Postgraduate Certificate
Functional Neurosurgery

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Postgraduate Certificate
Functional Neurosurgery

Course Modality: **Online**
Duration: **6 weeks**
Certificate: **TECH Technological University**
6 ECTS Credits
Teaching Hours: **150 hours.**
Website: www.techtitute.com/medicine/postgraduate-certificate/postgraduate-certificate-functional-neurosurgery

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01

Introduction

Functional Neurosurgery is the branch of Neurosurgery that aims to treat a psychological or physiological alteration by means of a surgical lesion or chronic excitation of a part of the central or peripheral nervous system, and characteristically requires a multidisciplinary approach in which other specialties such as Neurology, Neurophysiology or Psychiatry also participate.

A comprehensive program that will help you keep up to date with the latest techniques in Neurosurgery"

The Postgraduate Certificate in Functional Neurosurgery is an updated compilation of the pathologies that are subject to study and treatment by Neurosurgery. The application of diagnostic and therapeutic algorithms enhances student learning and synthesizes the flow of information to facilitate its practical application in the student's environment.

In epilepsy surgery, this interaction between specialties takes on special relevance in the preoperative study of patients with epilepsy, which determines from various approaches both whether the patient is a candidate for surgery and the precise origin of the epileptic seizures, in order to minimize neurological deficits and maximize the success of the intervention. There is a wide variety of surgical treatments in epilepsy surgery, a variety that is expanding with the emergence of novel therapies already applied in other branches of neurosurgery. Epilepsy of temporal origin presents specific characteristics in terms of prognosis and surgical techniques that differentiate it from extratemporal epilepsy and justify a different didactic approach.

The application of intracranial localization systems has been decisive in understanding the evolution in the indications for surgery of movement disorders, especially in patients with Parkinson's disease, essential tremor and dystonia, which are the main pathologies that can benefit from surgical treatment; however, in recent years the success and accumulated experience has led to surgical treatment being extended to other more infrequent pathologies (Huntington's disease, Gilles de la Tourette's disease) but in which a significant benefit is being demonstrated with surgery. Deep brain stimulation is currently the most widely used surgical treatment and is constantly evolving with the appearance of new targets and neurostimulation systems that combine the possibility of performing more specific and even autonomous stimulation, always with the aim of improving results and reducing side effects. Very recently, the possibility of applying neuroablative lesions, which initially constituted the treatment of movement disorders, has been revived, and with the emergence of sophisticated ultrasound lesioning systems, a renewed interest in this type of procedure has arisen.

Surgical treatment of psychiatric pathology was relegated by the appearance of neuroleptic drugs. However, the experience accumulated in the treatment of movement disorders and its subsequent successful application in certain psychiatric diseases has led to a resurgence of psychosurgery, based on a better understanding of the brain circuits involved in psychiatric diseases, as well as on the mechanisms of deep brain stimulation and its advantages in the treatment of these pathologies.

This **Postgraduate Certificate in Functional Neurosurgery** is the most comprehensive and up-to-date educational program on the market. The most important features include:

- The development of case studies presented by experts in international cooperation of the peoples of the world.
- 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.
- Latest developments in Functional Neurosurgery
- Practical exercises where the self-assessment process can be carried out to improve learning
- Emphasis on innovative methodologies in International Cooperation
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work.
- Content that is accessible from any fixed or portable device with an Internet connection.

Expand your knowledge through this Postgraduate Certificate that will allow you to specialize with a view to achieving excellence in this field"

This Postgraduate Certificate is the best investment you can make when selecting a refresher program for two reasons: in addition to updating your knowledge of Neurosurgery, you will obtain a qualification endorsed by TECH"

The teaching staff includes professionals from the Neurosurgery sector, who bring their experience to this specialization 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 an immersive training experience designed to train for real-life situations.

The design of this program is centered around Problem-Based Learning, in which the medical professional will resolve professional practice situations that may arise throughout the program. For this purpose, the specialist will be assisted by an innovative interactive video system that was created by renowned experts in Functional Neurosurgery, and experienced experts in neurosurgery with extensive experience.

Do not hesitate to take this training with us. You will find the best teaching material with virtual lessons.

This Postgraduate Certificate100% online course will allow you to combine your studies with your professional work while increasing your knowledge in this field.

02

Objectives

The Postgraduate Certificate in Functional Neurosurgery is aimed at facilitating the professional's performance with the latest advances and most innovative treatments in the sector.

Thanks to this Postgraduate Certificate you will be able to specialize in Neurosurgery and learn about the latest advances in the field"

General Objectives

- Acquire more in-depth knowledge of the speciality, with a practical approach to help professionals apply the information learned in their clinical practice, focusing on the latest diagnostic and therapeutic guidelines and the most recent scientific evidence.
- Learn the latest surgical techniques that have been implemented in recent years along with the knowledge of technological development in multiple areas of Neurosurgery

Take the opportunity and take the step to get up-to-date on the latest developments in Functional Neurosurgery"

Specific Objectives

- Manage the need for a multidisciplinary approach to epilepsy surgery to achieve excellent results in terms of seizure control and absence of neurological sequelae.
- Learn the main epilepsy conditions that can benefit from surgical treatment and the procedures commonly used in surgical practice.
- Provide the basis for understanding the mechanisms of deep brain stimulation and neuroablative interventions and their indication in the treatment of movement disorders. An important objective of this module is to understand the ongoing evolution of these therapies and to anticipate the direction in which the next advances in this field will be heading.
- Highlight the role of neurosurgical therapies in the treatment of psychiatric illnesses, understanding how advances in other branches of Neurosurgery have been transferred to psychosurgery.
- Specialize in the treatments available in neurosurgery that can be used in the treatment of drug-resistant chronic pain, distinguishing the differences in characteristics and prognosis between neuropathic and nociceptive pain

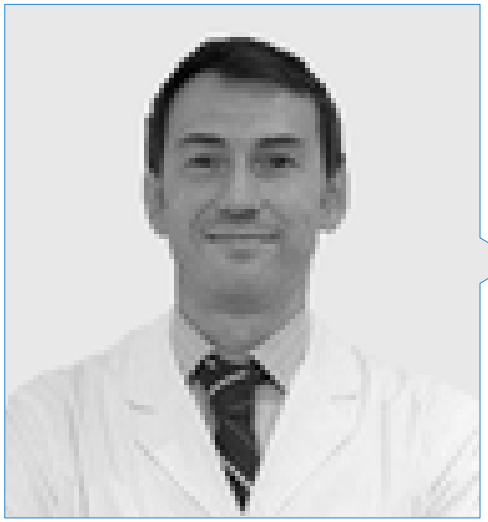
03

Course Management

The program's teaching staff includes leading experts in Neurosurgery, who contribute their vast work experience to this specialization program. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.

Leading experts in Neurosurgery have joined forces to share all their knowledge in the field with you"

Management



Dr. Fernández Carballal, Carlos

- Head of the Spinal Pathology Section. Neurosurgery Service
- Gregorio Marañón General University Hospital
- Associate Neurosurgery Professor. Faculty of Medicine. Complutense University of Madrid
- PhD in Surgery from the Autonomous University of Madrid Faculty of Medicine, obtaining the qualification of outstanding cum laude.
- Member of the Spanish Society of Neurosurgery, Member of the Neurorachis Society, Member of the Spanish Society of Functional Neurosurgery (SENFE)
- Master's Degree in Medical and Clinical Management from the Spanish Distance University (UNED).
- Degree in Medicine (University of Navarra, 1999)

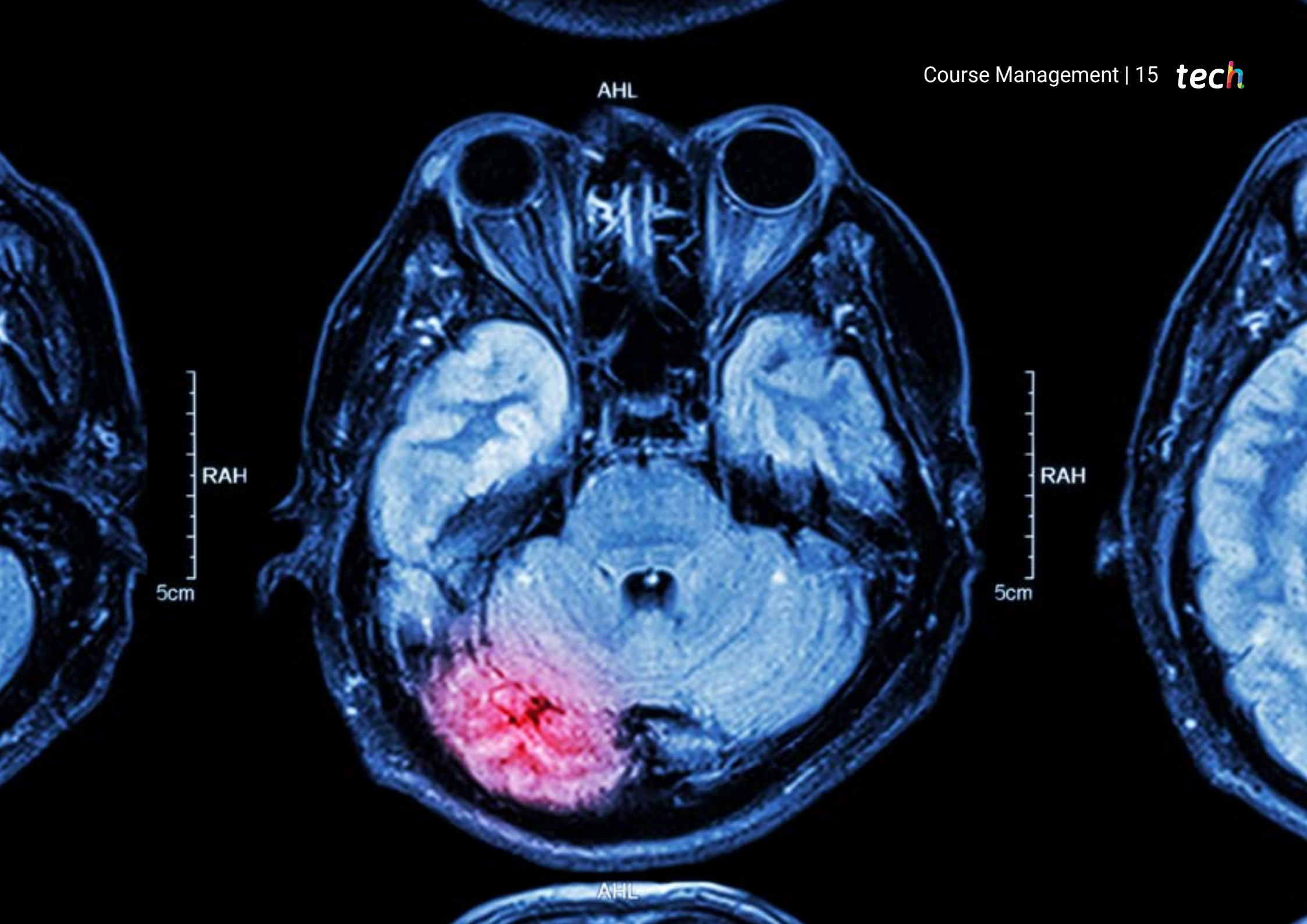
Professors

Dr. González Quarante, Laín Hermes

- Neurosurgery Department. Navarra University Clinic
- Resident tutor in the Neurosurgery Department. Navarra University Clinic
- Degree in Medicine. University of Barcelona

Dr. Casitas Hernando, Vicente

- Neurosurgery Department. Gregorio Marañón General University Hospital, Madrid
- Specialization Diploma in Cerebral, Medullary and Peripheral Nerve Neuromodulation. University of Granada


AHL
RAH
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RAH
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AHL

04

Structure and Content

The structure of the content has been designed by the best professionals in the Neurosurgery sector, with extensive experience and recognized prestige in the profession, backed by the volume of cases reviewed, studied, and diagnosed, and with extensive knowledge of new technologies applied to teaching.

This Postgraduate Certificate in Functional Neurosurgery is the most comprehensive and up-to-date scientific program on the market"

Module 1. Functional Neurosurgery

1.1. Surgical Indications in Epileptic Patients
  1.1.1. Pre-Surgery Evaluation
1.2. Surgical Treatments in Epilepsy Surgery
  1.2.1. Resective Treatments
  1.2.2. Palliative Treatment
1.3. Temporal Epilepsy: Surgical Treatment and Prognosis
1.4. Extratemporal Epilepsy: Surgical Treatment and Prognosis
1.5. Indication for Movement Disorder Surgery
1.6. Deep Brain Stimulation
  1.6.1. Surgical Technique
1.7. Historical Progression of Injury in Movement Disorder Surgery
  1.7.1. Ultrasound Lesion Application
1.8. Psychosurgery. Indications for Surgical Treatment in Psychiatric Patients
1.9. Neurosurgical Procedures in the Treatment of Pain and Spasticity
1.10. Trigeminal Neuralgia
  1.10.1. Percutaneous Techniques
  1.10.2. Microvascular Decompression

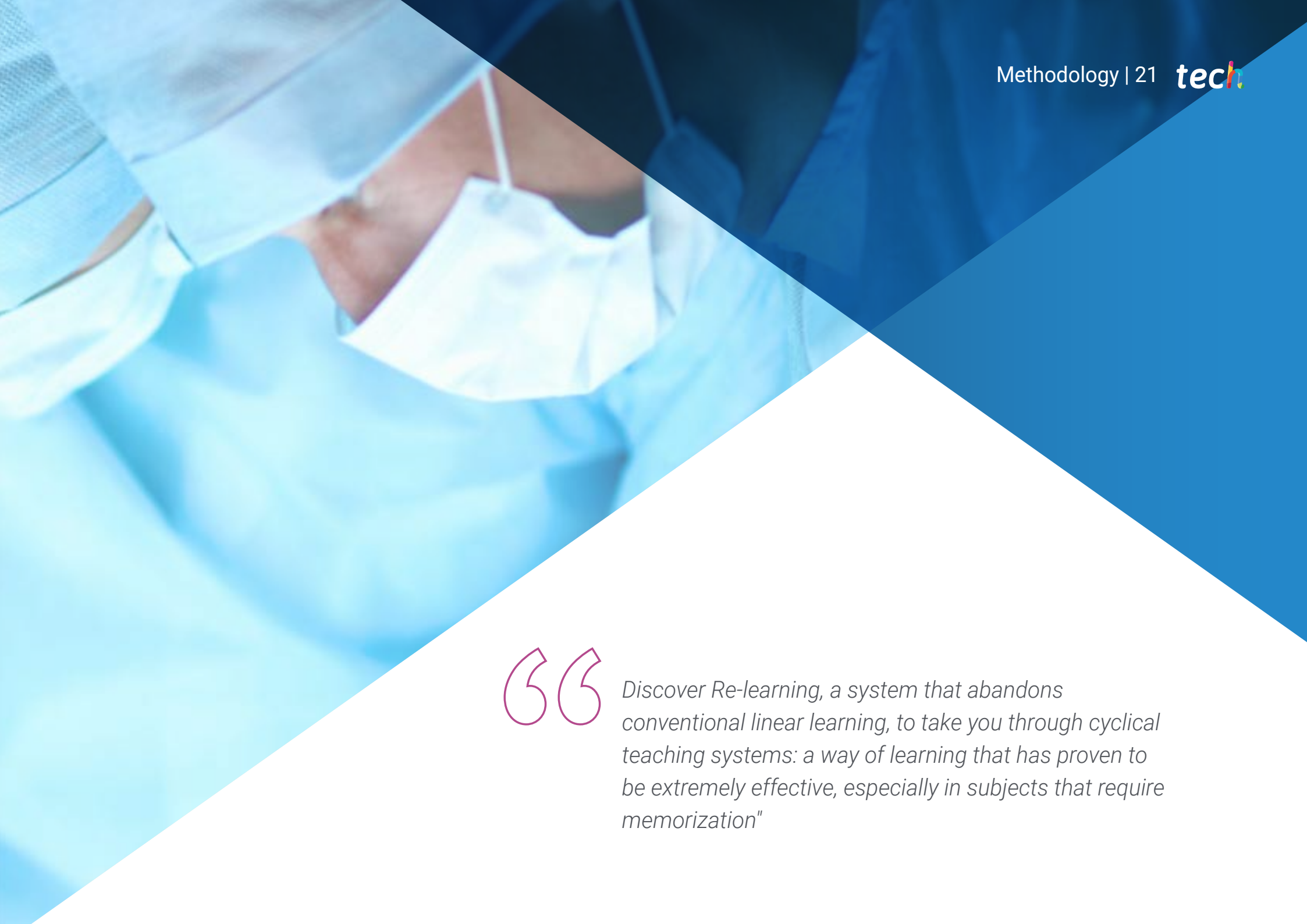
A unique, key, and decisive training experience to boost your professional development"

05

Methodology

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

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 Re-learning, 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 abundant 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:

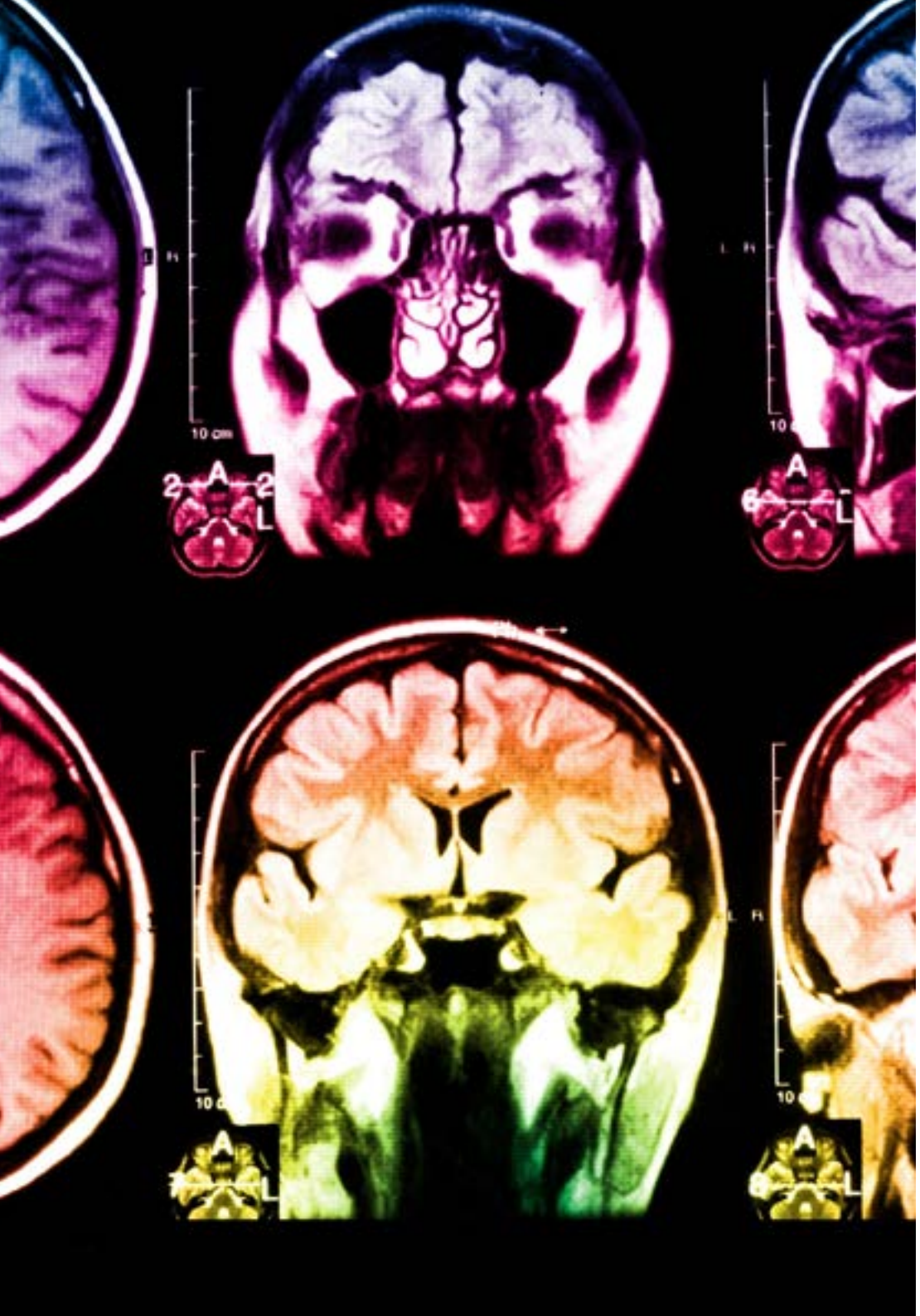
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better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

Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking 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 high socioeconomic profile and an average age of 43.5 years old.

Re-learning 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.

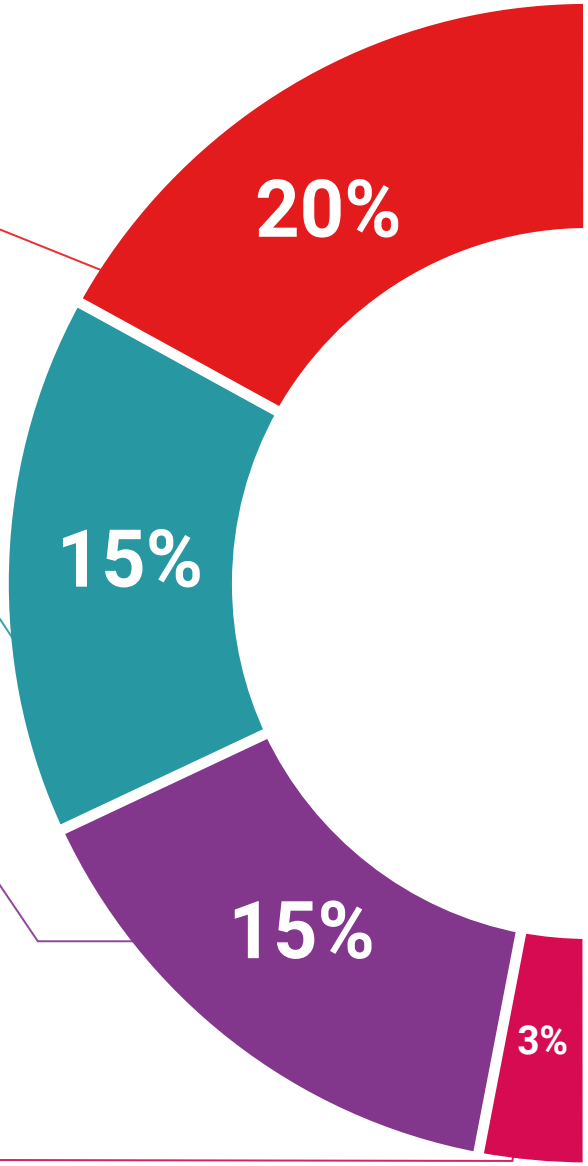
Interactive Summaries

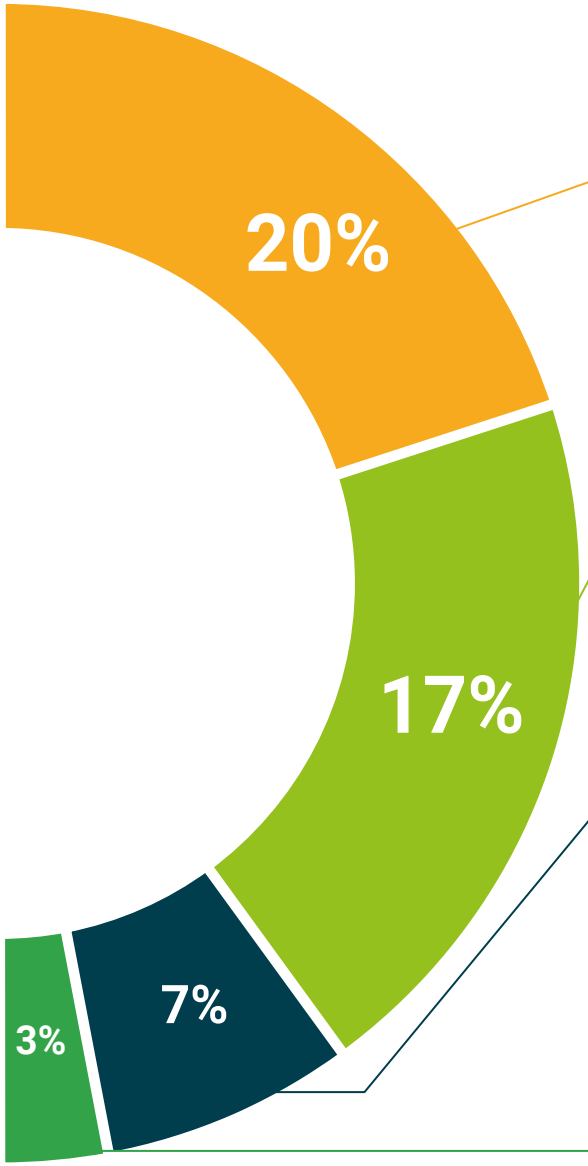
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 & Re-testing

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 Functional Neurosurgery guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Functional Neurosurgery** contains the most comprehensive and up-to-date scientific program on the market.

After passing the evaluation, the student will receive acknowledgement their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery.

This diploma contributes to the academic development of the professional and adds a high university curricular value to their training. It is 100% valid in all competitive examinations, labour exchanges and professional career evaluation committees.

Title: **Postgraduate Certificate in Functional Neurosurgery**

ECTS: **6**

Official Nº of Hours: **150 hours.**


tech technological university

Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Functional Neurosurgery

This is a qualification awarded by this University, with 6 ECTS credits and 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 diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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