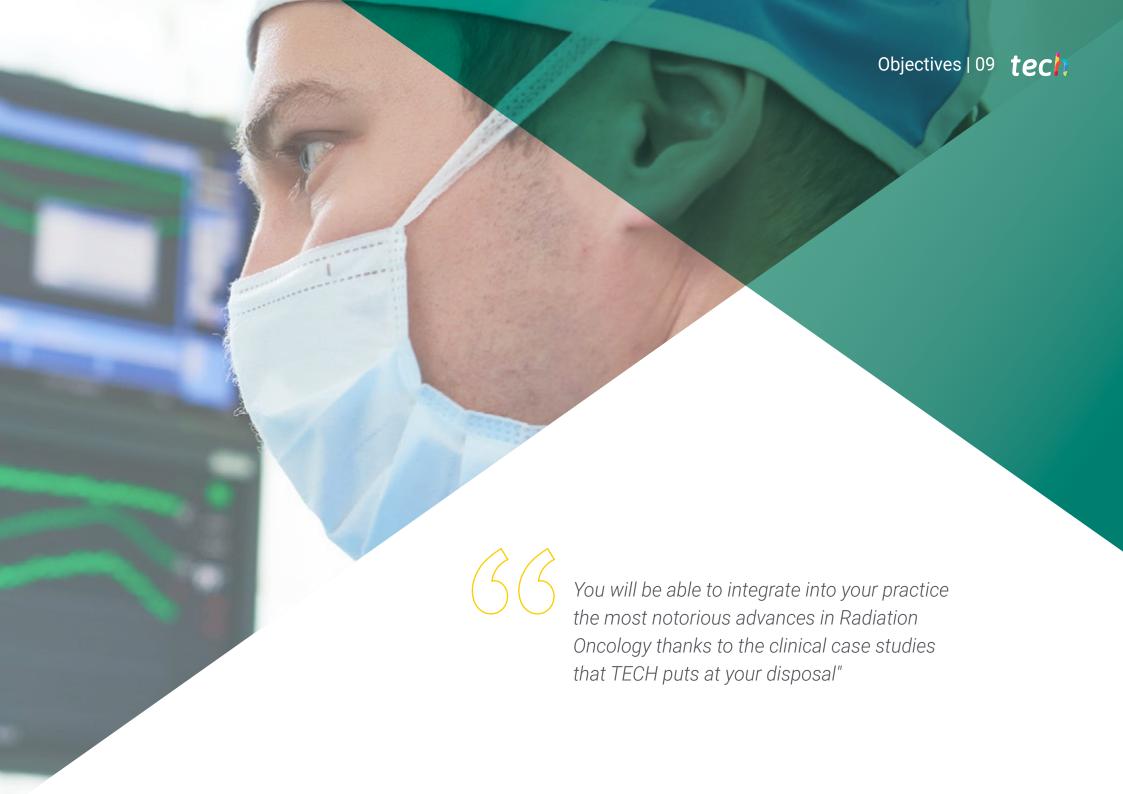
This program's design focuses on Problem-Based Learning, through which the professionals must try to solve the different professional practice situations that arise during the academic program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Go deeper from your Tablet and connected to the Internet in the procedures used in Emergency Radiotherapy.

You will have at your disposal the latest scientific literature on Radiation Oncology and the advances achieved in Radiological Nursing.







tech 10 | Objectives



General Objectives

- 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





- 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
- Have knowledge in Post-graduate 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

Module 2. Radiation Oncology

- Discover what is Radiation Oncology and its uses
- Delve into the human capital and the necessary material of this Service
- Describe the applications of the radiotherapeutic process
- Implement the nursing care process in the different interventions carried out in the department



Specific Objectives

Module 3. Vascular Interventional Radiology and Neuroradiology Nursing

- 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



A program that keeps you up to date with the most current diagnostic and therapeutic neuroradiological procedures in DTI Services"





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Management



Ms. Viciana Fernández, Carolina

- Nurse in the Radiodiagnosis and Nuclear Medicine
- University Diploma 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
- University Diploma 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

Ms. Rodríguez Manzano, María Ángeles

- Supervisor of the Radiation Oncology Service at the Central University Hospital of Asturias
- Teaching collaborator in AGORASTUR, training in theoretical and practical workshops for auxiliary nursing care technicians
- University Diploma in Nursing
- Postgraduate Diploma in Hemotherapy
- Specialist in Intensive Care Nursing
- Postgraduate Diploma in Dialysis
- Specialist in Family and Community Nursing
- Radioactive Facilities Operator License in Radiotherapy. Nuclear Safety Council
- Teaching collaborator in AGORASTUR, training in theoretical and practical workshops for auxiliary nursing care technicians





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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. Scope of Radiological Nursing Practice
 - 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)
- .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. Radiation Oncology

- 2.1. What is Radiotherapy?
 - 2.1.1. Introduction
 - 2.1.2. Ionizing radiation and cancer treatment
 - 2.1.3. Use of ionizing radiation in benign pathologies
 - 2.1.4. Types of Radiotherapy
- 2.2. Treatments with Ionizing Radiation External Radiation Therapy
 - 2.2.1. Linear Accelerators
 - 2.2.2. Simulation equipment
 - 2.2.3. Different treatments with external radiotherapy
 - 2.2.3.1. Three-dimensional radiotherapy RTE 3D
 - 2.2.3.2. Intensity modulated radiotherapy IMRT/ VMAT
 - 2.2.3.3. Stereotactic radiation therapy SBRT
 - 2.2.3.4. Image-guided radiation therapy Radiosurgery (SRS)
 - 2.2.3.5. Proton beam therapy
- 2.3. The radiotherapeutic process
 - 2.3.1. Initial evaluation and therapeutic decision
 - 2.3.2. Simulation
 - 2.3.2.1. Masks and other immobilization systems
 - 2.3.2.2. Nursing Consultation
 - 2.3.3. Delineation or localization of volumes Treatment planning Treatment Verification
- 2.4. Head and Neck Radiotherapy
 - 2.4.1. Introduction
 - 2.4.2. Nursing consultation at the start of treatment
 - 2.4.3. Potential complications and nursing care
 - 2.4.4. Specific ostomy care

- 2.5. Breast Radiotherapy
 - 2.5.1. Introduction
 - 2.5.2. Nursing consultation at the beginning of treatment Nursing indications
 - 2.5.3. Potential complications and nursing care
- 2.6. Abdomino-pelvic radiotherapy
 - 2.6.1. Introduction
 - 2.6.2. Nursing consultation at the beginning of treatment Nursing indications
 - 2.6.3. Potential complications and nursing care
- 2.7. CNS Radiotherapy
 - 2.7.1. Introduction
 - 2.7.2. Nursing consultation at the beginning of treatment Nursing indications
 - 2.7.3. Potential complications and nursing care
- 2.8. Radiotherapy in other locations
 - 2.8.1. RTE Lung Nursing care
 - 2.8.2. RTE skin. Nursing Care
 - 2.8.3. RTE bone localization Nursing care
 - 2.8.4. Total Body irradiation. TBI
- 2.9. Palliative Radiotherapy
 - 2.9.1. Introduction
 - 2.9.2. Pain Management
 - 2.9.3. Psychological Aspects
- 2.10. Radiotherapy Emergencies
 - 2.10.1. Introduction
 - 2.10.2. Vena Cava Syndrome
 - 2.10.3. Compressive syndromes
 - 2.10.4. Hemorrhages

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Module 3. Vascular Interventional Radiology and Neuroradiology Nursing

- 3.1. Interventions
 - 3.1.1. Interventional Radiology History
 - 3.1.2. Nursing in interventional radiology
 - 3.1.3. The Interventional Vascular Radiology Operating Room (IVR)
- 3.2. Radiological protection and characteristics of the IVR room
 - 3.2.1. Radiological Protection
 - 3.2.2. RVI room, composition
 - 3.2.3. The Angiograph
- 3.3. Asepsis and sterility in the Operating Room of Interventional Vascular Radiology (IVR)
 - 3.3.1. Concept of Asepsis
 - 3.3.2. Concept of Sterility
 - 3.3.3. Circulation in the operating room
 - 3.3.4. IVR room ventilation
- 3.4. Anesthesia
 - 3.4.1. Anesthesia cart
 - 3.4.2. Patient Monitoring
 - 3.4.3. General Anesthesia
 - 3.4.4. Allergic Reaction
 - 3.4.5. Medication
 - 3.4.6. Knowledge of basic and advanced CPR maneuvers.
- 3.5. Nursing Care at Interventional Radiology
 - 3.5.1. Review of the clinical history
 - 3.5.2. Reception of the patient in the service
 - 3.5.3. Surveillance and care of the patient in the operating room
 - 3.5.4. Recording of nursing care (Nursing care process PAE)
 - 3.5.5. Transfer to the inpatient ward

- 3.6. Non-Vascular Procedures
 - 3.6.1. Renal Via
 - 3.6.1.1. Percutaneous Nephrostomy
 - 3.6.1.2. Nephrostomy Catheter Replacement
 - 3.6.1.2.1. Simple
 - 3.6.1.2.2. Mixed
 - 3.6.2. Biliary Tract
 - 3.6.2.1. Bile Duct Drainages
 - 3.6.2.2. Bile Duct Dilatation
 - 3.6.2.3. Bile Duct Prosthesis
 - 3.6.2.4. Brushing and biopsy Biliary tract
 - 3.6.2.5. Pressures via bile duct
 - 3.6.3. Gastric Tract
 - 3.6.3.1. P.EG (Gastrostomy)
 - 3.6.3.2. Alpha maneuver
 - 3.6.3.3. Rendez Vous
- 3.7. Diagnostic Vascular Procedures
 - 3.7.1. Diagnostic arteriography
 - 3.7.2. Fistulography
 - 3.7.3. Phlebography
 - 3.7.4. Hepatic transjugular biopsy
 - 3.7.5. Taking of vena cava pressures
 - 3.7.6. Suprarenal Vein Sampling
- 3.8. Therapeutics Vascular Procedures
 - 3.8.1. Hickman
 - 3.8.2. Shaldon
 - 3.8.3. Reservoir

Structure and Content | 21 tech

3.8.4.	Arterial angioplasty
	3.8.1.2.4.1. Angioplasty MMII arteries
	3.8.1.2.4.2. Visceral arteries angioplasty (Renal, Hepatic
3.8.5.	Placement of prosthesis (Stent)
3.8.6.	Vena Cava Filter Implantation and Removal
3.8.7.	Porto-caval shunt
3.8.8.	Embolization Active bleeding
	3.8.8.1. Hemoptysis.
	3.8.8.2. Prostate Embolization
	3.8.8.3. Postpartum uterine bleeding
3.8.9.	Tumor Embolizations (TACE ,TARE)
3.8.10.	VaricoceleVaricocele
3.7.11.	Renal Embolization
3.8.12.	Fibrinolysis
3.8.13.	Pulmonary thrombectomy
3.8.14.	Angioplasty Fistulography
3.8.15.	Superior Cava Territory Angioplasty
Neurora	adiology Diagnostic Procedures
3.9.1.	Cerebral Arteriography
	3.9.1.1. Cerebral arteriography radial access, benefits
	3.9.1.2. Medullary arteriography
	3.9.1.3. T.SA arteriography
	3.9.1.4. Occlusion test
	3.9.1.5. Petrosal Sinus Test
Neurora	adiology Therapeutics Procedures
3.10.1.	Epistaxis
3.10.2.	External Carotid Embolization
3.10.3.	Vasospasm

3.10.4. Embolization Subarachnoid Hemorrhage (aneurysm)

3.9.

3.10.

- 3.10.5. AVM embolization3.10.6. AVF embolization
- 3.10.7. ICTUS
- 3.10.8. Stents
 - 3.10.8.1. Internal Carotid Stent
 - 3.10.8.2. Flow Diverter Stent (flow diverter)
 - 3.10.8.3. Intracranial Stent
- 3.10.9. Vertebroplasty

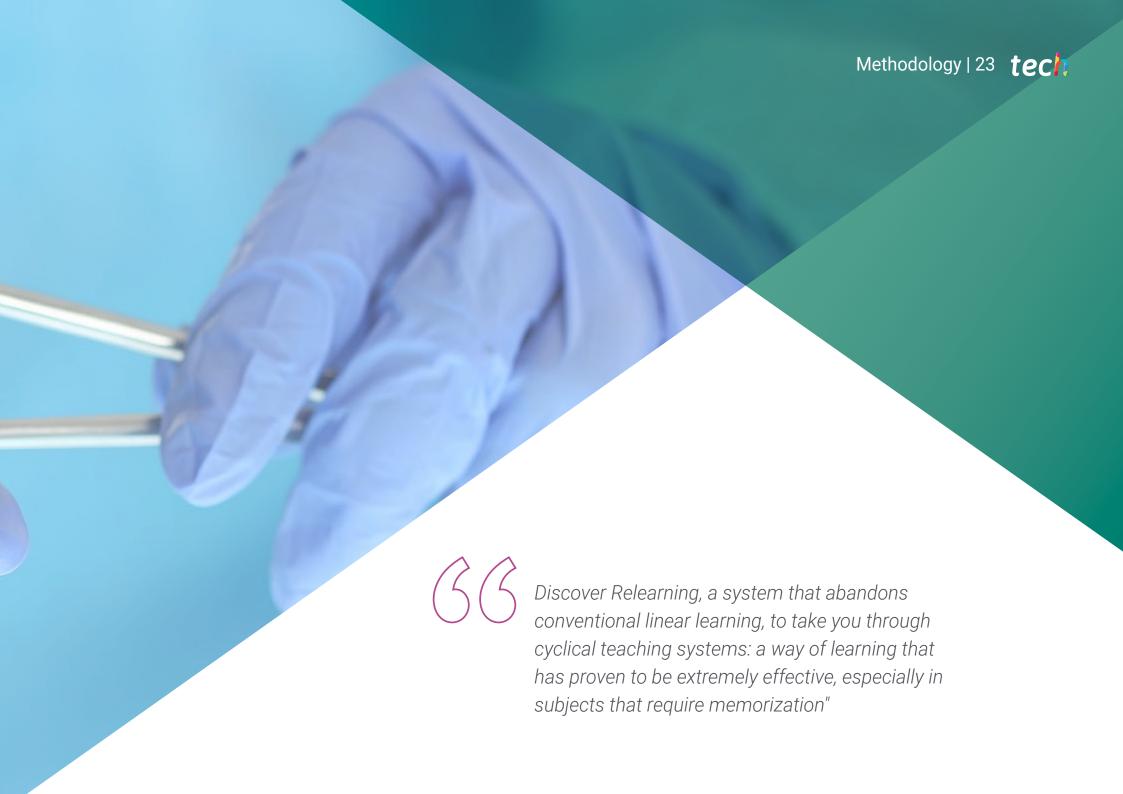


An academic itinerary that will take you over 6 months to keep abreast of advances in Radiation Oncology in a flexible and comfortable way"



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.

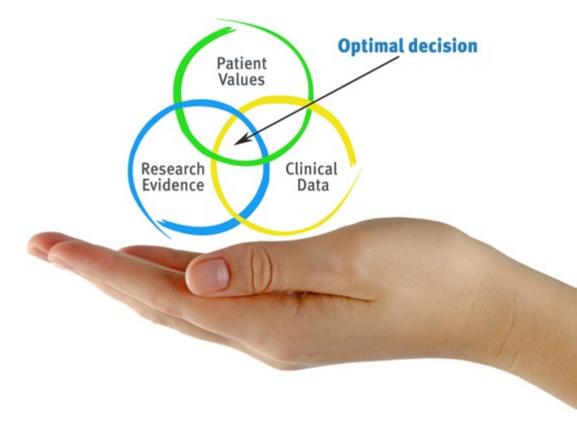


tech 24 | Methodology

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.



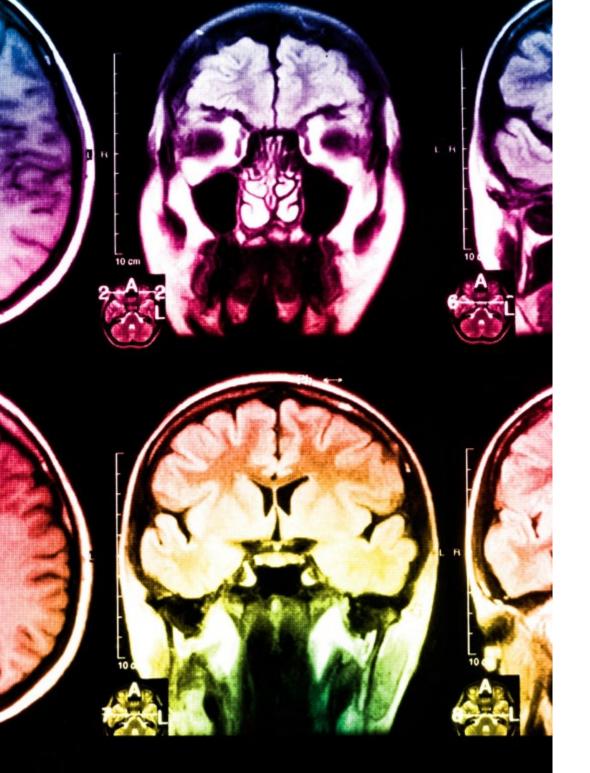
Relearning Methodology

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.





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

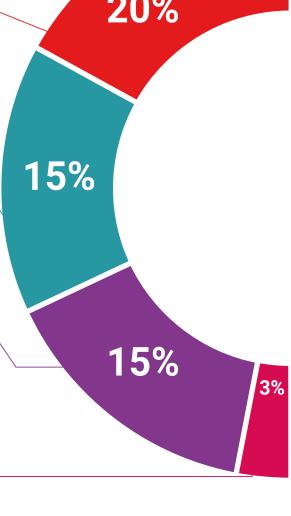
We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you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



Testing & Retesting

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The student's knowledge is periodically assessed and re-assessed throughout the program, through evaluative and self-evaluative activities and exercises: in this way, students can check how they are doing in terms of achieving their goals.



Classes

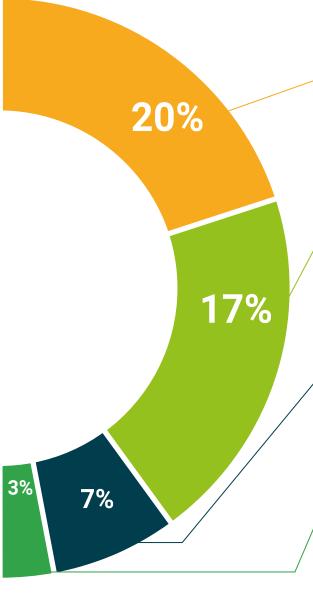
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







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This program will allow you to obtain your **Postgraduate Diploma in Nuclear Medicine in Radiological 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** 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 Diploma in Nuclear Medicine in Radiological Nursing

Modality: online

Duration: 6 months

Credits: 6 ECTS



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

Postgraduate Diploma in Nuclear Medicine in Radiological Nursing

This is a program of 450 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



^{*}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.

health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment.



Postgraduate Diploma Radiation Oncology in Radiological Nursing

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