

# Postgraduate Diploma

## Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician





## Postgraduate Diploma Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 16 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-physical-therapy-approach-acquired-brain-injury-pediatrics-rehabilitation-physician](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-physical-therapy-approach-acquired-brain-injury-pediatrics-rehabilitation-physician)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 32*

# 01

# Introduction

The increase in the incidence of Acquired Brain Injury (ABI), especially stroke, and stroke survival, make neurorehabilitation an indispensable element. Specialization in the field of Pediatrics is an indispensable condition for the medical professional in this specialty.







“

*This training will provide you with a sense of security in medical practice, which will help you grow personally and professionally”*

The public's awareness of the need for specialized professionals is leading to an increase in the demand for rehabilitation physicians who are able to understand the functioning of the nervous system after an injury and to get the most out of it in order to minimize the after-effects of the injury.

In addition, we are living in an era of great advances in the field of Neuroscience, as well as Physiotherapy as a science, which forces us to have to update our knowledge both of the functioning of the nervous system, as well as how to evaluate and therapeutically approach a person with ABI, since each injury is different and will manifest itself in a different way in each patient.

This program aims to be a compilation of the most up to date evidence and scientific knowledge about the nervous system and its rehabilitation when it is injured in a supervening way. As a result, it is a Program capable of specializing the rehabilitation physician who has never dealt with people with ABI and, nevertheless, is interested in having his or her professional future related to this type of patient.

Likewise, the professional who is already a Rehabilitation Physician, whether or not they are dealing with ACD, will find a space to update their knowledge and become highly specialized in this group of patients.

On the other hand, by understanding so much information about Neuroscience and functionality, it can be a useful tool for the Rehabilitation Physician who needs to know the ins and outs of the nervous system to better understand and address the injury or therapeutic need in a general way.

The **Postgraduate Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- Development of case studies presented by experts in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician
- 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
- Novelties in the approach to complications in Pediatric Acquired Brain Injury for the Rehabilitation Physician
- It contains practical exercises where the self-assessment process can be carried out to improve learning
- With special emphasis on innovative methodologies in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician
- 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 Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician”*

“

*This education is the best investment you can make for two reasons: in addition to updating your knowledge in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician, you will obtain a TECH Technological University degree”*

Its teaching staff includes professionals in this field who bring to this education the experience of their work, in addition to recognized specialists belonging to leading societies and prestigious universities.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

This program is designed around Problem-Based Learning, whereby the students must try to solve the different professional practice situations that arise during the course. To this end, students will be assisted by an innovative interactive video system created by renowned experts with extensive teaching experience.

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

*Take the opportunity to learn about the latest advances in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician and improve your patient care.*




# 02

# Objectives

The Postgraduate Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician is oriented to facilitate the performance of the physical therapist in their daily practice related to the pathology.







P5-1  
Cardiac  
30 dB  
THI 1.7 MHz  
DR 65 dB  
Edge 1  
Persist 1  
R/S 1  
Map E  
Tint 2  
29 fps

P 100%

“

*Our goal is yours: to provide you with the best online update program in this area of the teaching market. A one-of-a-kind Postgraduate Diploma that will propel you to the forefront of your industry”*



## General Objectives

---

- Enable specialization of the physiotherapist in the field of neurological rehabilitation
- Update the knowledge of the physiotherapist in Neuroscience applied in the clinic
- Enhance clinical practice that is based on scientific evidence and clinical reasoning
- Facilitate the integral care of the neurological patient in all their complexity





## Specific Objectives

---

### Module 1. Neuroanatomy and Neurophysiology

- ♦ Know the structural anatomical bases of the nervous system
- ♦ Know the functional anatomical bases of the nervous system
- ♦ Gain up-to-date knowledge of the physiology of movement
- ♦ Analyze the neurophysiological processes of motor learning
- ♦ Revise the different theories of motor control
- ♦ Update knowledge in neuroscience applicable to neurological injuries

### Module 2. ABI

- ♦ Recognize what is and what is not ABI
- ♦ Gain in-depth understanding of the epidemiology of ABI
- ♦ Know the implications of ABI according to the age of the patient
- ♦ Identify different symptoms and syndromes according to the area affected by the ABI
- ♦ Learn to identify hemineglect and understand its implications for the patient and for the therapeutic approach
- ♦ Learn to recognize the pusher syndrome and gain up-to-date knowledge about it in view of its implications in the therapeutic approach
- ♦ Understand the difference between cerebellar versus basal ganglia symptomatology
- ♦ Distinguish spasticity from other tone disturbances
- ♦ Recognize apraxia and its implications for the patient and for the therapeutic approach
- ♦ Learn to identify alien hand syndrome

### Module 3. ABI in Pediatrics

- ♦ Revise the neurodevelopment normative in order to identify the prognosis in the rehabilitation of the ABI according to the age of the patient
- ♦ Learn to assess pediatric patients for their unique and age-specific characteristics
- ♦ Know the specific approach models of pediatric rehabilitative medicine in ABI
- ♦ Revise the skills of other professionals in the team in the field of pediatrics
- ♦ Know the implication of the educational field in the rehabilitation of minors with ABI



*Get up to speed with  
efficiency and convenience  
and make a breakthrough  
in your professional program”*



03

# Course Management

The program includes in its teaching staff leading specialists in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician, who pour into this program the experience of their work. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner.







“

*Learn from leading professionals, the latest advances in procedures in the field of Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician”*

## International Guest Director

Dr. David Lin is an internationally renowned **neurologist**, specializing in **Intensive Care** and **Neurorehabilitation**. As such, his clinical practice focuses on the treatment of patients with **acute neurological injuries**, including **Stroke, Cerebral Hemorrhage, Head Trauma** and **Spinal Cord Injury**, providing a comprehensive approach to the recovery of these patients in the **Neurosciences Intensive Care Unit** at **Massachusetts General Hospital, USA**, where he has held a senior position as **Director of the Neurorehabilitation Clinic**.

In the field of **research**, he has served as **Director of the Translational Recovery Laboratory**, where he has employed advanced techniques such as **Quantitative Movement Analysis, Neuroimaging and Brain Stimulation** to understand and improve motor recovery after a **stroke**. In fact, his work has been oriented towards the clinical application of these discoveries, seeking to transform **Neurological Rehabilitation** through a deeper understanding of the brain mechanisms involved.

In addition, David Lin, M.D., has been recognized for his **clinical innovations**, including the development of the **Outpatient Stroke Motor Recovery Program** and a follow-up program for patients with **post-Covid-19 neurological complications**. He has also established an **interdisciplinary outpatient program**, which integrates various health professionals to provide comprehensive care for patients with **acute neurological diseases**.

Likewise, his work has been highlighted in **international conferences**, such as the **International Spring School of BCI and Neurotechnology**, in **Austria**, where he has shared his knowledge on the clinical relevance of **brain-computer interfaces** for **stroke** rehabilitation. At the same time, he has continued to advance in the field of **Neurorehabilitation**, with innovative projects such as the **design of next generation neurotechnologies**, including an **Orthotic Arm System** based on **brain-computer interfaces**, in collaboration with the **Laboratory of Restorative Neurotechnology (BrainGate)**.



## Dr. Lin, David

---

- Director of the Neurological Recovery Clinic at Massachusetts General Hospital, USA
- Director of the Translational Recovery Laboratory at Massachusetts General Hospital
- Principal Investigator at Providence Veterans Affairs Medical Center, Providence, VA
- Fellow in Neurocritical Care at Massachusetts General Hospital and Brigham and Women's Hospital
- Neurorecovery Fellow at Massachusetts General Hospital and Spaulding Rehabilitation Hospital
- Fellow in Neurology at Massachusetts General Hospital and Brigham and Women's Hospital
- M.D. Harvard University
- B.S. in Mathematics and Computer Science from Stanford University
- Member of: American Academy of Neurology, Society for Neuroscience, American Heart Association, American Society of Neurorehabilitation



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

## Management



### Ms. De Andrés Garrido, Berta

- Neurophysiotherapist at the Neurological Rehabilitation Center in Neurointegra
- Diploma in Physiotherapy
- Master's Degree in Neurological Physiotherapy of Adults and Children
- Master's Degree in Neurological Physiotherapy

## Professors

### Dr. Amor Hernández, Paloma

- ♦ Psychologist
- ♦ Currently studying a PhD in Health Psychology from the National University of Remote Education

### Dr. Rodríguez Sánchez, Augusto Rembrandt

- ♦ Professor en Cardenal Spínola University Center of Studies CEU
- ♦ Degree in Physical Activity and Sports Science
- ♦ PhD from the University of Seville

### Mr. Rubiño Díaz, José Ángel

- ♦ Collaborating Researcher in the University of the Balearic Islands
- ♦ General Health Psychologist
- ♦ PhD in Neuroscience. University of the Balearic Islands
- ♦ Advanced Studies Certificate in Psychobiology
- ♦ Master's Degree in Neuroscience

### Mr. Sarrias Arrabal, Esteban

- ♦ Department of Psychology at the University of Seville



**Mr. Ruiz García, Pablo**

- ♦ Physiotherapist in ADACEA Alicante
- ♦ Degree in Physiotherapy
- ♦ Master's Degree in Neurorehabilitation

**Mr. Montero Leyva, José Luis**

- ♦ Physiotherapist at Beato Fray Leopoldo Residence. Rehabilitation Coordinator

**Mr. Díez, Óscar**

- ♦ Clinical Manager in Neurem Functional Recovery SCP
- ♦ Physiotherapist

**Ms. Monís Rufino, Estela**

- ♦ Neurophysiotherapist
- ♦ Neurointegra

**Pérez Rodríguez, Mónica**

- ♦ Neuropsychologist in Neurointegra
- ♦ Psychologist
- ♦ Master's Degree in Advanced Studies of the Brain and Behavior
- ♦ Master's Degree in General Health Psychology
- ♦ Specialist in Neuropsychology

**Ms. Carrasco Pérez, Ana**

- ♦ Synergia Physiotherapist
- ♦ Child Physiotherapy in the Early Childhood Care Center (CAIT) in Dos Hermanas, Seville

**Ms. Aguado Caro, Patricia**

- ♦ Carries out her work at the Neurological Rehabilitation Center at Neurointegra
- ♦ Neuropsychologist

**Ms. Narbona González, Natividad**

- ♦ Carries out her work at the Neurological Rehabilitation Center at Neurointegra
- ♦ Neuropsychologist



*Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject"*

# 04

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best educational centers, universities, and companies in the national territory, aware of the relevance of current specialization in order to intervene in the training and support of students, and committed to quality teaching through New Educational Technologies.





“

*The Postgraduate Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician, contains the most complete and up-to-date scientific program on the market”*



## Module 1. Neuroanatomy and Neurophysiology

- 1.1. Anatomy
  - 1.1.1. Introduction to Structural Anatomy
  - 1.1.2. Introduction to Functional Anatomy
  - 1.1.3. Spinal Cord
  - 1.1.4. Brainstem
  - 1.1.5. Frontal Lobes
  - 1.1.6. Parietal Lobe
  - 1.1.7. Temporal Lobe
  - 1.1.8. Occipital Lobe
  - 1.1.9. Cerebellum
  - 1.1.10 Basal Ganglia
- 1.2. Physiology
  - 1.2.1. Neuroplasticity.
  - 1.2.2. Muscle Tone
- 1.3. Motor Control
  - 1.3.1. Motor Behavior
  - 1.3.2. Motor Control

## Module 2. ABI

- 2.1 Defining ABI
  - 2.1.1. ABI in Adults
  - 2.1.2. ABI in Childhood
  - 2.1.3. ABI in Elderly People
- 2.2. Functional Alterations
  - 2.2.1. Tone Alterations
  - 2.2.2. Hemineglect
  - 2.2.3. Pusher Syndrome
  - 2.2.4. Cerebellar Syndrome vs. Basal Ganglia Injury
  - 2.2.5. Alien Hand Syndrome
  - 2.2.6. Apraxia





### Module 3. ABl in Pediatrics

- 3.1. Normative Neurodevelopment
  - 3.1.1. Features
  - 3.1.2. Aspects to take into account
- 3.2. Pediatric Examination in Physiotherapy
  - 3.2.1. Exploration
  - 3.2.2. Neurological Assessment Scales
- 3.3. Intervention
  - 3.3.1. Physiotherapy
  - 3.3.2. Rest of the Team
    - 3.3.2.1. Medicine.
    - 3.3.2.2. Speech Therapy
    - 3.3.2.3. Occupational Therapy
    - 3.3.2.4. Neuropsychology.
    - 3.3.2.5. Educational Team



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



# 05

# Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.





“

*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes  
(which you might not be able to attend)”*





### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”

## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*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.*



## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”*

### 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 assess 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.



## The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*



As such, the best educational materials, thoroughly prepared, will be available in this program:



#### 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.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### 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.

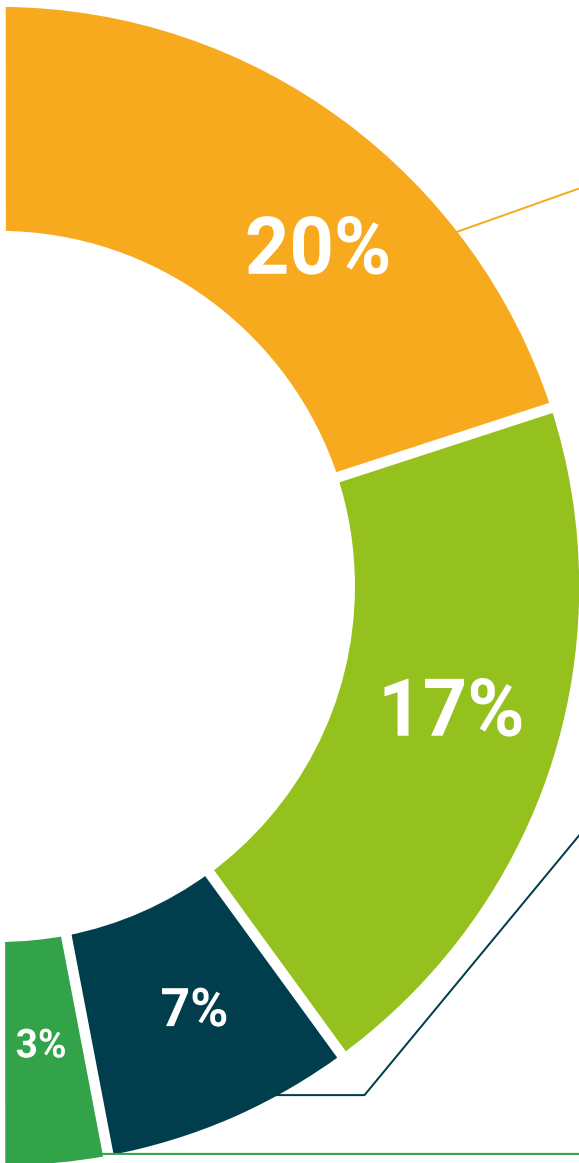
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





#### Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an expert strengthens knowledge and memory, and generates confidence for 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 Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.





“

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

This private qualification will allow you to obtain a **Postgraduate Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician** 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** private qualification 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 Diploma in Physical Therapy Approach of Acquired Brain Injury in Pediatrics for the Rehabilitation Physician**

Modality: **online**

Duration: **6 months**

Accreditation: **16 ECTS**



\*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.



**Postgraduate Diploma**  
Physical Therapy Approach  
of Acquired Brain Injury  
in Pediatrics for the  
Rehabilitation Physician

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 16 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma

Physical Therapy Approach  
of Acquired Brain Injury  
in Pediatrics for the  
Rehabilitation Physician