Postgraduate Certificate

Nuclear Medicine

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Postgraduate Certificate

Nuclear Medicine

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/medicine/postgraduate-certificate/nuclear-medicine**

Index

01

Introduction

Every year new treatments and diagnostic methods appear thanks to the emergence of areas such as Nuclear Medicine, which have provided new techniques for the detection and monitoring of diseases. For that reason, it has become an attractive discipline to specialize in, since the best medical services in the world are incorporating experts in this field. Thus, choosing to study this subject in depth is a great decision, as it opens the door to numerous professional opportunities. This qualification has everything necessary for the doctors who complete it to achieve their goals by exploring a field with a great present and future such as Nuclear Medicine.

Nuclear Medicine has a great future: update your knowledge and access the best specialized medical services in the world"

Of the many healthcare disciplines currently undergoing transformation, one of the most important is Nuclear Medicine. This area offers new treatments and diagnostic methods that can be applied to sensitive areas such as oncology. That is why it is so important, and also why more and more hospitals have specialized Nuclear Medicine services.

This also means that it is a field full of professional opportunities, so that all those doctors who wish to explore this field or update their knowledge in this area will be able to access important medical positions in new specialized services.

To respond to this demand, TECH has designed this Postgraduate Certificate in Nuclear Medicine, which will prepare its students to face all the challenges of this exciting and complex field. Thus, it offers them an innovative 100% online learning process that adapts to the circumstances of each individual, so that they can combine their professional careers with their studies.

In addition, through practical exercises, they will be able to learn everything about ionizing radiation, radiopharmaceuticals, image processing and acquisition and radioprotection. With this knowledge, students will become true experts in the field and will be able to access prestigious positions in the field of Nuclear Medicine.

This **Postgraduate Certificate in Nuclear Medicine** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- The development of case studies presented by experts in Nuclear Medicine
- The graphic, schematic, and eminently 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

Specialize in Nuclear Medicine and watch your medical career advance rapidly"

With this new knowledge you will be able to offer the best treatments to your patients"

Apply the basics of Nuclear Medicine to other fields such as oncology and become a prestigious doctor in your environment.

Enroll in this Postgraduate Certificate and achieve all your professional goals.

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

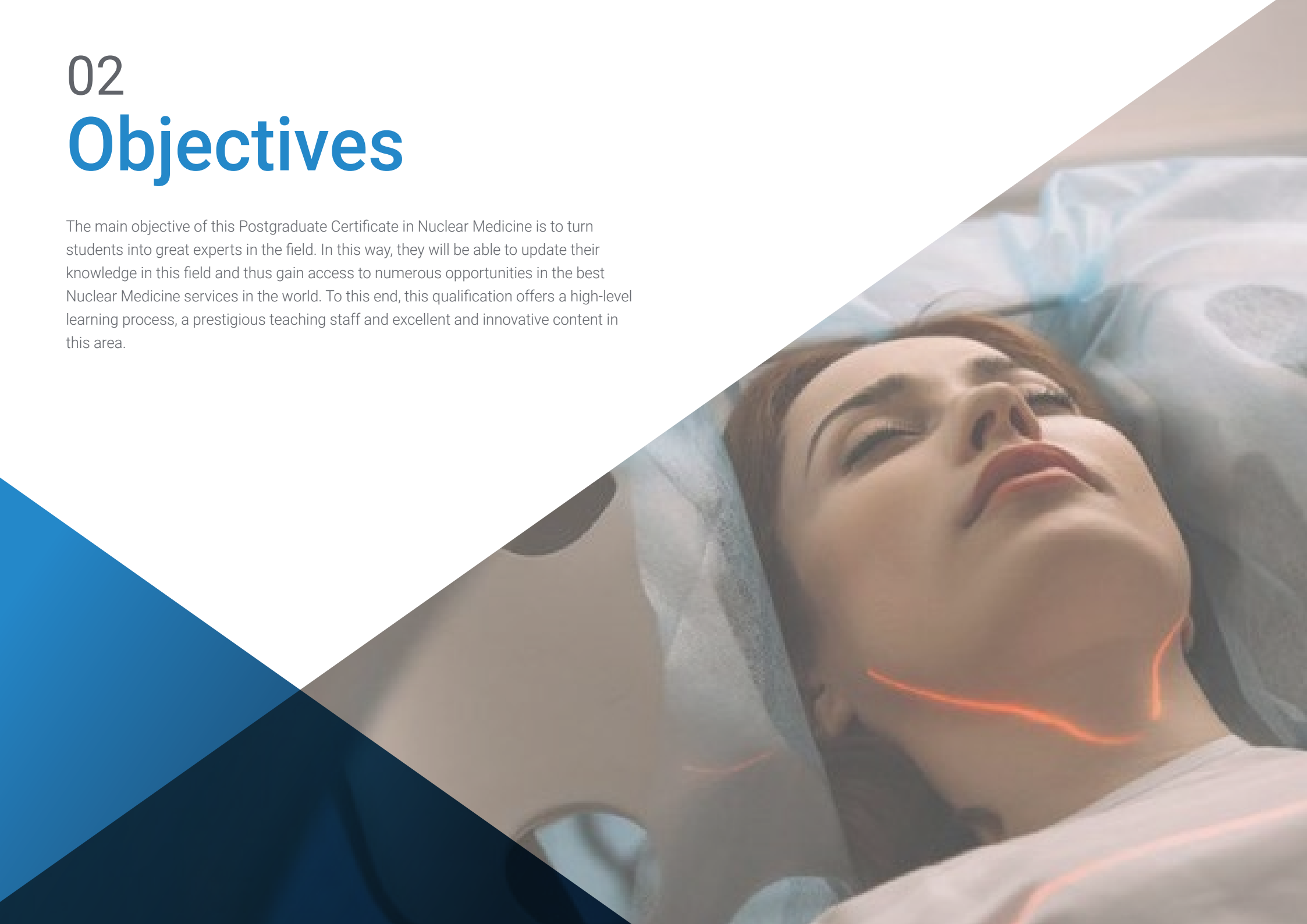
The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

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

02

Objectives

The main objective of this Postgraduate Certificate in Nuclear Medicine is to turn students into great experts in the field. In this way, they will be able to update their knowledge in this field and thus gain access to numerous opportunities in the best Nuclear Medicine services in the world. To this end, this qualification offers a high-level learning process, a prestigious teaching staff and excellent and innovative content in this area.



Achieve all your goals thanks to what you will learn in this Postgraduate Certificate in Nuclear Medicine"

General Objectives

- Update the specialist in Nuclear Medicine
- Perform and interpret functional tests in an integrated and sequential manner
- Achieve diagnostic guidance for patients
- Assist in deciding the best therapeutic strategy, including radiometabolic therapy, for each patient
- Learn about the new therapies of Nuclear Medicine

Specific Objectives

- Delve into the knowledge of the basics of Nuclear Medicine in its fundamental elements, such as radioactivity and the type of disintegrations, image detection and generation, radiopharmaceuticals and radioprotection

Nuclear Medicine has numerous applications. Do not miss this opportunity and progress professionally thanks to your new skills"

03

Course Management

The teaching staff of this Postgraduate Certificate in Nuclear Medicine has extensive experience in this field and will provide students with all the keys to become specialized doctors in this important area. To achieve this, these professors will share with students the knowledge and skills necessary to be able to apply Nuclear Medicine techniques and procedures in areas such as oncology.

There is no better teaching staff than this one to learn the basics of Nuclear Medicine"

Management

Dr. Mitjavila, Mercedes

- Head of Nuclear Medicine Service Puerta de Hierro University Hospital Majadahonda, Madrid
- Project Manager of the Nuclear Medicine Unit in the Diagnostic Imaging Department of the Alcorcón Foundation University Hospital
- Head of Service of Nuclear Medicine of the Puerta de Hierro Hospital, Majadahonda. Competitive examination BOCM
- Degree in Medicine and General Surgery from the University of Alcalá de Henares
- MIR in Nuclear Medicine Specialist by the MIR System
- PhD in Medicine and General Surgery from the University of Alcalá de Henares
- Interim Physician of the Nuclear Medicine Service of the Ramón y Cajal Hospital
- Interim Physician in the Nuclear Medicine Unit at Getafe University Hospital

Professors

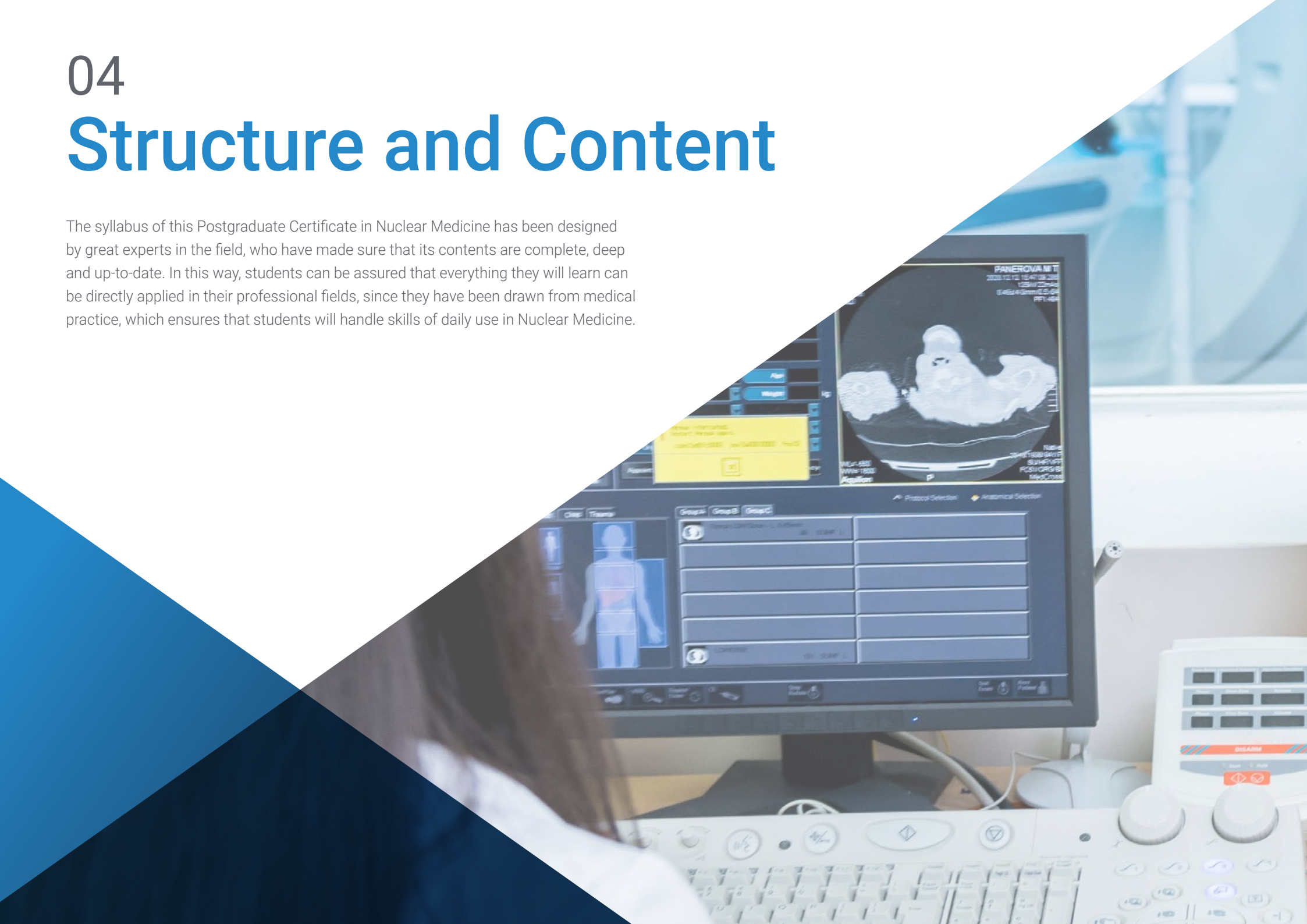
Dr. Martí Climent, Josep M.

- Director of the Radiophysics and Radiological Protection Service of the University Clinic of Navarra
- Deputy Director of the Nuclear Medicine Service of the University Clinic of Navarra
- Graduate in Sciences (Autonomous University of Barcelona)
- D. in Sciences (Autonomous University of Barcelona)
- Specialist in Hospital Radiophysics (Ministry of Education and Science)

04

Structure and Content

The syllabus of this Postgraduate Certificate in Nuclear Medicine has been designed by great experts in the field, who have made sure that its contents are complete, deep and up-to-date. In this way, students can be assured that everything they will learn can be directly applied in their professional fields, since they have been drawn from medical practice, which ensures that students will handle skills of daily use in Nuclear Medicine.



These contents will make you a great specialist in Nuclear Medicine"

Module 1. Nuclear Medicine

1.1. Physical Bases of Ionizing Radiations
- 1.1.1. Ionizing Radiation and Radioactive Isotopes
- 1.1.2. Types of Radiation

1.2. Biological Effects of Ionizing Radiations
- 1.2.1. Classification of Effects according to: Time of Cccurrence
- 1.2.2. Biological and Dose Dependent Effect
- 1.2.3. Interaction of Ionizing Radiation with Matter
- 1.2.4. Ionizing Radiation-Cell Interaction: Characteristics, Direct and Non-Direct Effects
- 1.2.5. Radiosensitivity
- 1.2.6. Adaptive Response

1.3. Radiopharmaceuticals
- 1.3.1. The Radiopharmaceutical
- 1.3.2. Conventional Diagnostic Radiopharmaceuticals
- 1.3.3. Radionuclide Generators
- 1.3.4. Localization Mechanisms
- 1.3.5. Positron Emission Tomography Radiopharmaceuticals
- 1.3.6. Synthesis Scheme
- 1.3.7. Metabolic Pathway Substrates
- 1.3.8. Radiopharmaceuticals with Therapeutic Effect
  - 1.3.8.1. Characteristics that Must be Met
  - 1.3.8.2. Design and Approval

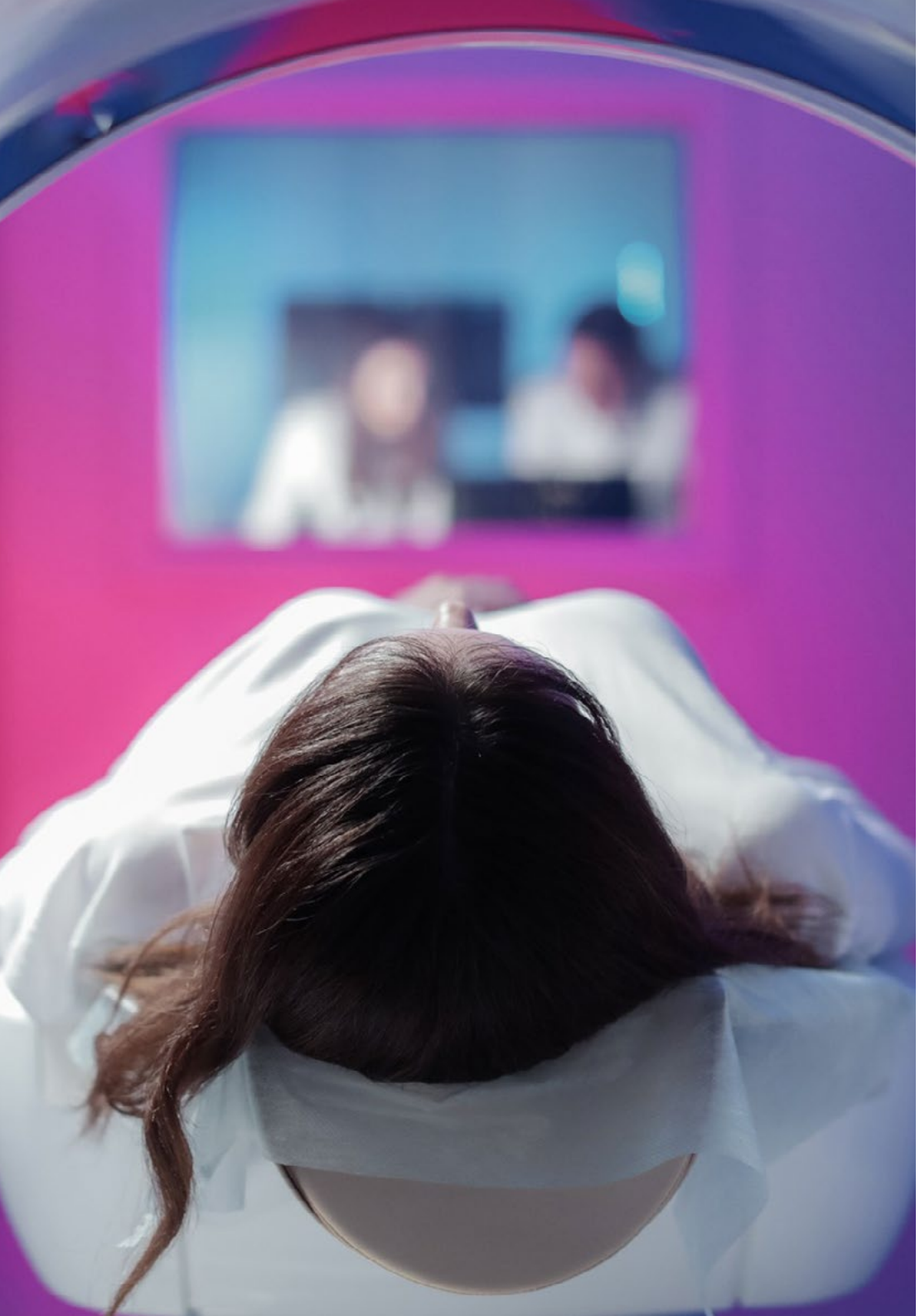
1.4. Radiopharmacy
- 1.4.1. Regulatory Framework
- 1.4.2. Operation
- 1.4.3. Quality Control

1.5. Image Acquisition and Processing
- 1.5.1. Planar Image
- 1.5.2. Components
- 1.5.3. Performance: Resolution and Sensitivity
- 1.5.4. Acquisition Modes: Static, Dynamic, Synchronized
- 1.5.5. Reconstruction
- 1.5.6. Single Photon Tomography (SPECT)
- 1.5.7. Acquisition
- 1.5.8. Reconstruction
- 1.5.9. Positron Emission Tomography (PET)
- 1.5.10. Components
- 1.5.11. Acquisition of Data
- 1.5.12. Operating Parameters

1.6. Quantification Techniques: Basis
- 1.6.1. In Cardiology
- 1.6.2. In Neurology
- 1.6.3. Metabolic Parameters
- 1.6.4. The Image of TC

1.7. Image Generation
- 1.7.1. Acquisition and Reconstruction Parameters
- 1.7.2. Protocols and Contrast Media
- 1.7.3. Head and Neck
- 1.7.4. Thorax: Cardiology, Lung
- 1.7.5. Abdomen: General, Liver, Renal

1.8. The Image of RM
- 1.8.1. Resonance Phenomenon
- 1.8.2. Tissue Contrast: Sequence Knowledge
- 1.8.3. Diffusion
- 1.8.4. Paramagnetic Contrasts



1.9. The Multimodality Image
- 1.9.1. SPECT/TC
- 1.9.2. PET/TC
- 1.9.3. PET/RM

1.10. Radioprotection
- 1.10.1. The Radioprotection
- 1.10.2. Special Situations: Pediatrics, Pregnancy and Lactation
- 1.10.3. Regulatory Framework: Implementation
- 1.10.4. Dosimetry

This is the qualification you were looking for. Enroll now and access the best professional opportunities in the field of Nuclear Medicine"

05

Methodology

This training program provides you with a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

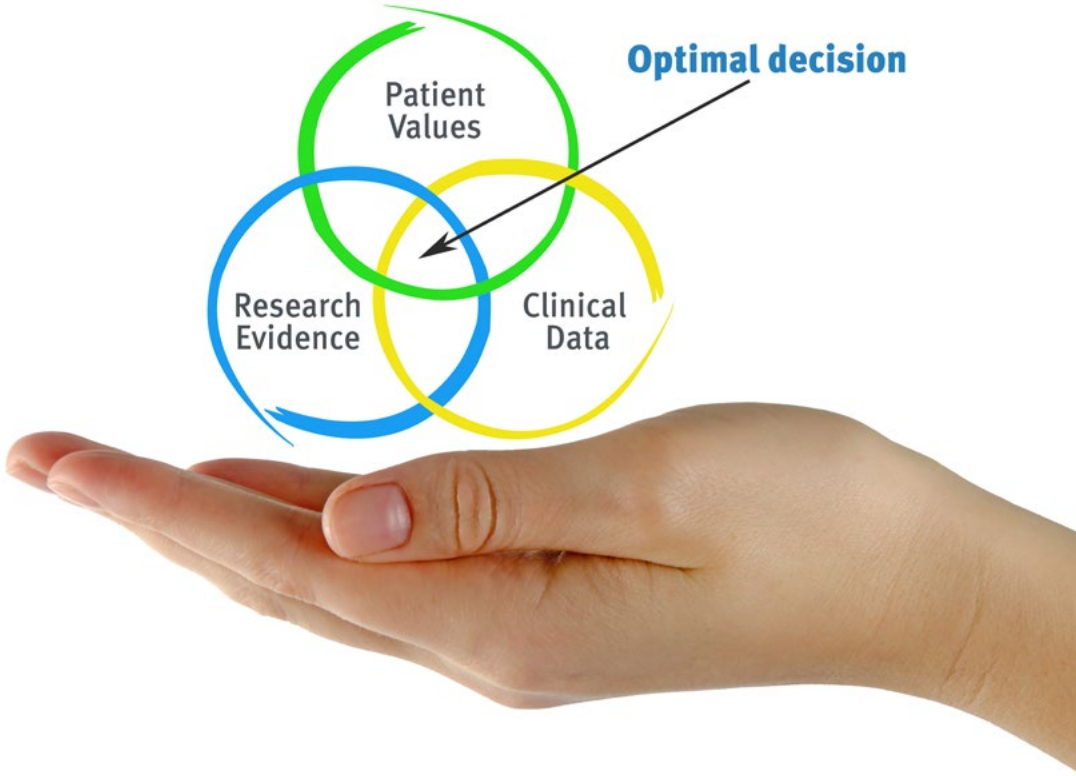
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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 we use the Case Method

What should a professional do in a given situation? 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. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning 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, trying to recreate the real conditions in the physician's professional 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:

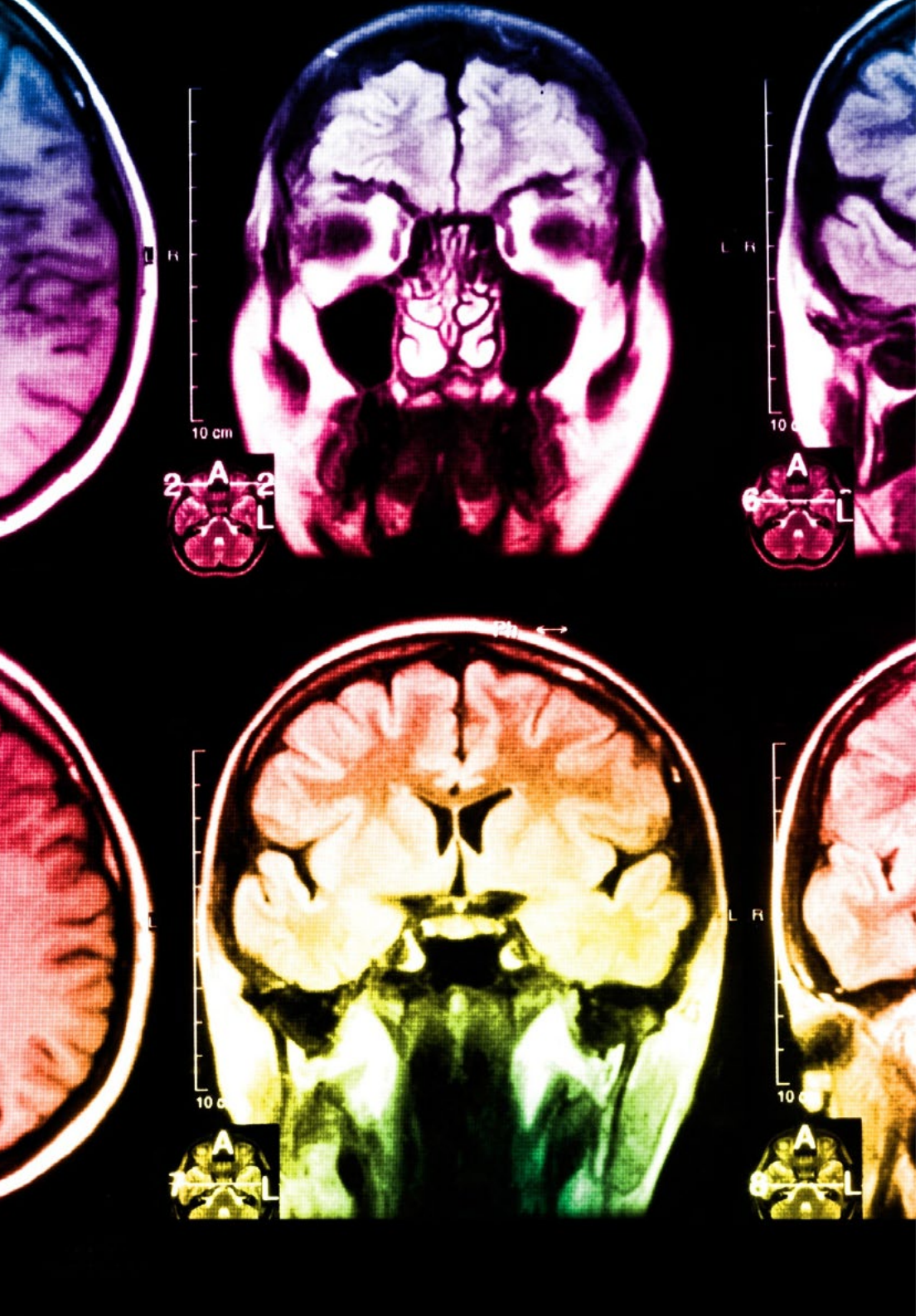
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
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 Harvard case method with the best 100% online teaching methodology available: Relearning.

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

Professionals will learn through real cases and by resolving 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, more than 250.000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. 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 highly 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.

Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and 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 the videos as many times as you like.

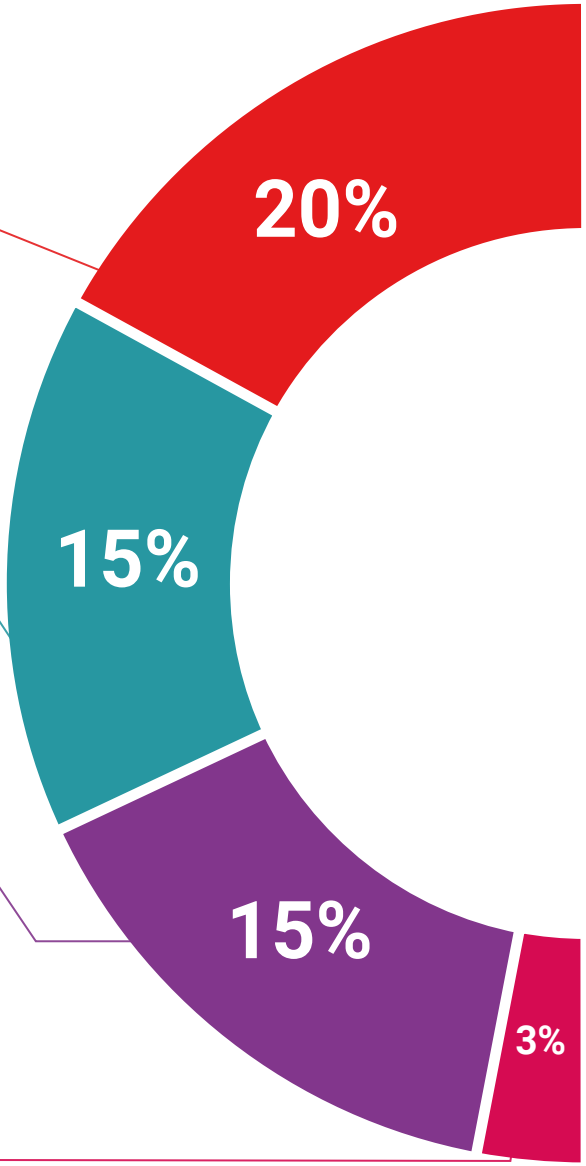
Interactive Summaries

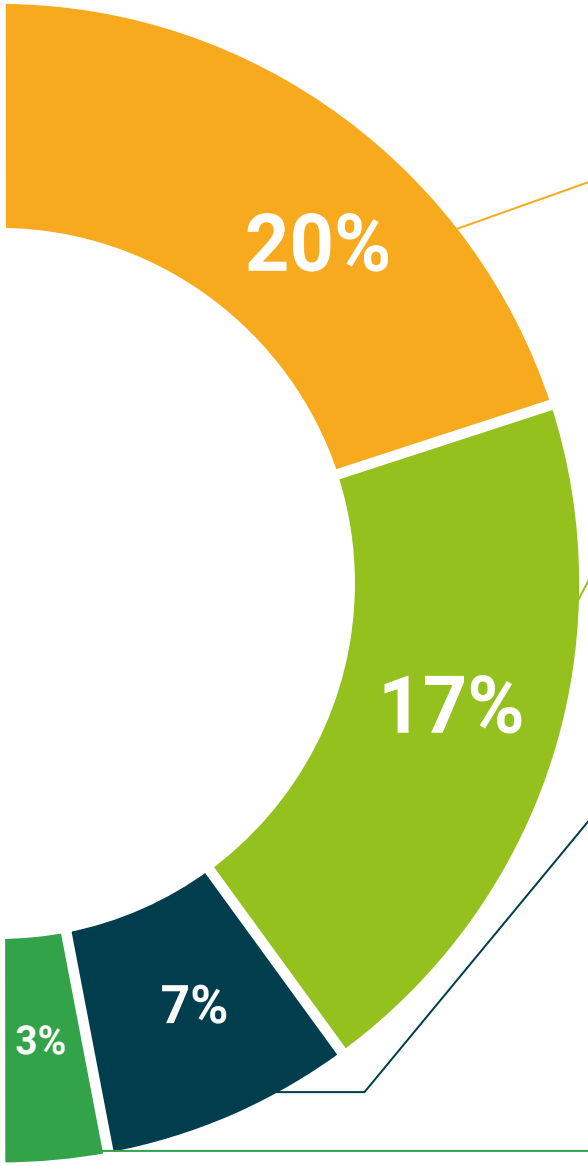
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive multimedia content presentation training Exclusive system 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 your goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.

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 Nuclear Medicine guarantees, in addition to the most rigorous and up-to-date training, access to a certificate issued by TECH Technological University.

Successfully complete this training and receive your university certificate without travel or laborious paperwork"

This **Postgraduate Certificate in Nuclear Medicine** contains the most complete and up-to-date program 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 from career evaluation committees.

Title: **Postgraduate Certificate in Nuclear Medicine**

Official Nº of hours: **150 h.**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Nuclear Medicine

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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