

# Postgraduate Certificate Neurosciences





## Postgraduate Certificate Neurosciences

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techitute.com/us/medicine/postgraduate-certificate/neurosciences](http://www.techitute.com/us/medicine/postgraduate-certificate/neurosciences)

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# 01

# Introduction

Neurosciences have become in recent years a reference for the development of different branches of , applied knowledge, whether in clinical practice, education, linguistics or marketing, but also in others as new as economics, leadership or politics, and all this thanks to the progress of Neuroimaging techniques, which surpass the already rudimentary anatomical studies of a few years ago.





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*This training helps professionals in this field to increase their ability to succeed, which results in better practice and performance that will have a direct social benefit for the whole community"*

This program offers a broad and complete vision of the complex world of Neurosciences from an applied perspective. Starting from biological bases and neuro-imaging techniques, the different practical approaches are collected, so that any interested professional will know, first of all, what Neurosciences are, how to interpret them and, above all, how to apply them to their job..

This is an advance over the eminently biological programs, centered on the neural bases and genetics of the brain, or the exclusively clinical programs, which focus on the problems associated with pathologies affecting the brain and neurodegenerative diseases.

This vision allows a better understanding of the functioning of the brain from different fields, so that the professional can have different options for its application in his job according to his interest.

This Postgraduate Certificate addresses the new branches of neuroscience that are currently under development, both theoretical and applied, so that there are still no specific training programs in this regard, beyond the practice of individual professionals and the discoveries that are made in isolation from research laboratories.

That is why this program has become a reference for such new topics as Neuromarketing or Neuroeducation, while introducing the new branches that will be demanded by different sectors in a few years, such as Neuroeconomics or Neuroleadership.

Students of the Postgraduate Certificate will have access to the latest advances in Neurosciences at a theoretical level, in addition to learning how to apply it in their present or future profession, therefore offering a qualitative advantage over other professionals in the sector.

It also facilitates the incorporation of professionals into the labor market or helping them to get a promotion in their current job in the field.

This **Postgraduate Certificate in Neurosciences** contains the most complete and up-to-date scientific program on the market. It's most outstanding features are:

- ◆ Practical cases presented by experts in Neurosciences
- ◆ The graphic, schematic and practical contents of the course are designed to provide all the essential information required for professional practice
- ◆ The Latest Developments in Neurosciences
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies in Neurosciences
- ◆ 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



*Update your knowledge through the Neurosciences Postgraduate Certificate program"*



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

*Increase your confidence in decision making by updating your knowledge through this program.*

*You will be able to complete the Postgraduate Certificate 100% online, adapting it to your needs and making it easier for you to study while you carry out your full-time care activity.*

The teaching staff includes professionals from the field of Neurosciences, who bring their experience to this training program, as well as renowned specialists from leading scientific societies.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will deliver an immersive learning experience, 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 throughout the program. For this purpose, the specialist will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Neurosciences.



02

# Objectives

The Neurosciences program is oriented to facilitate the work of the professional, based on the latest trends and scientific evidence, to ensure quality and safety in their daily work.



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*This program will provide you with a sense of confidence in your professional practice, which will help you grow both personally and professionally”*



## General Objective

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- ◆ Update knowledge on Neurosciences in their different fields of application, whether from the clinical, educational or social area, in order to increase the quality of the professional's praxis in their performance
- ◆ To introduce students to the vast world of neurosciences from a practical perspective, so that they learn about the different disciplines involved in the study of the brain in relation to human behavior and its possibilities
- ◆ Learn the tools used in Neuroscience research and practice
- ◆ Enable the development of skills and abilities by encouraging continuous training and research

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*Take the step to get up to date on the latest developments in Urologic Oncology”*





## Specific Objectives

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- ◆ Understand the types of neurons
- ◆ Identify brain hemispheres and lobes
- ◆ Differentiate between localizationism and brain functionalism
- ◆ Discover the undifferentiated neurons
- ◆ Learn programmed neural death
- ◆ Recognise interneuronal electrical communication
- ◆ Determine the role of myelin in neurons
- ◆ Understanding interneuronal chemical communication
- ◆ Learn the peculiarities of the human brain
- ◆ Unravel the left brain
- ◆ Explore the white matter
- ◆ Recognize gender differences at the neural level
- ◆ Classify hemispheric functions
- ◆ Discover the new localizationism
- ◆ Understand invasive techniques
- ◆ Recognize non-invasive techniques

03

# Course Management

The university has professionals specialized in each area of knowledge, who pour into our training the experience of their work. A multidisciplinary team with recognized prestige that has come together to offer you all their knowledge in this field.



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*Our teaching team, experts in  
Neurosciences, will help you  
achieve success in your profession”*

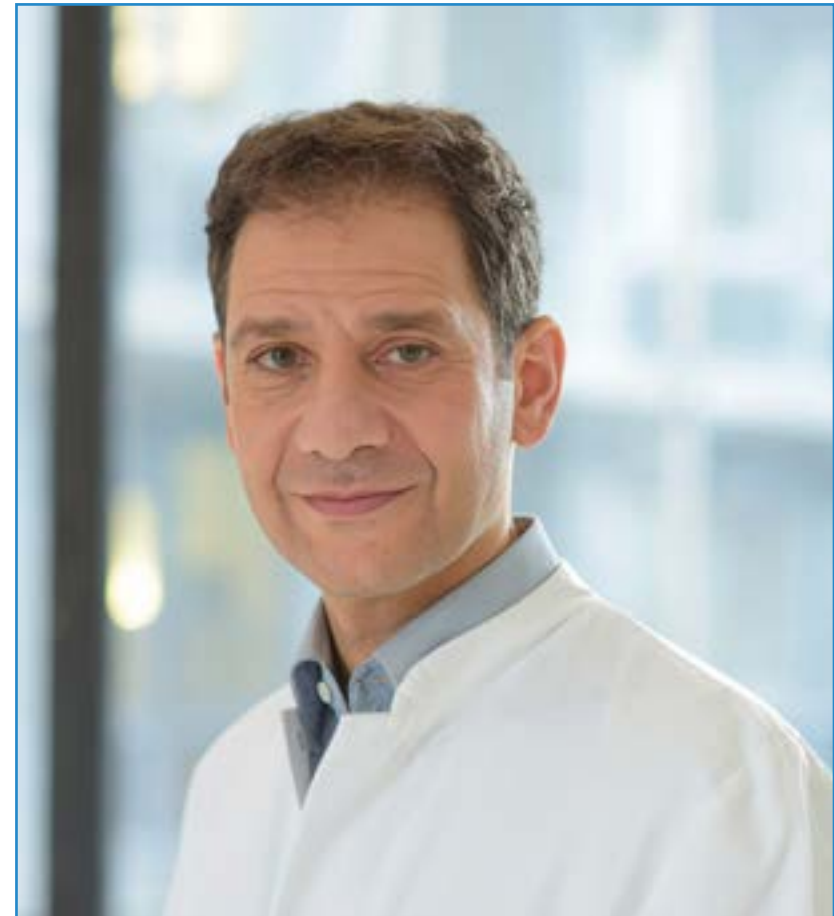
## Direttore Ospite Internazionale

Dr. Malek Bajbouj is a Psychiatrist and Neuroscientist, specialized in the areas of Global Health, Mental Health and Affective Sciences. He also has experience as a Sleep Physician and Social, Affective and Cognitive Neuroscientist. Together with an interdisciplinary team, his work has focused on research on stress, affect and emotions. In particular, to carry out these studies, some of his main work has focused on cell culture, imaging and brain stimulation, as well as humanitarian aid.

Most of his professional experience has been as Medical Director and Head of the Center for Affective Neuroscience at the Charité Universitätsmedizin Berlin. In addition, his main research focus in the field of Global Mental Health has been the development of tailored, low-threshold preventive and therapeutic interventions against stress and trauma-related disorders. To this end, he has made use of digital tools and clinical trials, conducting interventions focused on reverse-innovation electrophysiological and neuroimaging approaches to improve patient phenotyping.

Likewise, Dr. Malek Bajbouj's firm commitment to Mental Health worldwide has led him to develop a large part of his professional activity in countries in the Middle East, Far East and Ukraine. In this sense, he has participated in various international conferences such as the Ukrainian-German Conference on Mental Health, Psychosocial Support and Rehabilitation. He has also written more than 175 book chapters and has an extensive list of scientific publications in which he has investigated topics such as Emotional Neuroscience, Affective Disorders and Global Mental Health.

In fact, his contributions in Psychiatry and Neuroscience have been awarded several times. One of them was in 2014, when she was awarded the Else Kröner-Fresenius Prize, recognizing her outstanding scientific research. And it is that his tireless work to strengthen the mental health of people around the world has positioned him as one of the best professionals in his field.



## Dr. Bajbouj, Malek

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- Medical Director of the Center for Affective Neuroscience at Charité
- Universitätsmedizin, Berlin, Germany.
- Visiting Research Fellow at the Department of Psychiatry, Columbia University and the New York State Psychiatric Institute, New York, New York, USA
- Physician and Assistant Researcher at the Free University of Berlin
- Specialist in Sleep Medicine
- Specialist in Psychiatry and Psychotherapy
- Master of Business Administration from Steinbeis-Hochschule University
- Graduate in Medicine from the Johannes Gutenberg University
- Member of:
  - Research Group Languages of Emotion at the Freie Universität Berlin

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Thanks to TECH, you will be able to learn with the best professionals in the world”

## Management



### Dr. De la Serna, Juan Moisés

- ◆ Psychologist and Writer expert in Neurosciences
- ◆ Writer specializing in Psychology and Neurosciences
- ◆ Author of the Open Chair in Psychology and Neurosciences
- ◆ Scientific disseminator
- ◆ PhD in Psychology
- ◆ Degree in Psychology. University of Seville
- ◆ Master's Degree in Neurosciences and Behavioral Biology Pablo de Olavide University, Seville
- ◆ Expert in Teaching Methodology. La Salle University
- ◆ University Specialist in Clinical Hypnosis, Hypnotherapy. National University of Distance Education - UNED.
- ◆ Diploma in Social Graduate, Human Resources Management, Personnel Administration. University of Seville
- ◆ Expert in Project Management, Administration and Business Management. Federation of Services U.G.T
- ◆ Trainer of Trainers. Official College of Psychologists of Andalusia



### **Ms. Jiménez Romero, Yolanda**

- ◆ Pedagogical advisor and external educational collaborator
- ◆ Academic Coordinator Online University Campus
- ◆ Territorial Director of the Extremeño-Castilla La Mancha Institute of High Abilities
- ◆ Creation of Educational Contents INTEF. Ministry of Education and Science
- ◆ Degree in Primary Education, English specialization
- ◆ Psychopedagogy. International University of Valencia
- ◆ Master's Degree in Neuropsychology of High Abilities
- ◆ Master's Degree in Emotional Intelligence. Specialist in NPL.

# 04

# Structure and Content

The structure of the syllabus has been designed by a team of professionals knowledgeable about the implications of training in medicine for their performance in the educational center and in the community, aware of the current relevance of the specialization and committed to quality teaching through new educational technologies.



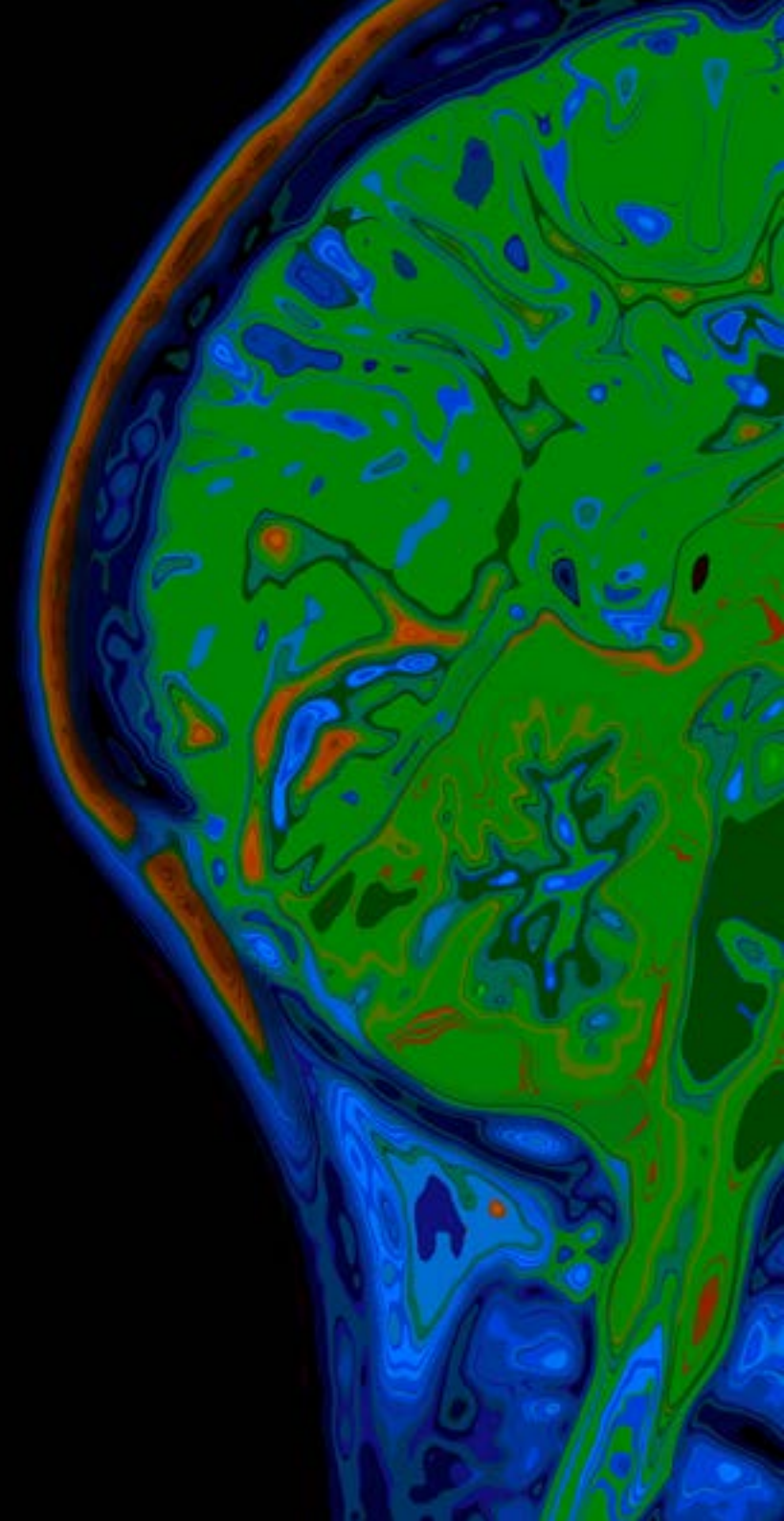


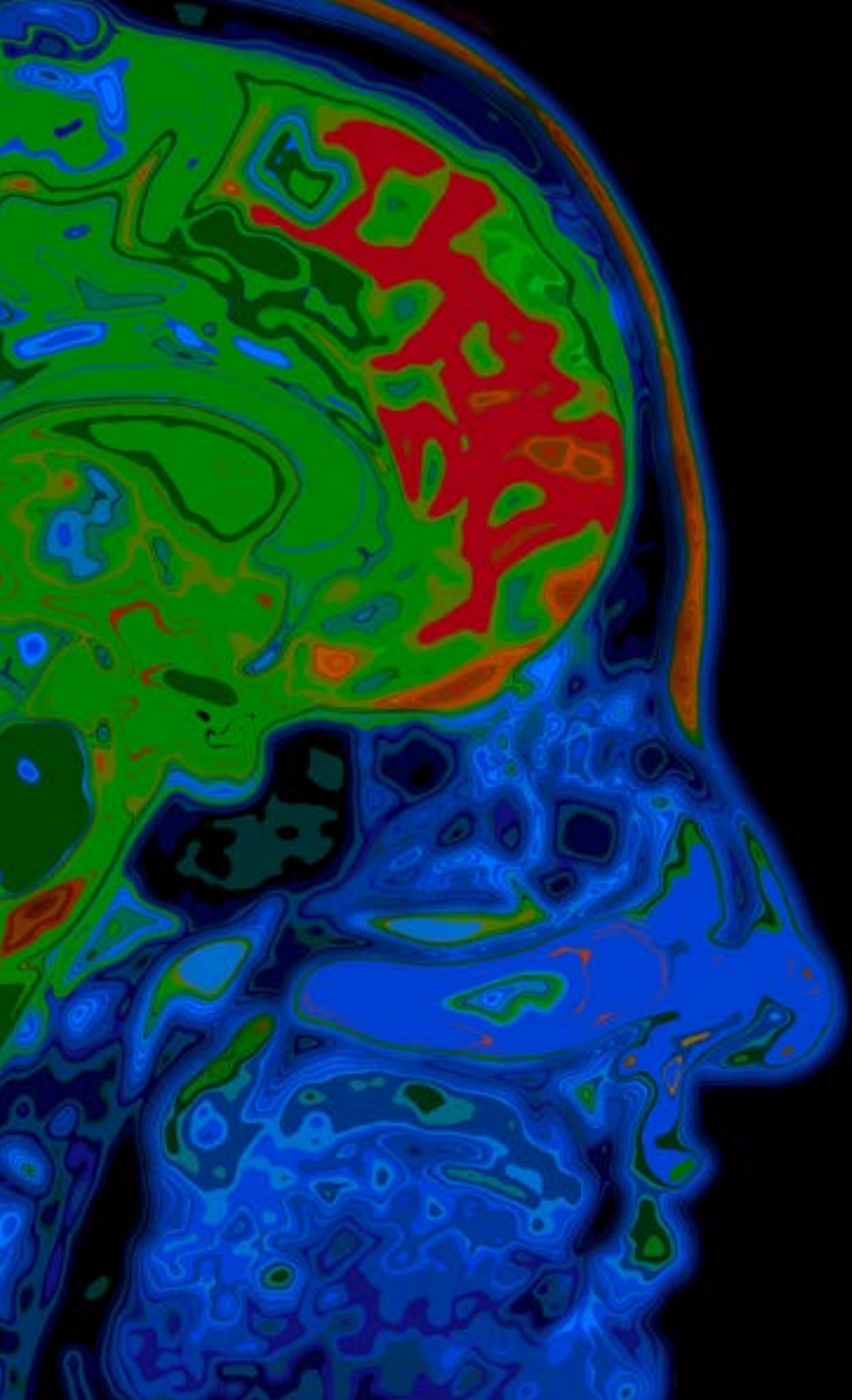
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*This Postgraduate Certificate in Neurosciences contains the most complete and up-to-date scientific program on the market”*

## Module 1. Principles of Neurosciences

- 1.1. The Nervous System and Neurons
  - 1.1.1. The Formation of the Nervous System
  - 1.1.2. Types of Neurons
- 1.2. Neurobiological Principles of the Brain
  - 1.2.1. Brain Hemispheres and Lobes
  - 1.2.2. Localizationism vs Brain Functionalism
- 1.3. Genetics and Neurodevelopment
  - 1.3.1. Undifferentiated Neurons
  - 1.3.2. Programmed Neuronal Death
- 1.4. Myelination
  - 1.4.1. Electrical Interneuronal Communication
  - 1.4.2. Role of Myelin in Neurons
- 1.5. Brain Neurochemistry
  - 1.5.1. Interneuronal Chemical Communication
  - 1.5.2. Neurohormones and Their Functions
- 1.6. Plasticity and Brain Development
  - 1.6.1. Age vs. Neuronal Plasticity
  - 1.6.2. Neurodevelopment
- 1.7. Hemispheric Differences
  - 1.7.1. Right Brain
  - 1.7.2. Left Brain
- 1.8. Interhemispheric Connectivity
  - 1.8.1. White Matter
  - 1.8.2. Differences Between Genders
- 1.9. Localizationism vs Functionalism
  - 1.9.1. Hemispheric Functions
  - 1.9.2. New Localizationism
- 1.10. Invasive vs. Invasive Brain Study Techniques. Non-invasive
  - 1.10.1. Invasive Techniques
  - 1.10.2. Non-Invasive Techniques





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*A unique, key, and decisive  
educational experience to boost  
your professional development”*

05

# Methodology

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

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



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

## At TECH 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.

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

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

1. 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.

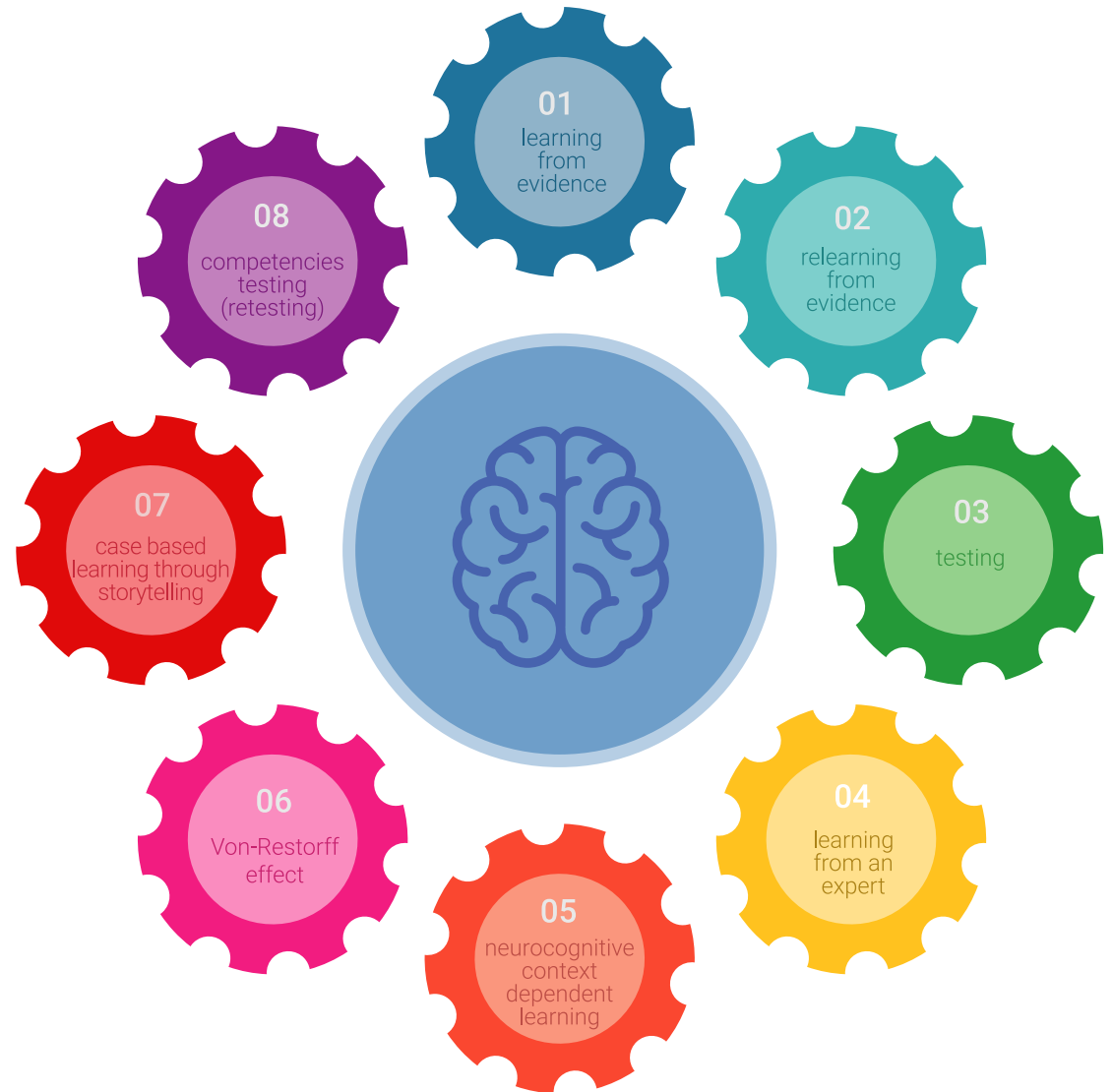


## Relearning Methodology

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.

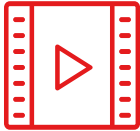
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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

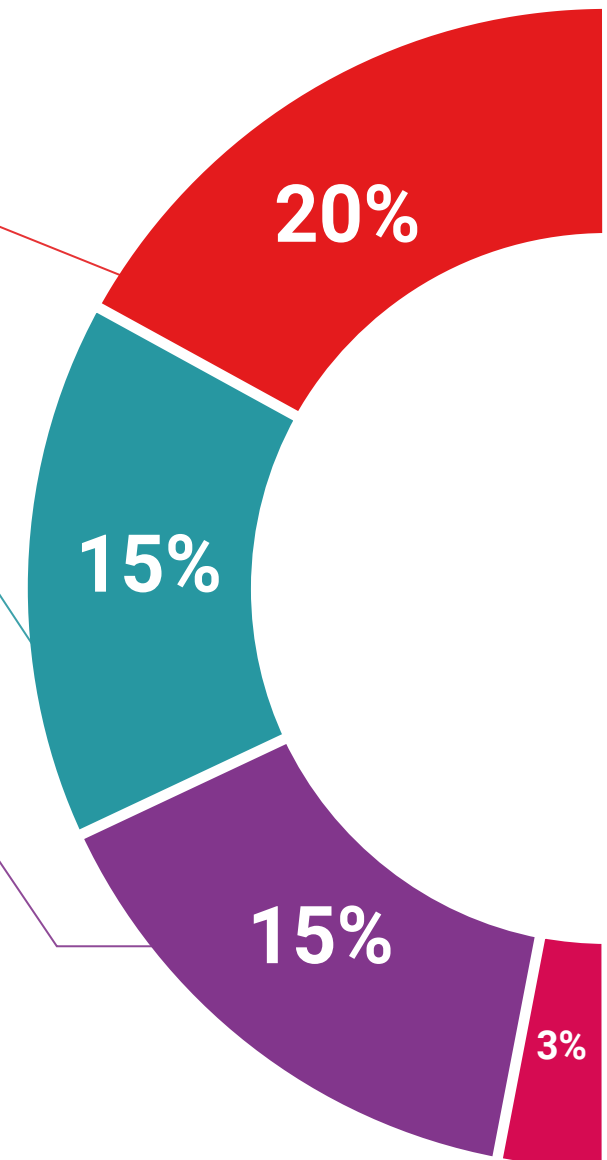
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

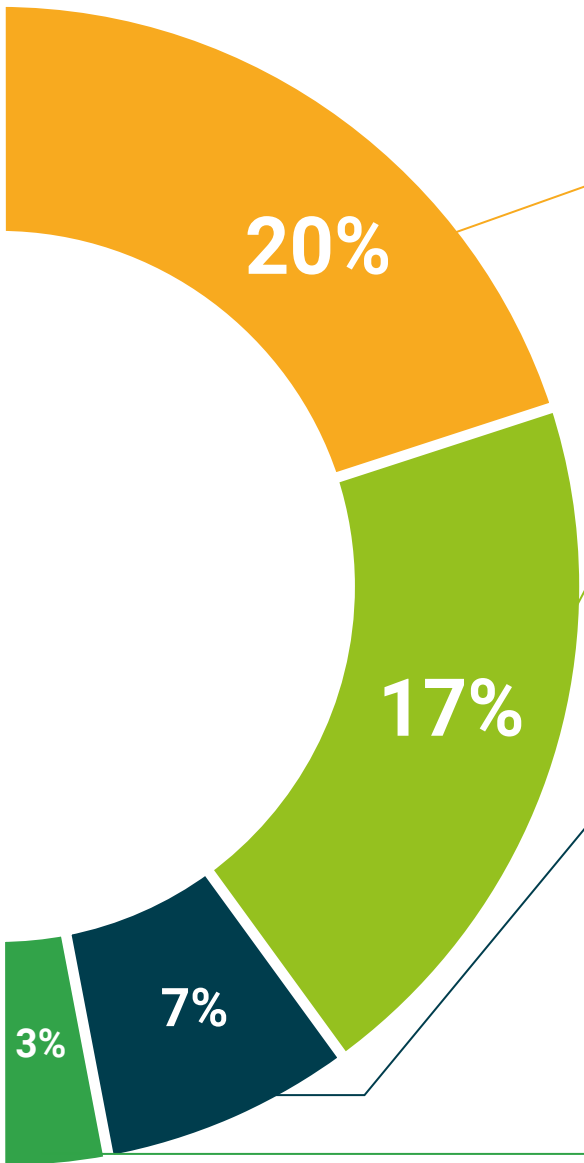
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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.



06

# Certificate

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





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

The Postgraduate Certificate in **Postgraduate Certificate in Neurosciences** guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by **TECH Global 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 Certificate in Neurosciences**

Modality: **online**

Accreditation: **6 ECTS**



\*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.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online training

development languages

virtual classroom



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