

# Postgraduate Certificate

Malformations, Chromosomal Alterations  
and Other Genetic Alterations of the  
Central Nervous System





## Postgraduate Certificate

### Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 5 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/malformations-chromosomal-alterations-other-genetic-alterations-central-nervous-system](http://www.techtute.com/us/medicine/postgraduate-certificate/malformations-chromosomal-alterations-other-genetic-alterations-central-nervous-system)

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Certificate

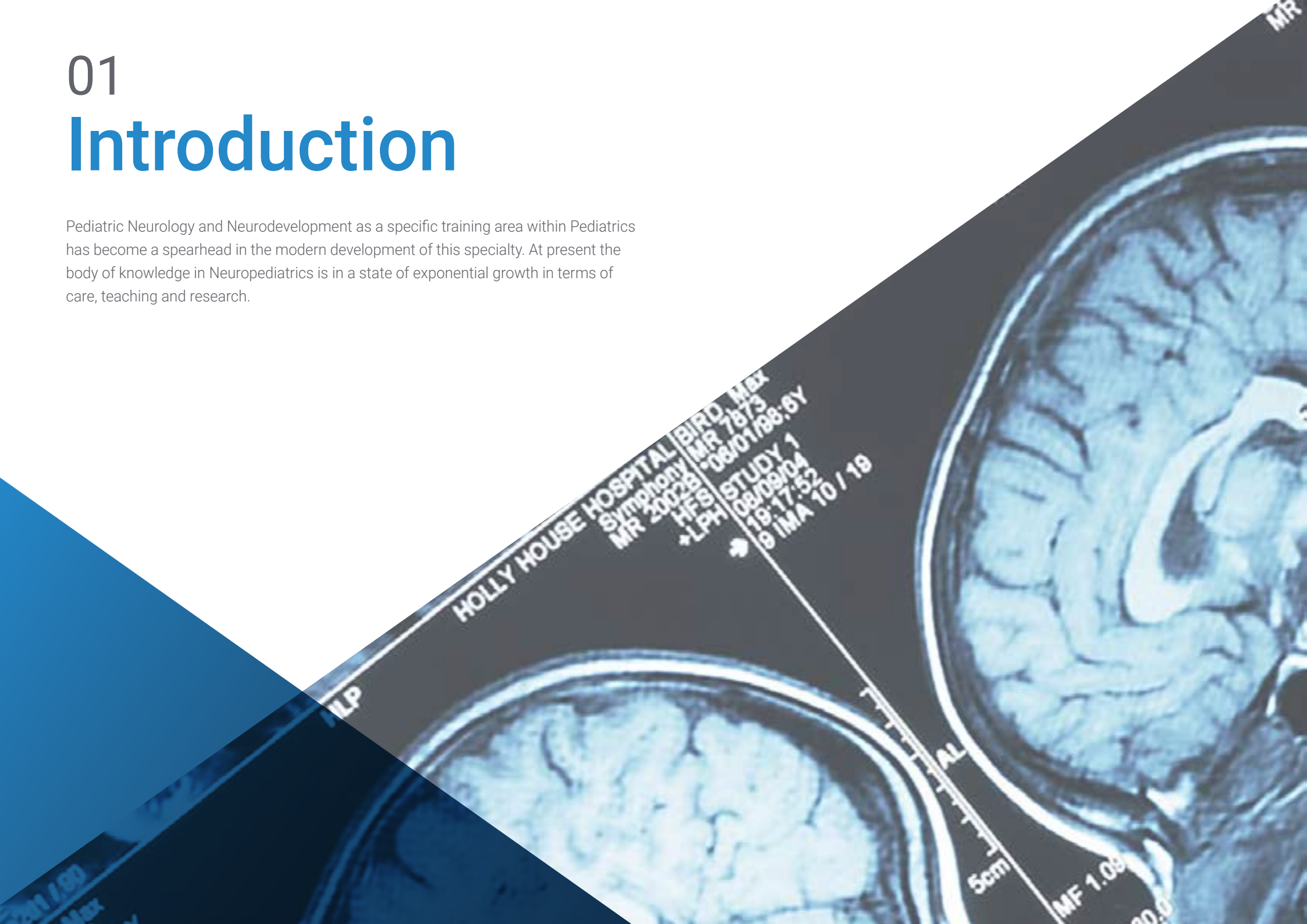
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01

# Introduction

Pediatric Neurology and Neurodevelopment as a specific training area within Pediatrics has become a spearhead in the modern development of this specialty. At present the body of knowledge in Neuropediatrics is in a state of exponential growth in terms of care, teaching and research.





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*Improve your knowledge through this program, where you will find the best didactic material with real clinical cases. Learn here about the latest advances in the specialty to be able to perform a quality medical practice"*

In recent years we have witnessed a considerable increase in the demand for neuropsychiatric care, which can be justified for several reasons

On the one hand, the continuous advances in neurosciences have led to the discovery and diagnosis of previously unknown neurological diseases. This has led to the death of children or the development of severe sequelae

On the other hand, the appearance of social changes and advances have led to new care demands that had been previously underdeveloped. The rise of assisted reproduction and the improvement of neonatal care techniques lead to a higher rate of multiple and premature births with increased survival rates. This leads to increased morbidity and the need for more specialized care at both the health and educational levels

General pediatricians cannot encompass the complexity of all pediatric subspecialties. As they progress in their development, each one of them acquires a specific body and entity to become its own specialty. In addition, the particularities of child development and its variability according to age and other factors do not allow neurologists for adults to cope with the existing demand

All this, together with the great diversity and complexity of neurological pathology. In childhood, there is a growing need for more and more neuropsychiatric units and an increasing demand for professionals intensively trained in this area

The **Postgraduate Certificate in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System** contains the most complete and updated scientific program on the market. The most important features of the course university are:

- Clinical cases presented by experts in pediatric neurology. 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
- Diagnostic and therapeutic novelties on pediatric neurology performance
- Algorithm-based interactive learning system for decision-making in the presented clinical situations
- With a special emphasis on evidence-based medicine and research methodologies in Pediatric Neurology
- All of 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



*Update your knowledge through the Postgraduate Certificate in Malformations, Chromosomal Alterations and other Genetic Alterations of the Central Nervous System, in a practical way and adapted to your needs"*



*This Postgraduate Certificate may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge in Malformations, Chromosomal Alterations and Other Genetic Alterations of Central Nervous System, you will obtain a qualification from TECH Technological University"*

*The Postgraduate Certificate includes real clinical cases and exercises to bring the development of the Postgraduate Certificate closer to the clinical doctor's practice.*

*Take the opportunity to update your knowledge in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System and improve your patient care.*

Forming part of the teaching staff is a group of professionals in the world of Pediatric Neurology, who bring to this course their work experience, as well as a group of renowned specialists, recognised by esteemed scientific communities

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

This program is designed around Problem Based Learning, whereby the Doctor must try to solve the different professional practice situations that arise during the course university. This will be done with the help of an innovative interactive video system developed by renowned experts in the field of neurology with extensive teaching experience



# 02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the physician can master in a practical and rigorous way the Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System.





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*This up-to-date program will generate a sense of confidence when practising medicine, which will help you grow both personally and professionally”*



## General Objective

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- Update the specialist's knowledge in the different syndromic disorders of this discipline, through evidence-based medicine
- Promote work strategies based on a comprehensive approach and multidisciplinary care in the patient's social environment that become a reference model for achieving excellence in care
- Encourage the acquisition of technical skills and abilities, through a powerful audio-visual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulus through continuing education and research



## Specific Objectives

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- Define the different central nervous system malformations of relevance in childhood
- Describe the most relevant chromosomal alterations in pediatric neurology
- Classify and explain the Neurocutaneous Syndromes
- Describe other relevant genetic syndromes in Pediatric Neurology such as Prader Willi Syndrome, Angelman Syndrome, Fragile X Syndrome and Williams Syndrome
- Explain the clinical application of the different genetic studies in neuropediatrics



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*Take the opportunity and take the step to get up to date on the latest developments in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System”*

03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of pediatric neurology , and who pour into this training the experience of their work. In addition involved, renowned specialists, members of prestigious national and international scientific communities, are in designing and preparing the program.







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*Learn from reference professionals, the latest Malformations, Chromosomal and other Genetic Alterations of the Central Nervous System"*

## Management



### Dr. Fernández Fernández, Manuel Antonio

- Degree in Medicine
- Specialist in Child Neurology
- Director of the Andalusian Institute of Pediatric Neurology. Seville
- MIR Pediatrics Specialist at the Virgen del Rocío University Hospital in Seville
- Accreditation in Neuropediatrics by the Spanish Society of Pediatric Neurology (SENEP)
- Master's Degree in Healthcare Services Management and Planning. CTO Business School
- Master's Degree in Entrepreneurship. GADE Business School
- Master in Leadership and Management Skills. GADE Business School
- Master's Degree in Clinical Trials. University of Seville
- Master's Degree in Attention Deficit and/or Hyperactivity Disorder. University Pablo de Olavide
- Master in Autism Spectrum Disorders. University of La Rioja
- Expert in Attention Deficit and/or Hyperactivity Disorder throughout life. Alcalá de Henares University
- Advisor to the Institute for Professional Excellence
- European Cum Laude Forum Advisor
- IACAPAP Child and Adolescent Mental Health Manual Reviewer
- Coordinator of the ADHD group of the SEMA (Spanish Society of Adolescent Medicine)
- External Expert Evaluator of the Andalusian Health Quality Agency (ACSA)
- Expert Evaluator of research projects of the Andalusian Ministry of Health
- Expert in evaluation and research programs of the European Commission

## Management



### Dr. Fernández Jaén, Alberto

- ♦ Degree in Medicine
- ♦ Specialist in Child Neurology
- ♦ CADE Medical Director
- ♦ Head of the Child Neurology Department. Quiron University Hospital, Madrid

## Professors

### Dr. Fernández Jaén, Alberto

- ♦ Degree in Medicine
- ♦ Specialist in Child Neurology
- ♦ CADE Medical Director
- ♦ Head of the Child Neurology Department. Quiron University Hospital, Madrid

# 04

## Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of training in the daily medical practice in Pediatric Neurology, aware of the relevance of current training to be able to act in pediatric patients with Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System with quality teaching through new educational technologies.





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*This Postgraduate Certificate in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System contains the most complete and updated scientific program on the market”*

## Module 1. Malformations, Chromosomal Alterations and Other Genetic Alterations of the CNS

- 1.1. Malformations of the CNS
  - 1.1.1. Introduction
  - 1.1.2. Classification
  - 1.1.3. Dorsal Induction Abnormalities
  - 1.1.4. Ventral Induction Abnormalities
  - 1.1.5. Midline Alterations
  - 1.1.6. Cell Proliferation-Differentiation Abnormalities
  - 1.1.7. Neuronal Migration Abnormalities
  - 1.1.8. Abnormalities of the Posterior Fossa Structure
- 1.2. Most Relevant Chromosomal Alterations in Pediatric Neurology
  - 1.2.1. Introduction
  - 1.2.2. Classification
  - 1.2.3. Autosomal Aneuploidies
  - 1.2.4. Sexual Aneuploidies
- 1.3. Neurocutaneous Syndromes
  - 1.3.1. Neurofibromatosis Type I
  - 1.3.2. Neurofibromatosis Type II
  - 1.3.3. Tuberous Sclerosis
  - 1.3.4. Incontinentia Pigmenti
  - 1.3.5. Sturge-Weber Syndrome
  - 1.3.6. Other Neurocutaneous Syndromes
- 1.4. Other Relevant Genetic Syndromes in Pediatric Neurology
  - 1.4.1. Prader Willi Syndrome
  - 1.4.2. Angelman Syndrome
  - 1.4.3. Fragile X Syndrome
  - 1.4.4. Williams Syndrome
- 1.5. Clinical Application of Genetic Studies in Neuropediatrics
  - 1.5.1. Introduction
  - 1.5.2. Karyotype
  - 1.5.3. Study of Fragile X
  - 1.5.4. Subtelomeric FISH Probes
  - 1.5.5. CGH Array
  - 1.5.6. Exome
  - 1.5.7. Sequencing



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*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 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 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

In a given situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, 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 can 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 potential 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 professional medical 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 grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge
2. The learning process has a clear focus on 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

Our 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, which represent a real revolution with respect to simply studying and analyzing cases

*The physician will learn through real cases and by solving 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 we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years

*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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically

The overall score obtained by our learning system is 8.01, according to the highest international standards



In this program you will have access to the best educational material, prepared with you 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

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with



#### Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want



#### Interactive Summaries

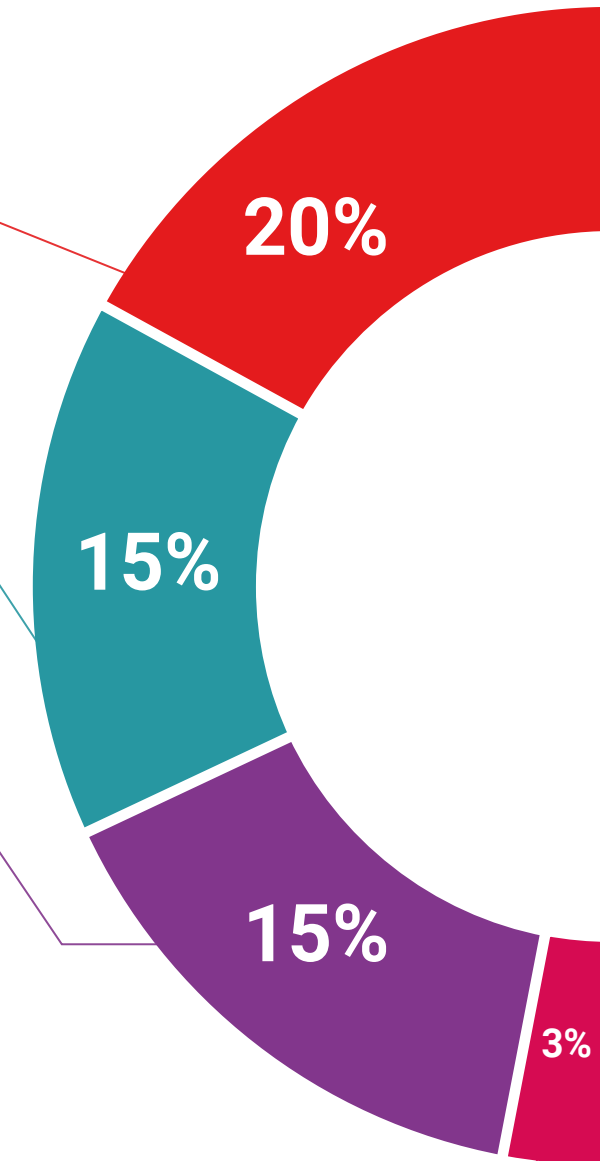
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge

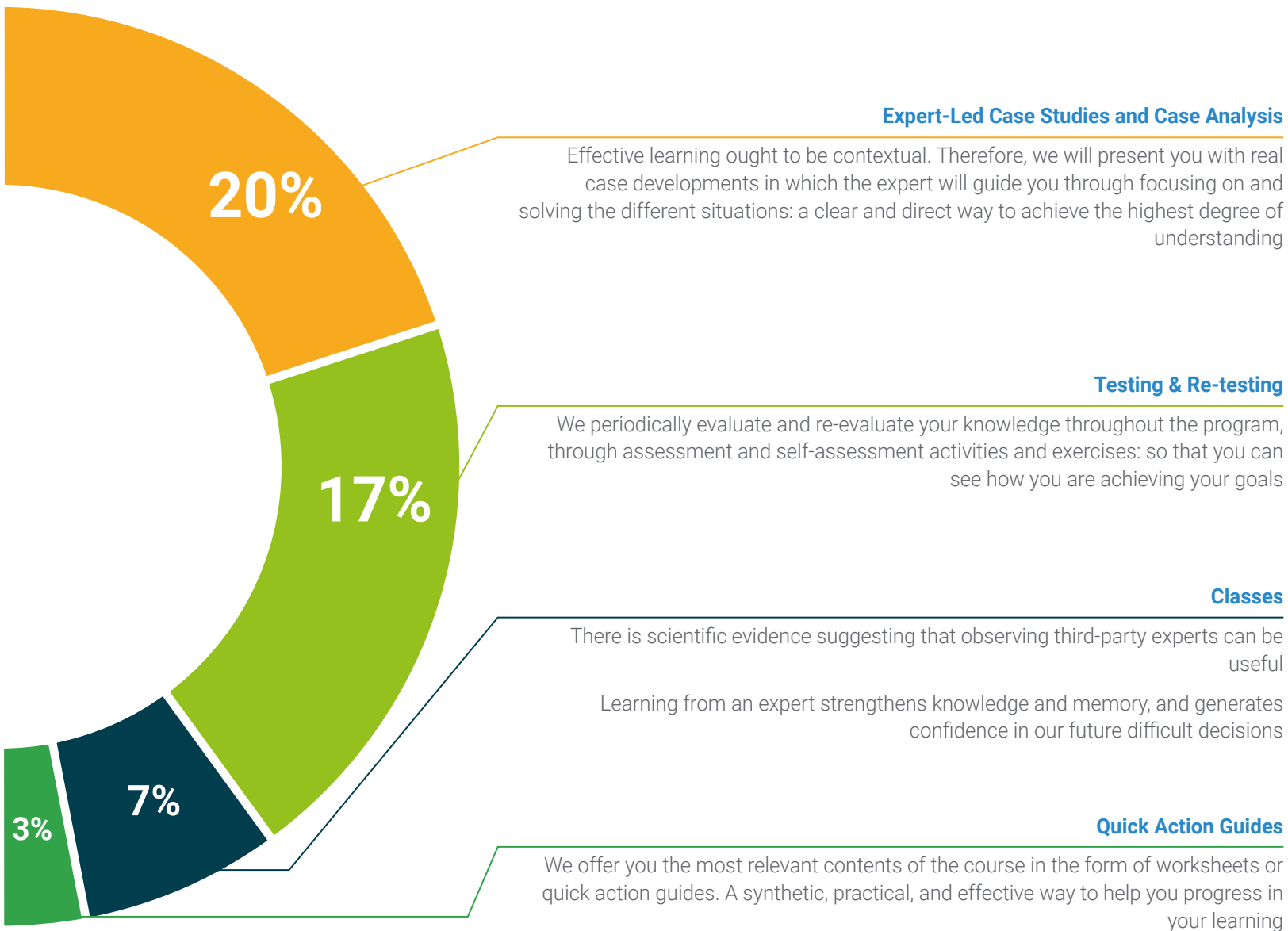
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story"



#### Additional Reading

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training





# 06 Certificate

The **Postgraduate Certificate in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System** guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by **TECH Global University**.





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*Successfully complete this training and  
receive your diploma without the hassle  
of travel or paperwork”*



This program will allow you to obtain a **Postgraduate Certificate in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System** 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.

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.

Diploma: **Postgraduate Certificate in Malformations, Chromosomal Alterations and Other Genetic Alterations of the Central Nervous System**

Modality: online

Accreditation: 5 ECTS

Nº Hours: 125 hours





## Postgraduate Certificate

Malformations, Chromosomal Alterations  
and Other Genetic Alterations of the  
Central Nervous System

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 5 ECTS
- » Schedule: at your own pace
- » Exams: online

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