





# Hybrid Professional Master's Degree

# Neurosciences

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

We bsite: www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-masters-degree-neurosciences

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# tech 06 | Introduction

Neurosciences have made significant contributions to modern medicine in recent years. As a result, the health sector has innovated in the development of more efficient diagnostic methods, based on equipment capable of reading brain activity or measuring sleep quality through eye movement, such as Electrooculograms. At the same time, both invasive and non-invasive techniques have emerged, recently implemented and effective, to stimulate areas of the brain and correct abnormal impulses within the proper neuronal processing. Mastery of all these advancements has become a challenge for specialists since existing academic programs do not comprehensively cover them and, as a rule, they have an excessively high theoretical load.

TECH, determined to stand out in this context, has developed a Hybrid Professional Master's Degree that overcomes all these deficiencies. To do this, it has combined the latest discoveries in this discipline along with its main practical applications as complex therapeutic methods in a single educational modality. This way, the program is divided into two well-differentiated stages. The first one includes 1.500 hours of theory in a 100% online and interactive learning platform. From there, the medical professional will be able to access a curriculum created by distinguished experts in the field of Neuroscience and, under their personalized guidance, quickly and flexibly absorb concepts.

Following that, during a 3-week practical and in-person stay, the professional will develop various skills related to mastering the previous phase. Intensively and immersively, it will provide diagnosis and treatment for various real cases under the close supervision of a highly experienced associate tutor. This clinical internship will take place in a highly reputable hospital institution equipped with the best therapeutic tools for this health field. In addition, each student will have the opportunity to choose a facility that suits their geographical location since TECH has partnered with the inclusion of institutions from different regions in this educational process.

This **Hybrid Professional Master's Degree's in Neurosciences** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of more than 100 clinical cases presented by professionals in Neuroscience with a broad expertise in various brain pathologies
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Comprehensive systematized action plans in response to the main pathologies investigated by Neuroscience
- Presentation of practical workshops on procedures diagnosis, and treatment techniques
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- Practical clinical guides on approaching different pathologies
- All this will be complemented by 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
- Furthermore, you will be able to carry out a clinical internship in one of the best hospital centers



Throughout 1.620 educational hours, you will get the best preparation from the practical and theoretical point of view regarding the best innovations in the field of Neurosciences"

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You will delve into the application methods of intraspinal and intracerebroventricular drugs under the guidance and supervision of top neuroscientists"

In this Hybrid Professional Master's Degree proposal, of a professionalizing nature and hybrid learning modality, the program is aimed at updating professionals dedicated to Neurosciences. The contents are based on the latest scientific evidence, and is didactically oriented to integrate theoretical knowledge in this medical discipline. The theoretical-practical elements will facilitate knowledge update and enable decision-making in patient management.

Thanks to its multimedia content created with the latest educational technology, it will enable Health professional to achieve situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train for real-life situations. This program is designed around Problem-Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

For 3 weeks, the clinical internship included in this qualification will grant you access to a hospital institution where you will apply techniques and operate modern instruments of Neurosciences in a hands-on and immersive manner.







# tech 10 | Why Study this Hybrid Professional Master's Degree?

## 1. Updating from the Latest Technology Available

TECH's Hybrid Professional Master's Degree in Neurosciences offers a unique opportunity to approach the latest technologies for diagnosing abnormal brain impulses or treating neuronal-originated pathologies. During the theoretical and practical phases of the program, the specialist will be up to date with the criteria for the application of these tools and their proper handling, respectively.

## 2. Gaining In-depth Knowledge from the Experience of Top Specialists

During this program, TECH's students will be accompanied by a team of experienced professionals with extensive backgrounds. With their assistance, they will develop complex theoretical knowledge and discuss clinical cases presented for illustration. Additionally, during the in-person practical sessions, they will have an assigned tutor to enhance their skills and provide them with personalized guidance.

## 3. Entering First-Class Clinical Environments

TECH carefully selects all the centers available for the professional internship that is integrated to this Hybrid Professiona Master's Degree. In this way, physicians will be able to access the most competitive and demanding work environments in the healthcare market. In these spaces, they will find the best experts and the most up-to-date technologies.





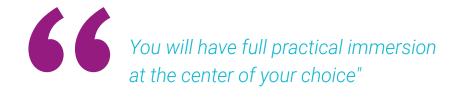
# Why Study this Hybrid Professional | 11 **tech** Master's Degree?

## 4. Combining the Best Theory with State-of-the-Art Practice

In an educational market saturated with excessive academic burdens, TECH stands out with an innovative offering. This way, specialists can access excellent theoretical pedagogical preparation complemented by an intensive and exhaustive 3-week inperson practice at a center or clinic dedicated to the study of Neurosciences.

## 5. Expanding the Boundaries of Knowledge

The professional internships of this Hybrid Professional Master's Degree will allow students to access renowned medical centers, located in different latitudes. In this way, each of them will be able to expand their horizons based on international standards. This opportunity is unique in its kind and is possible thanks to the network of contacts and collaborators within TECH's reach.







# tech 14 | Objectives



# **General Objective**

 As a general objective, this Hybrid Professional Master's Degree in Neuroscience aims to update medical professionals regarding the clinical applications of this discipline and, in turn, enhance the quality of their professional practice. At the same time, they will gain in-depth knowledge of the tools used for brain research and clinical care, allowing the development of specific skills in this specialty



As part of the objectives of this Hybrid Professional Master's Degree, you will learn to treat patients with learning difficulties or dyslexia using the most advanced strategies for managing brain plasticity"







# **Specific Objectives**

## Module 1. Principles of Neurosciences

- 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

# tech 16 | Objectives

#### Module 2. The Emotional Brain

- Recognize the role of emotional intelligence
- Know the Mayer and Salovey model
- Differentiate between emotional maturation and emotional intelligence
- Discover emotional relearning
- Observe the relationship between intelligence and social skills
- Discover what The Papez Circuit is
- Exploring the limbic brain
- Analyze the amygdala and positive emotion
- Understand the function of the amygdala and negative emotion
- Recognize the intensity of emotion
- Determine the affective value of emotion

#### Module 3. Neuropsychology

- Classify neurohormones and their functions
- Differentiate between age and neuronal plasticity
- Discover neuronal development

#### Module 4. Neuroeducation

- Verify the connection between intelligence and creativity
- Analyze academic intelligence
- Discover the cognitive processes
- Observe the connection between the brain and cognition
- Discover the cognitive processes

## Module 5. Neurolinguistics

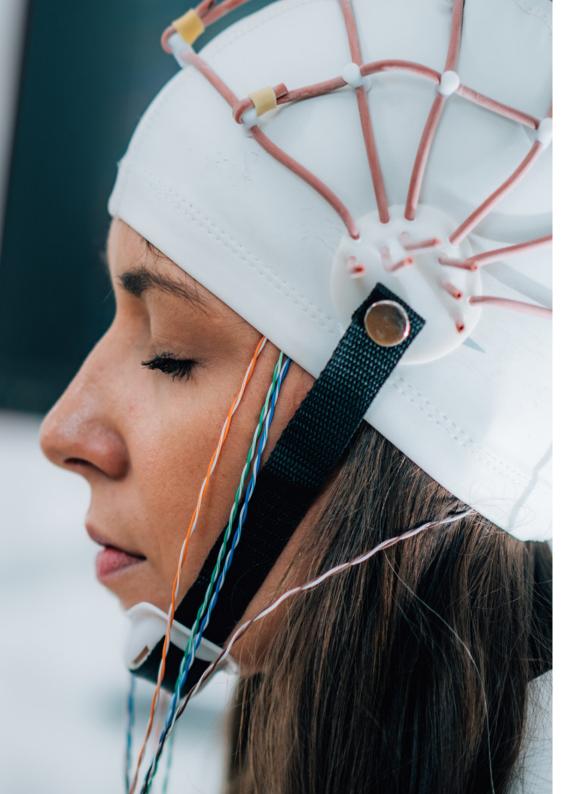
- Differentiate between gross vs. fine motor skills
- Approach the experience at the neural level
- Establishing learning at the neuron level
- Observe the effectiveness of repetitive reinforcement
- Discover neuromuscular control
- Exploring the neuronal insigne

## Module 6. Neuromarketing

- Verify metacognitive development
- Analyze the role of feelings
- Elucidate the processes of perception
- Explore the elements of attention
- Understand the process of attention
- Analyze the neuronal bases of memory

#### Module 7. Neuroeconomics

- Further study of the concept of the economic brain
- Understand the neural basis of computational errors
- Knowing how the mathematical brain develops
- Confronting the concepts of mathematics and intelligence



## Module 8. Neuroleadership

- Further understanding of the genetics of leadership
- Know the effects of successes and failures at the neural level
- Know how to apply the different optimization strategies of Neuroleadership

## Module 9. Neuropolitics

- Explore the concept of the political brain
- Know how group membership and group bias are formed
- Study in depth the positive and negative emotions generated in politics
- Probing the candidate's brain
- Know how political branding is formed around a candidate
- Study in depth the new tools applied to Neuropolitics
- Differentiate the capacity for self-control at the neuronal level

## Module 10. Other Branches of Applied Neurosciences

- Further study of Neurobranding
- Know the concept of Neuroarchitecture and how it works
- Study Neurotechnology in depth
- Know the limits of Neuroscience research
- Further study of the concept of Neuroethics
- Study in depth the relationship between the brain and taste: Neurogastronomy
- Learn more about Neurocriminology and its implication in psychopathic personalities





# tech 20 | Skills



# **General Skills**

- Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
- Be able to integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way
- Knowledge that will enable them to continue studying in a manner that will be largely self-directed or autonomous





- Explore the relationship between communication and brain
- Understand the connection between speech and the brain
- Learn the connection between reading and the brain
- Analyze the connection between writing and the brain
- Improve brain gastronomy
- Analyze the connection between emotions and the brain in the PNIE
- Observe the role of oxidative stress and the brain in PNIE
- Understand the psychopathic personality
- Identify disorganized behaviors at the neuronal level
- Recognize the role of culture and the brain
- Explore the connection between numbers and the brain
- Learn about mathematics and the brain
- Differentiate between simple calculations vs. complex ones on a neural level
- Identify common mathematical mistakes
- Differentiate between language and mathematics on a cerebral level

- Understand mathematical development
- Understand multiple intelligences
- Define emotional illiteracy
- Explore hypersensitivity to emotions
- Understand the relationship between intelligence and emotion
- Recognize emotional intelligence
- Analyze the relationship between creativity and intelligence
- Discover the role of self-awareness and intelligence
- Discover the connection between intelligence and linguistic development
- Explore the types of intelligence and language
- · Differentiate the phases of language during childhood
- Determine the influences of the leaders' successes and failures
- Learn the impact of the leader's successes and failures on the employee
- Discover training in neuroleadership
- Analyze the successes of neuroleadership





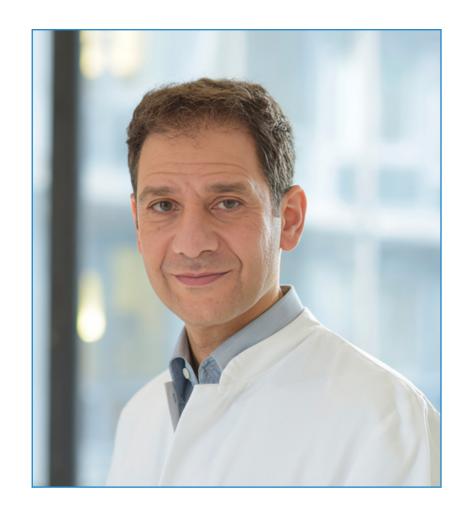
# **Direttore Ospite Internazionale**

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

- · 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



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
- $^\circ$  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.1
- Trainer of Trainers. Official College of Psychologists of Andalusia



# Ms. Jiménez Romero, Yolanda

- Pedagogical Advisor and External Educational Collaborator
- Academic Coordinator at Online University Campus
- Territorial Director of the Extremeño-Castilla La Mancha Institute of High Abilities
- Creation of Educational Content at INTEF in the Ministry of Education and Science
- Degree in Primary Education with an English specialization
- Educational psychologist from the International University of Valencia
- Master's Degree in Neuropsychology of High Abilities
- Master's Degree in Emotional Intelligence, Practitioner PNL Specialist

## **Professors**

## Ms. Pellicer Royo, Irene

- Expert in Emotional Education at the Jesuitas-Caspe School, Barcelona
- Master's Degree in Medical Sciences applied to Physical Activity and Sport from the Universidad of Barcelona
- Master's Degree in Emotional Education and Well-Being from the University of Barcelona
- Graduate in Physical Activity and Sport Sciences from the University of Lérida





# tech 30 | Educational Plan

## 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. linvasive Brain Study Techniques. Non-invasive
  - 1.10.1. Invasive Techniques
  - 1.10.2. Non-Invasive Techniques

## Module 2. The Emotional Brain

- 2.1. The Emotional Brain
  - 2.1.1. The Papez Circuit
  - 2.1.2. The Limbic Brain
- 2.2. Positive Emotions vs. Negative
  - 2.2.1. Amygdala and Positive Emotion
  - 2.2.2. Amygdala and Negative Emotion
- 2.3. Arousal vs. Valencia
  - 2.3.1. The Intensity of Emotion
  - 2.3.2. The Affective Value of Emotion
- Emotional Intelligence and the Education of Emotions According to the Mayer and Salovey Model
  - 2.4.1. Emotional Intelligence
  - 2.4.2. The Model of Mayer and Salovey
- 2.5. Other Intelligence Models and Emotional Transformation
  - 2.5.1. Emotional Maturation vs. Emotional Intelligence
  - 2.5.2. Emotional Relearning
- 2.6. Social-Emotional Competencies and Creativity by Level of Intelligence
  - 2.6.1. Intelligence and Social Skills
  - 2.6.2. Intelligence and Creativity
- 2.7. Emotional Coefficient vs. Intelligence
  - 2.7.1. Academic Intelligence
  - 2.7.2. Multiple intelligences
- 2.8. Alexithymia vs. Hyperemotiveness
  - 2.8.1. Emotional Illiteracy
  - 2.8.2. Hypersensitivity to Emotions
- 2.9. Emotional Health
  - 2.9.1. Intelligence and Emotion
  - 2.9.2. Emotional Intelligence
- 2.10. The Social Brain
  - 2.10.1. Creativity and Intelligence
  - 2.10.2. Self-Knowledge and Intelligence

## Module 3. Neuropsychology

- 3.1. Principles of Neuropsychology
  - 3.1.1. Defining Neuropsychology
  - 3.1.2. Psychological Processes
  - 3.1.3. Neuropsychological Assessment
- 3.2. Sensation and Awareness
  - 3.2.1. Defining Sensation
  - 3.2.2. Neurological Basis of Sensation
  - 3.2.3. Evaluation of Sensation
  - 3.2.4. Defining Perception
  - 3.2.5. Neurological Foundations of Perception
  - 3.2.6. Evaluation of Perception
- 3.3. Attention
  - 3.3.1. Defining Attention
  - 3.3.2. Neurological Foundations of Attention
  - 3.3.3. Care Evaluation
  - 3.3.4. Attention disturbances
- 3.4. Memory
  - 3.4.1. Defining Memory
  - 3.4.2. Neurological Foundations of Memory
  - 3.4.3. Memory Evaluation
  - 3.4.4. Alterations of Memory
- 3.5 Fmotion
  - 3.5.1. Defining Emotion
  - 3.5.2. Neurological Foundations of Emotion
  - 3.5.3. Emotion Evaluation
  - 3.5.4. Emotional Disturbances
- 3.6. Language
  - 3.6.1. Defining Language
  - 3.6.2. Neurological Foundations of Language
  - 3.6.3. Language Evaluation
  - 3.6.4. Language Impairment

#### 3. 7. Executive Functions

- 3.7.1. Defining Executive Functions
- 3.7.2. Neurological Foundations of Executive Functions
- 3.7.3. Executive Functions Assessment
- 3.7.4. Executive Function Disorders
- 3.8. Motivation
  - 3.8.1. Defining Motivation
  - 3.8.2. Neurological Basis of Motivation
  - 3.8.3. Motivation Assessment
  - 3.8.4. Alterations of Motivation
- 3.9. Metacognition
  - 3.9.1. Defining Metacognition
  - 3.9.2. Neurological Foundations of Metacognition
  - 3.9.3. Metacognition Assessment
  - 3.9.4. Metacognition Disorders
- 3.10. Intelligence
  - 3.10.1. Defining Intelligence
  - 3.10.2. Neurological Foundations of Intelligence
  - 3.10.3. Evaluation of Intelligence
  - 3.10.4. Intelligence Disorders

## Module 4. Neuroeducation

- 4.1. Neural Principles of Learning
  - 4.1.1. Experience on a Neural Level
  - 4.1.2. Learning on a Neural Level
- 4.2. Cerebral Learning Models
  - 4.2.1. Traditional Learning Models
  - 4.2.2. New Learning Models
- .3. Cognitive Processes and Learning
  - 4.3.1. Cognitive Processes and the Brain
  - 4.3.2. Cognitive Processes and Learning
- 4.4. Emotions and Learning
  - 4.4.1. Emotion and the Brain
  - 4.4.2. Emotion and Learning

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- 4.5. Socialization and Learning
  - 4.5.1. Socialization and the Brain
  - 4.5.2. Socialization and Learning
- 4.6. Cooperation and Learning
  - 4.6.1. Cooperation and the Brain
  - 4.6.2. Cooperation and Learning
- 4.7. Self-Control and Learning
  - 4.7.1. Self-Control and the Brain
  - 4.7.2. Self-Control and Learning
- 4.8. Different Minds, Different Learning Experiences
  - 4.8.1. Different Minds from NeuroEducation
  - 4.8.2. Giftedness from Neuroeducation
- 4.9. Neuromyths in Education
  - 4.9.1. The Brain and Adult Learning
  - 4.9.2. The Brain and Learning in Autism
- 4.10. Neurodidactics Applied to the Classroom
  - 4.10.1. The Neurodidactics of Attention
  - 4.10.2. The Neurodidactics of Motivation

# Module 5. Neurolinguistics

- 5.1. Language and the Brain
  - 5.1.1. Communicative Processes of the Brain
  - 5.1.2. The Brain and Speech
- 5.2. The Psycholinguistic Context
  - 5.2.1. Foundations of Psycholinguism
  - 5.2.2. The Brain and Psycholinguism
- 5.3. Language Development vs. Neural Development
  - 5.3.1. Neural Foundations of Language
  - 5.3.2. Neural Development of Language
- 5.4. The Spoken Language and Written Language
  - 5.4.1. Childhood and Language
  - 5.4.2. Adulthood and Language

- 5.5. The Brain in Bilingualism
  - 5.5.1. Native Language at the Neural Level
  - 5.5.2. Multiple Languages at the Neural Level
- 5.6. Developmental Speech and Language Disorders
  - 5.6.1. Intelligence and Linguistic Development
  - 5.6.2. Types of Intelligence and Language
- 5.7. Childhood Language Development
  - 5.7.1. Phases of Language in Childhood
  - 5.7.2. Difficulties in Childhood Language Development
- 5.8. Adolescent Brain
  - 5.8.1. Adolescence Language Development
  - 5.8.2. Language Difficulties in Adolescence

#### Module 6. Neuromarketing

- 6.1. The Brain in the Face of Decisions
  - 6.1.1. Single or Multiple Choices
  - 6.1.2. The Neural Learning of Choices
- 6.2. Pleasure vs. Surprise
  - 6.2.1. The Brain and Pleasure
  - 6.2.2. The Brain and Surprise
- 6.3. The Consumer Brain
  - 6.3.1. Decisions and Choices on a Neural Level
  - 6.3.2. Consumption as the Purpose of Choosing
- 6.4. The Ages of the Brain
  - 6.4.1. Child Brain and Choices
  - 6.4.2. Adult Brain and Choices
- 5.5. Male Brain vs. Female
  - 6.5.1 Male Brain and Choices
  - 6.5.2. Female Brain and Choices
- 6.6. Mirror Neurons and Social Behavior
  - 6.6.1. The Relevance of Mirror Neurons in Marketing
  - 6.6.2. Social and Prosocial Behavior in Marketing

- 6.7. Learning and Memory
  - 6.7.1. Learning Decisions
  - 6.7.2. Remembering and Forgetting Decisions
- 6.8. Neuromarketing Evaluation Techniques
  - 6.8.1. Invasive Neural Techniques
  - 6.8.2. Non-Invasive Neural Techniques
- 6.9. The Neuromarketing's Successes and Failures
  - 6.9.1. Applied Cases of Neuromarketing
  - 6.9.2. Neuromarketing Results
- 6.10. Sales Techniques vs. Neuromarketing
  - 6.10.1. Sales Technology and the Brain
  - 6.10.2. Neuromarketing and Sales

#### Module 7. Neuroeconomics

- 7.1. The Economic Brain
  - 7.1.1. Numbers and the Brain
  - 7.1.2. Mathematics and the Brain
- 7.2. Neural Foundations of Calculation Errors
  - 7.2.1. Simple vs Complex Calculations. Complexity
  - 7.2.2. Common Mathematical Mistakes
- 7.3. Development of the Mathematical Brain
  - 7.3.1. Language vs. Mathematics on a Cerebral Level
  - 7.3.2. Mathematical Development
- 7.4. Mathematics vs. Intelligence
  - 7.4.1. Intelligence and Mathematics
  - 7.4.2. Multiple and Mathematical Intelligences
- 7.5. Trends and Fads at the Neural Level
  - 7.5.1. Implicit Theories vs. Explicit Trend Indicators
  - 7.5.2. Fashion and Neural Idiom
- 7.6. Risk Assumption vs. Conservation
  - 7.6.1. Personality and Risk
  - 7.6.2. The Brain and Risk

- 7.7. Mathematical Biases
  - 7.7.1. The Basic Biases of Mathematics
  - 7.7.2. The Complex Biases of Mathematics
- 7.8. Emotions vs. Economy
  - 7.8.1. Positive Neural Emotions and the Economy
  - 7.8.2. Negative Neural Emotions and the Economy
- 7.9. Economic Success and Failure
  - 7.9.1. Economic Success on a Neural Level
  - 7.9.2. Economic Failure on a Neural Level
- 7.10. Economic Psychopathology
  - 7.10.1. Clinical and Economic Psychology
  - 7.10.2. Personality and Economy

#### Module 8. Neuroleadership

- 8.1. Genetic Leadership vs. Environmental Leadership
  - 8.1.1. The Genetics of Leadership
  - 8.1.2. Training the Leader
- 8.2. Leadership Styles
  - 8.2.1. Types of Leadership
  - 8.2.2. Delegating Leadership
- 8.3. Neural Biases
  - 8.3.1. Leader on a Neural Level
  - 8.3.2. Employee on a Neural Level
- 8.4. Habits and Change of Patterns
  - 8.4.1. The Leader's Patterns
  - 8.4.2. The Employee's Patterns
- 8.5. Emotion vs. Leadership
  - 8.5.1 The Leader's Emotions
  - 8.5.2. The Employee's Emotions
- 8.6. Communicative Skills
  - 8.6.1. The Leader's Communication
  - 8.6.2. The Employee's Communication

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- 8.7. The Stressed Brain
  - 8.7.1. The Leader's Stress
  - 8.7.2. The Employee's Stress
- 8.8. Self-Management vs. Assigning Responsibility
  - 8.8.1. The Leader's Self-Management
  - 8.8.2. The Employee's Responsibility
- 8.9. Successes and Failures on a Neural Level
  - 8.9.1. The Leader's Successes and Failures
  - 8.9.2. The Employee's Successes and Failures
- 8.10. Neuroleadership Optimization Strategies
  - 8.10.1. Neuroleadership Training
  - 8.10.2. Successes in Neuroleadership

## Module 9. Neuropolitics

- 9.1. The Political Brain
  - 9.1.1. The Social Brain
  - 9.1.2. The Political Option on a Neural Level
- 9.2. Attentional Biases
  - 9.2.1. Personal Choice
  - 9.2.2. Family Tradition
- 9.3. Political Affiliation
  - 9.3.1. Belonging to a Group
  - 9.3.2. Group Biases
- 9.4. Political Emotions
  - 9.4.1. The Positive Emotions of Politics
  - 9.4.2. The Negative Emotions of Politics
- 9.5. Right vs. Left
  - 9.5.1. Right-Wing Brain
  - 9.5.2. Left-Wing Brain
- 9.6. The Politician's Image
  - 9.6.1. Candidate and the Brain
  - 9.6.2. Political Collaborators and the Brain



- 9.7. The Party Brand
  - 9.7.1. Political Branding
  - 9.7.2. The Brain and Political Brands
- 9.8. Political Campaigns
  - 9.8.1. Advertising Campaigns in Politics
  - 9.8.2. Electoral Campaigns in Politics
- 9.9. The Decision to Vote
  - 9.9.1. The Voter's Profile
  - 9.9.2. The Undecided Person's Profile
- 9.10. New Tools Applied to Neuro-Politics
  - 9.10.1. Cases of Application of Neuro-Politics
  - 9.10.2. Successes of Neuropolitics

## Module 10. Other Branches of Applied Neurosciences

- 10.1. Neurobranding
  - 10.1.1. Personal Brand and Personal Style in the Brain
  - 10.1.2. Improving Brain Branding With Neuroscience Techniques
- 10.2. Neuroarchitecture
  - 10.2.1. Amazement and Awe in Neuroscience
  - 10.2.2. Functionality and Environmental Development in Neuroscience
- 10.3. Neurotechnology
  - 10.3.1. The Use of Technologies in Neuroscience
  - 10.3.2. Neuroimplants
- 10.4. Neuroethics
  - 10.4.1. The Limits of Research in Neuroscience
  - 10.4.2. The Dangers of Neuroscience
- 10.5. Neurospirituality
  - 10.5.1. The Neural Center of Faith
  - 10.5.2. The Neural Center of Spirituality
- 10.6. Neurofashion
  - 10.6.1. Fashion and the Brain
  - 10.6.2. Style and Taste at the Cerebral Level

- 10.7. Neurogastronomy
  - 10.7.1. Taste and the Brain
  - 10.7.2. Improving Cerebral Gastronomy
- 10.8. Psychoneuroimmunoendocrinology
  - 10.8.1. Emotions and the Brain
  - 10.8.2. Oxidative Stress and the Brain
- 10.9. Neurocriminology
  - 10.9.1. Psychopathic Personality
  - 10.9.2. Neural Disorganized Behaviors
- 10.10. Neuroculture
  - 10.10.1. Culture and the Brain
  - 10.10.2. Society and the Brain



Learn the latest theoretical trends in the field of Neuroscience through innovative didactic methods like Relearning"





The internship program in this educational program is designed to enable the physician to apply all the knowledge acquired during the theoretical phase in a top-tier hospital setting. This involves implementing complex diagnostic techniques and learning how to interpret their results efficiently. Additionally, the physician will use sophisticated equipment to perform both invasive and non-invasive brain stimulation procedures, facilitating the treatment of real patients.

This clinical practice will span 3 weeks, with sessions from Monday to Friday, each lasting 8 consecutive hours. Within the health facilities, the specialist will be guided by an adjunct tutor who will supervise their progress, ensuring the quality of their patient care. Simultaneously, the tutor will verify concepts and address any questions with other team members, allowing for valuable hands-on experiences.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice the Neurosciences (learning to be and learning to relate).





## Clinical Internship | 39 tech

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:

Module	Practical Activity
Innovative Diagnostic Techniques in the Field of Neuroscience	Implement Positron Emission Tomography to assess the brain's physiological health
	Indicate the performing of Electroencephalograms to evaluate brain electrical activity
	Interpret Electrooculography to differentiate sleep phases through eye movement
Non-Invasive Brain Stimulation Methods	Use Transcranial Electrical Stimulation techniques to induce changes in the stimulated brain region
	Address depression through Transcranial Magnetic Stimulation (TMS) of nerve cells in the brain
	Promote peripheral nerve stimulation to contribute to the neurorehabilitation of patients with paralysis and other brain-related conditions
Invasive Brain Stimulation Methods	Apply the invasive method of spinal cord stimulation to block nerve impulses in the spinal column using a mild electrical discharge
	Implant electrodes within the brain as part of Deep Brain Stimulation to regulate abnormal impulses
	Modulate nociceptive information to provide analgesia for chronic pain through intraspinal and intracerebroventricular drug delivery
	Enhance recovery and healing of brain tissue injuries using Radiofrequency devices
Innovative Strategies in Neuroeducation, Neurolinguistics, and other branches of Neuroscience	Treat patients with learning difficulties or dyslexia using the most advanced strategies for managing brain plasticity
	Activate Neurolinguistic reprogramming through modal operators of necessity and possibility
	Reduce negative emotions such as anxiety or distress in a stressful situation through neurolinguistic anchoring
	Assess psychotic behaviors based on the foundations of Neurocriminology

## **Civil Liability Insurance**

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



## **General Conditions for Practical Training**

The general terms and conditions of the internship agreement for the program are as follows:

- 1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.
- 2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.
- 3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

- **4. CERTIFICATION**: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.
- **5. EMPLOYMENT RELATIONSHIP:** The Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.
- **6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.
- 7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.





## tech 44 | Where Can I Do the Clinical Internship?

The student will be able to complete the practical part of this Hybrid Professional Master's Degree at the following centers:



### Hospital HM Modelo

Country City
Spain La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



## Hospital HM Rosaleda

Country City
Spain La Coruña

Address: Rúa de Santiago León de Caracas, 1, 15701, Santiago de Compostela, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Hair Transplantation - Orthodontics and Dentofacial Orthopedics



### Hospital HM San Francisco

Country City
Spain León

Address: C. Marqueses de San Isidro, 11, 24004, León

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Update in Anesthesiology and Resuscitation - Nursing in the Traumatology Department



## Hospital HM Regla

Country City
Spain León

Address: Calle Cardenal Landázuri, 2, 24003. León

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Update on Psychiatric Treatment in Minor Patients



## Hospital HM Madrid

Country City
Spain Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Palliative Care
- Anaesthesiology and Resuscitation



## Hospital HM Montepríncipe

Country City
Spain Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte. Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Palliative Care
- Aesthetic Medicine



## **Hospital HM Torrelodones**

Country City
Spain Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Anaesthesiology and Resuscitation - Palliative Care



## Hospital HM Nuevo Belén

Country City
Spain Madrid

Address: Calle José Silva, 7, 28043, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- General and Digestive System Surgery - Clinical Nutrition in Medicine



## Where Can I Do the Clinical Internship? | 45 tech



### Hospital HM Puerta del Sur

Country City
Spain Madrid

Address: Av. Carlos V, 70, 28938, Móstoles. Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Palliative Care

- Clinical Ophthalmology



### Hospital HM Vallés

Country City
Spain Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Gynecologic Oncology
- Clinical Ophthalmology



## HM CINAC - Centro Integral de Neurociencias

Country City Spain Madrid

Address: Avenida Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Neurological Physiotherapy



### **HM CIEC Barcelona**

Country City
Spain Barcelona

Address: Avenida de Vallcarca, 151, 08023, Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Cardiac Arrhythmias

- Cardiac Surgery

## tech 46 | Where Can I Do the Clinical Internship?



## Policlínico HM Arapiles

Country City
Spain Madrid

Address: C. de Arapiles, 8, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

Anaesthesiology and Resuscitation
 Pediatric Dentistry



Country City Spain Madrid

Address: Plaza de la Cruz Verde, 1-3, 28807, Alcalá de Henares, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Advanced Clinical Podiatry
- Optical Technologies and Clinical Optometry



### Policlínico HM Distrito Telefónica

Country City Spain Madrid

Address: Ronda de la Comunicación, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Optical Technologies and Clinical Optometry - General and Digestive System Surgery



## Policlínico HM Matogrande

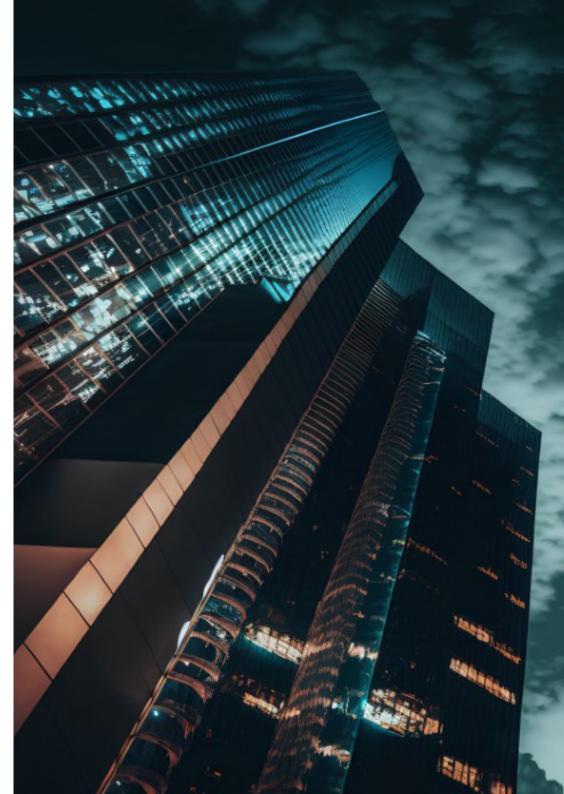
Country City
Spain La Coruña

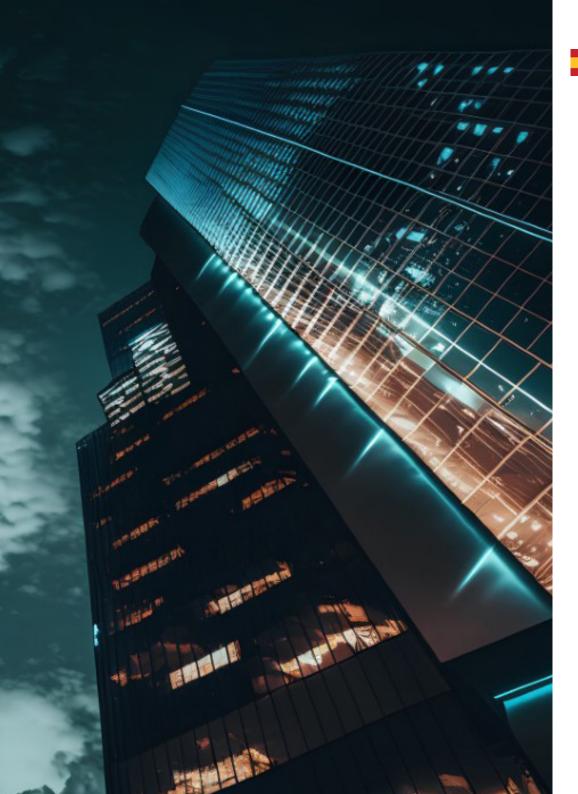
Address: R. Enrique Mariñas Romero, 32G, 2°, 15009, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

-Sport Physiotherapy -Neurodegenerative Diseases





## Where Can I Do the Clinical Internship? | 47



### Policlínico HM Rosaleda Lalín

Country City
Spain Pontevedra

Address: Av. Buenos Aires, 102, 36500, Lalín, Pontevedra

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Advances in Hematology and Hemotherapy - Neurological Physiotherapy



### Policlínico HM Imi Toledo

Country City Spain Toledo

Address: Av. de Irlanda, 21, 45005, Toledo

Network of private clinics, hospitals and specialized centers distributed throughout the Spanish territory

#### Related internship programs:

- Electrotherapy in Rehabilitation Medicine - Hair Transplantation



## tech 50 | Methodology

### 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:

- 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.



## Methodology | 53 tech

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.

## tech 54 | Methodology

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.

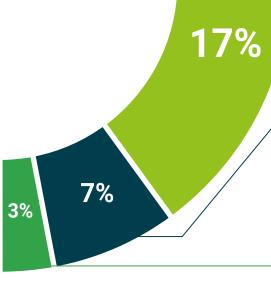
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### **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.









## tech 58 | Certificate

This program will allow you to obtain your **Hybrid Professional Master's Degree diploma in Neurosciences** 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.

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

Hybrid Professional Master's Degree in Neurosciences

This is a program of 1,620 hours of duration equivalent to 65 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

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.

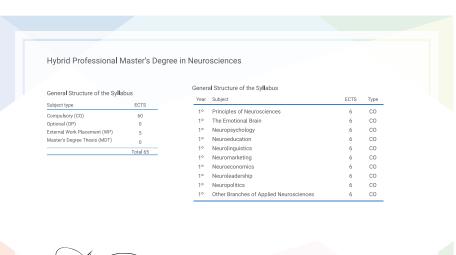
Title: Hybrid Professional Master's Degree in Neurosciences

Course Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

Recognition: **60 + 5 ECTS Credits** 





<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University 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



# Hybrid Professional Master's Degree

Neurosciences

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

60 + 5 créditos ECTS

