Postgraduate Certificate

Management and Organization in Image-Guided Therapy

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Postgraduate Certificate
Management and Organization in Image-Guided Therapy

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

Website: **www.techtitute.com/us/medicine/postgraduate-certificate/management-organization-image-guided-therapy**

Index

01

Introduction

Image-Guided Therapy continues to have an increasing relevance in medicine today. Percutaneous treatments have evolved rapidly in recent years due to the development of new techniques and bioengineering. The knowledge of these new materials, techniques, indications and their implementation in the medical process, make it essential for the interventional radiologist to be constantly updated.

New scenarios in today's radiology push us to propose new training programs that fit the real needs of experienced professionals, so that they can incorporate advances in image-guided techniques into their medical practice"

Medical radiology is of crucial importance in the patient's diagnostic process, but it is increasingly acquiring a leading role in therapeutic interventions that until now have been done in the dark or by approaching the patient in a much more aggressive way. The latest technological advances are making possible the use of new image-guided systems such as multimodality fusion or the implementation of new therapeutic strategies, such as the administration of drug-loaded particles or oncolytic virus therapy.

This Postgraduate Certificate includes some of the most important fields of Interventional Radiology, including basic aspects of clinical practice such as its management or implementation. It addresses processes and fields of knowledge where Image-Guided Therapy plays a fundamental role, such as neurology, thorax or musculoskeletal. In addition, it includes the main emerging therapies in different fields and the future lines in image-guided therapy.

A complete and modern refresher program, based on the latest advances in interventional radiology, developed through the latest educational technology, to update the professional and improve patient care.

This **Postgraduate Certificate in Management and Organization in Image-Guided Therapy** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Clinical cases presented by specialists in radiology and other specialties. 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.
- Real high-resolution images of pathologies, diagnostic imaging tests and guided interventions.
- Presentation of practical workshops on procedures and techniques.
- Algorithm-based interactive learning system for decision-making in the presented clinical situations.
- Action protocols with the most important developments in the specialty.
- All this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- With a special emphasis on evidence-based medicine and research methodologies in the field of radiology.
- Content that is accessible from any fixed or portable device with an Internet connection.

You will be able to learn, through the latest educational technology, the latest advances in image-guided techniques”

This Master's Degree may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge in Management and Organization in Image-Guided Therapy, you will obtain a Postgraduate Certificate from TECH Technological University"

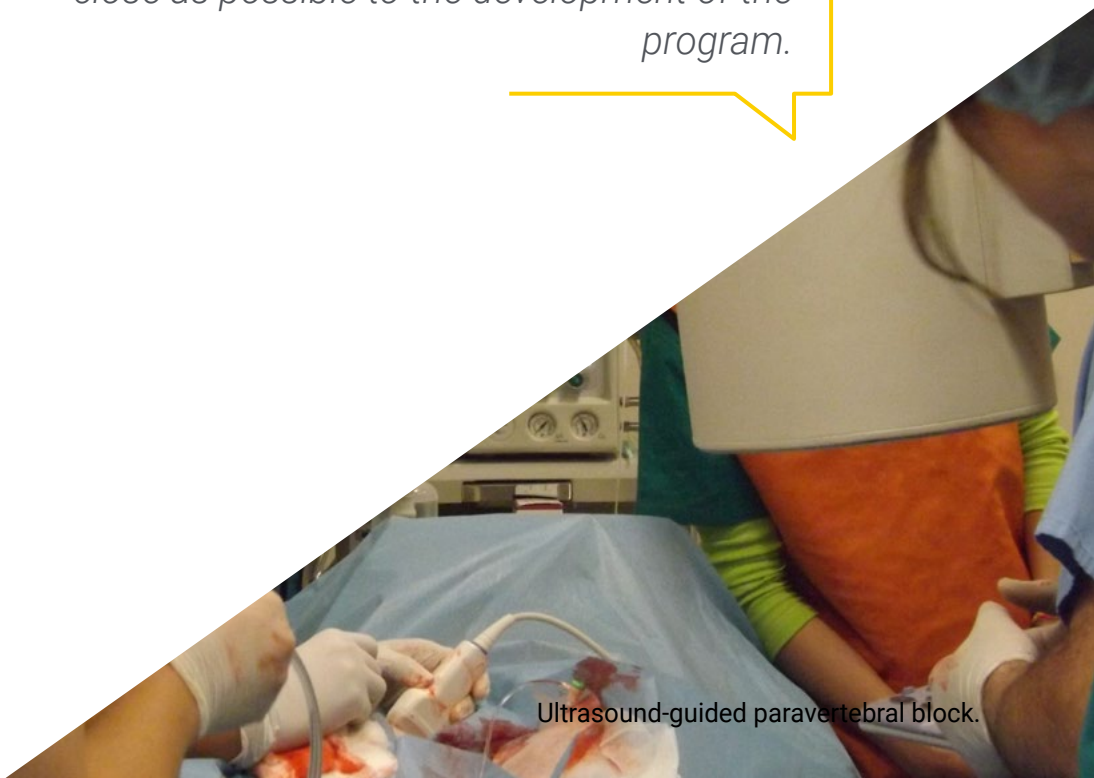
Its teaching staff includes a team of leading radiologists, who bring to this training the experience of their work, in addition to recognized specialists in other medical fields.

The multimedia content developed with the latest educational technology will provide the physician 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 student must try to solve the different professional practice situations that arise during the course. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of radiology with extensive teaching experience.

Incorporate the latest developments in image-guided medical procedures into your medical practice and improve your patients' prognosis.

It includes clinical cases and real images in high definition to bring clinical practice as close as possible to the development of the program.



Ultrasound-guided paravertebral block.

02

Objectives

The main objective is to facilitate the incorporation of developments in image-guided interventions in clinical practice, so that specialists can update their knowledge in a practical way, using the latest educational technology and adapting the educational process to their real needs.

Physician assessing a patient's chest X-ray in the ICU

This refresher program will generate a sense of confidence in decision making during image-guided interventions, and help you grow professionally"

General Objective

- Update the knowledge of the medical specialist in the procedures and techniques performed in the diagnostic and therapeutic process, guided by image, incorporating these latest advances to increase the quality of their daily medical practice and improve the patient's prognosis.

Specific Objectives

- Incorporate the latest advances in image-guided therapy that have a positive impact on curing or improving the patients' quality of life
- Increase the degree of knowledge in radiological therapeutics in the subspecialties of neurology, musculoskeletal, urology, traumatology, ablative techniques, drainage and biopsies
- Update the protocols for the medical management of the patient in therapeutic radiology
- Review the procedures of the Seldinger and Trocar techniques
- Identify new materials used in interventional radiology for different types of oncological, neurovascular or musculoskeletal techniques
- Identify the main characteristics of spinal and cerebral arteriography procedures
- Update the procedures for performing the main embolization techniques
- Describe the characteristics of the main spinal malformations
- Determine the developments in vertebroplasty, vesselplasty and kyphoplasty techniques
- Explain new developments in percutaneous and double J nephrostomy techniques
- Update paracentesis and thoracic drainage techniques
- Describe the development of radiofrequency and microwave ablation and cryoablation techniques
- Identify developments in image-guided percutaneous biopsy and incorporate them into daily practice
- Determine biliary drainage and abscess drainage procedures
- Update techniques for approaching percutaneous gastrostomy and gastrojejunostomy
- Describe the main aspects of percutaneous cholecystostomy
- Revise the basis for multimodality fusion
- Incorporate new image-guided foreign body removal techniques
- Assess the use of nanoparticles in the future of interventional radiology
- Incorporate the technical bases for the development and performance of the different approaches in interventional procedures and the bases of advanced radiological protection to clinical practice
- Describe the main characteristics of the materials used in interventional radiology in all territories as well as the techniques with their indications, handling, problems and solutions

- Incorporate new non-systematizable techniques into daily practice.
- Expand the management models, indicators, development of strategic plans and organization in Interventional Radiology.
- Review the legislation on patient information and the use of informed consent and data protection.
- Correct implementation of a clinical consultation in Radiology.
- Update the use of local anesthetics, pain management, sedation and anesthetic block techniques with ultrasound.
- Describe the architectural and technical requirements for the implementation of an image-guided therapy service or section.

03

Structure and Content

The structure of the syllabus has been designed by a team of professionals with knowledge of the implications of medical training in the approach to the diagnostic process, who are aware of the relevance of the up-to-date training, and are committed to quality teaching using new educational technologies.

This Postgraduate Certificate in Diagnostic Radiology contains the most complete and up-to-date scientific program on the market"

Module 1. Current Bases of Intervention Procedures

1.1. Radiological Protection in Interventional Procedures
1.2. Arterial and Venous Puncture for Interventional Access. Seldinger and Trocar Technique
1.3. Ultrasound Puncture for Vascular Access
1.4. Compression of Puncture Sites and Care

Module 2. Materials in Interventional Techniques

2.1. Materials in Neurointerventionism
2.2. Materials in Vascular Interventional Technique.
2.3. Materials in Oncologic Interventional Techniques
2.4. Materials in Musculoskeletal Interventional Techniques
2.5. Materials for Drainages and Non-Vascular Interventional Techniques

Module 3. Advances in Diagnostic Neurointerventionism

3.1. Cerebral Arteriography
3.2. Spinal Arteriography
3.3. Petrosal Sinus Sampling
3.4. Wada Test.

Module 4. Advances in Therapeutic Neurointerventionism

4.1. Embolization of Cerebral Aneurysms
4.2. Treatment of Cerebral Vasospasm
4.3. Carotid Stent, Vertebral Stent and Cerebral Stent
4.4. Endovascular Treatment of an Ischemic Stroke
4.5. Embolization in Epistaxis
4.6. Embolization of Cerebral Meningiomas and Paragangliomas
4.7. Treatment of Intracerebral AVMs
4.8. Dural Fistulas, Diagnosis and Treatment
4.9. Spinal Vascular Malformations

Module 5. Advances in Musculoskeletal Interventions

5.1. Discography
5.2. Vertebroplasty, Vesselplasty and Kyphoplasty
5.3. Infiltration and Facet Rhizolysis
5.4. Percutaneous Discectomy
5.5. Epidurolisis and Pain Management
5.6. Percutaneous Ganglionic Block for Pain
5.6. Joint Infiltrations

Module 6. Advances in Urology Interventions

6.1. Percutaneous Nephrostomy
6.2. Anterograde Double J
6.3. Retrograde Double J and Endourological Interventionsim
6.4. Uretal and Urethral Endoprosthesis

Module 7. Advances in Thorax Interventions

7.1. Thoracentesis, Thoracic Drainage and Associated Techniques
7.2. Drainage of Thoracic Abscesses

Module 8. Update in Ablative Techniques

8.1. Tumor Ablation with Radiofrequency and Microwaves
8.2. Tumor Cryoablation. Irreversible Electroporation

Module 9. Diagnostic Punctures

9.1. Image-Guided Percutaneous Biopsy. FNA
9.2. Renal Biopsy
9.3. Hepatic biopsy
9.4. Pulmonary Biopsy
9.5. CT- guided Biopsy

Module 10. Puncture Drainage

10.1. Biliary Drainage
10.2. Drainage of Abscesses. Approaches and Technique
10.3. Percutaneous Gastrostomy and Gastrojejunostomy
10.4. Percutaneous Cholecystostomy

Module 11. Other Aspects of Interest in Interventional Radiology.

11.1. Extraction of Foreign Bodies
11.2. Multimodality Fusion
11.3. Nonoparticles. Future of Interventional Radiology

Module 12. Management and Organization in Image-Guided Therapy

12.1. Informed Consent in Interventional Radiology
12.2. The Outpatient Clinic and the Interventional Radiology Department
12.3. Anaesthesia in Interventional Radiology:
  12.3.1. Local Anesthetic
  12.3.2. Sedation and Analgesia
  12.3.3. Nerve Blocker
12.4. Medical Management Protocols in General and Interventional Radiology
12.5. Medication Used in Neurointerventionism
12.6. Medication Used in Vascular and Non-Vascular Interventionism
12.7. Management in Interventional Radiology: RVUs, DRGs, Indicators
12.8. Intervention Rooms

A unique, key, and decisive Training experience to boost your professional development"

04

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.

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:

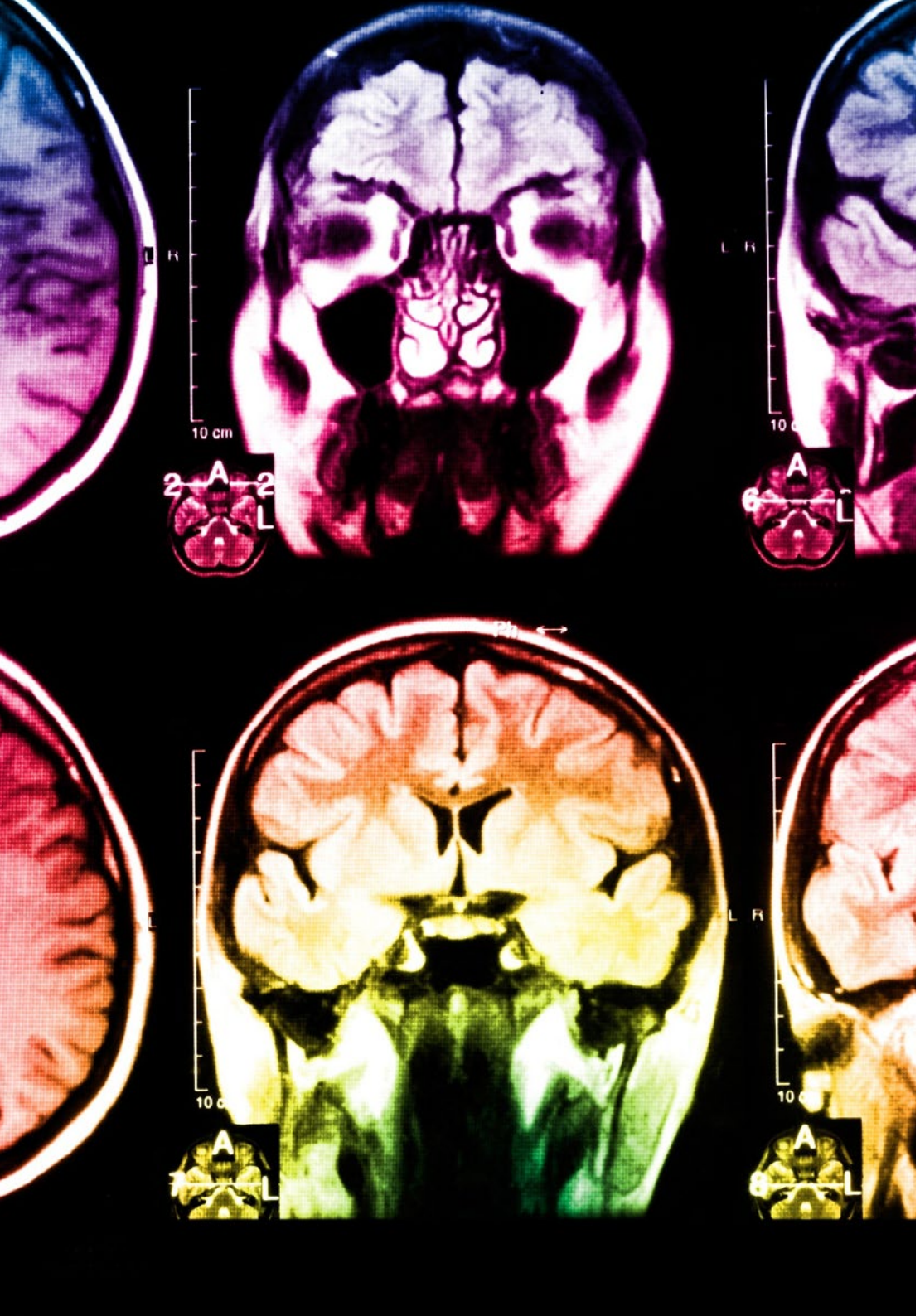
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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 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.

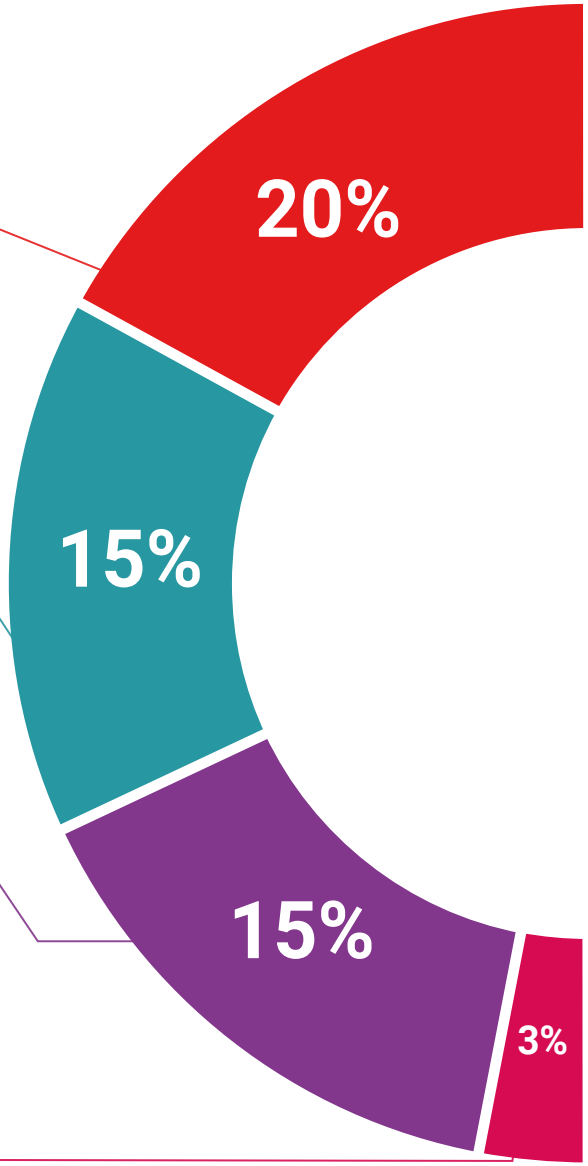
Interactive Summaries

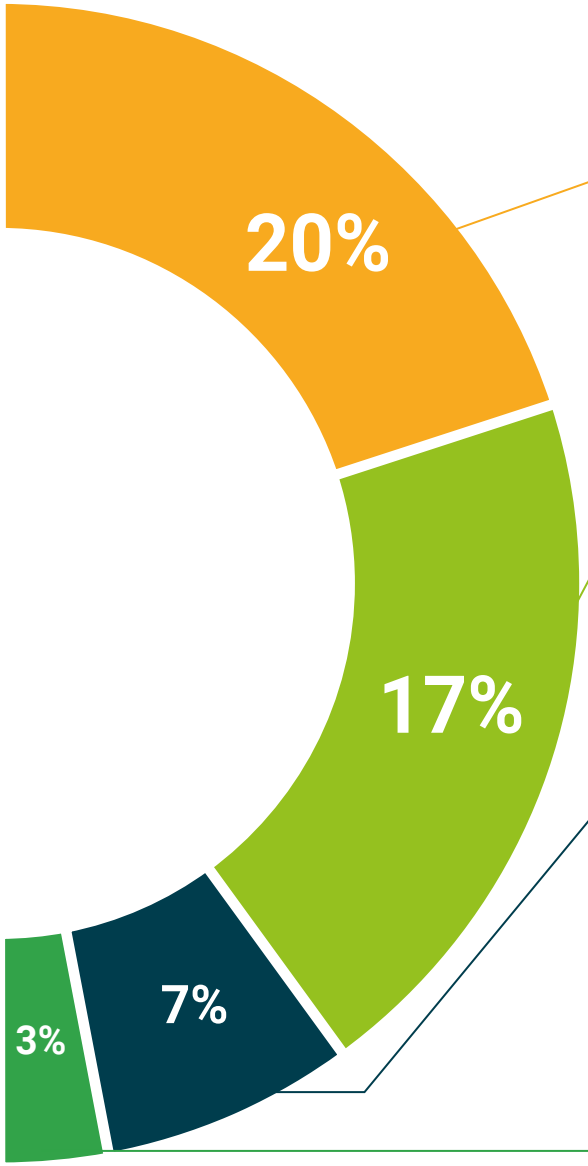
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive 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 on the usefulness of learning by observing experts. The system known as 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.

05

Certificate

The **Postgraduate Certificate in Management and Organization in Image-Guided Therapy** guarantees, in addition to the most rigorous and updated specialization, access to a Postgraduate Certificate issued by **TECH Technological University.**

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

This **Postgraduate Certificate in Management and Organization in Image-Guided Therapy** contains the most complete and up-to-date scientific 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 career evaluation committees

Title: **Postgraduate Certificate in Management and Organization in Image-Guided Therapy**

Official Nº of hours: **600 h.**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Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Management and Organization in Image-Guided Therapy

This is a qualification awarded by this University, equivalent to 600 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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