

# Postgraduate Certificate Electrostimulation in Neurological Patients





## Postgraduate Certificate Electrostimulation in Neurological Patients

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/physiotherapy/postgraduate-certificate/electrostimulation-neurological-patients](http://www.techtute.com/us/physiotherapy/postgraduate-certificate/electrostimulation-neurological-patients)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

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*p. 28*

# 01

# Introduction

It is undeniable that new technologies have brought relevant advances and changes in ways of performing techniques such as physiotherapy and treatments such as electrotherapy, as it happens in any other professional facet. In the case of electrostimulation, although it has been used for more than half a century, it is a completely indispensable method today, which deserves to be analyzed and studied in detail. This is the reason why this program on Electrostimulation in the Neurological Patient was created, with the objective of deepening essential concepts and providing updated content for students interested in the subject. All this in a 100% online mode, with access to the most innovative multimedia materials and with the support of a team of experts in this area.





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*Thanks to this program, you will learn all principles and news about Electrostimulation in Neurological Patients"*

Physiotherapy and treatments such as electrotherapy have been used to help patients with muscular and skeletal injuries for several hundred years. But their age has not prevented them from being updated and undergoing important changes, since the arrival of new technologies and other different advances. This is the same thing that has happened with electrostimulation, which with more than 60 years of existence as a functional and effective treatment in different types of injuries, is still current and continues to be an essential technique for this type of pathologies.

The objective of this Postgraduate Certificate in Electrostimulation in the Neurological Patient is to bring essential concepts, different techniques, characteristics and all the most recent updates in electrostimulation to students seeking to improve their skills and perfect their knowledge. For this purpose, we have an excellent teaching team that will offer its experience and constant support, as well as high quality contents that will cover topics such as main currents in neurological rehabilitation or transcranial magnetic stimulation, among others.

With this Certificate in 100% online mode, there are no time limits, nor need to travel. All information can be accessed from anywhere and with any device with an internet connection, be it a tablet, computer or cell phone. This way, it is possible to face assimilation of concepts and learning completion, without affecting tasks and activities performed by each student in their daily life.

This **Postgraduate Certificate Electrostimulation in Neurological Patients** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Electrostimulation in Neurological Patients
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment process can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ 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 in  
Electrostimulation in Neurological  
Patients, without the need to travel  
and without time limits"*

“

*The learning resource library is available 24 hours a day, so you can complete your studies without interfering with your other activities”*

The program’s teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive education programmed to prepare for real situations.

The program design focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. This , will be done with the help of an innovative interactive video system developed by renowned experts.by recognized experts.

*Access to the highest quality content and the latest news on Electrostimulation Protocols.*

*Gain in-depth knowledge and become an expert in Non-Invasive Brain Stimulation.*



# 02 Objectives

The program design of this Postgraduate Certificate in Electrostimulation in Neurological Patients, will allow the student to acquire necessary skills to update in this subject, deepening in key aspects and thanks to the pedagogical methodology of TECH's Relearning. For this purpose, the selected team of teaching experts has prepared the most specialized, precise and advanced content possible.





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*TECH guarantees you the quality and timeliness of its contents in electrostimulation, thanks to the latest educational technologies”*

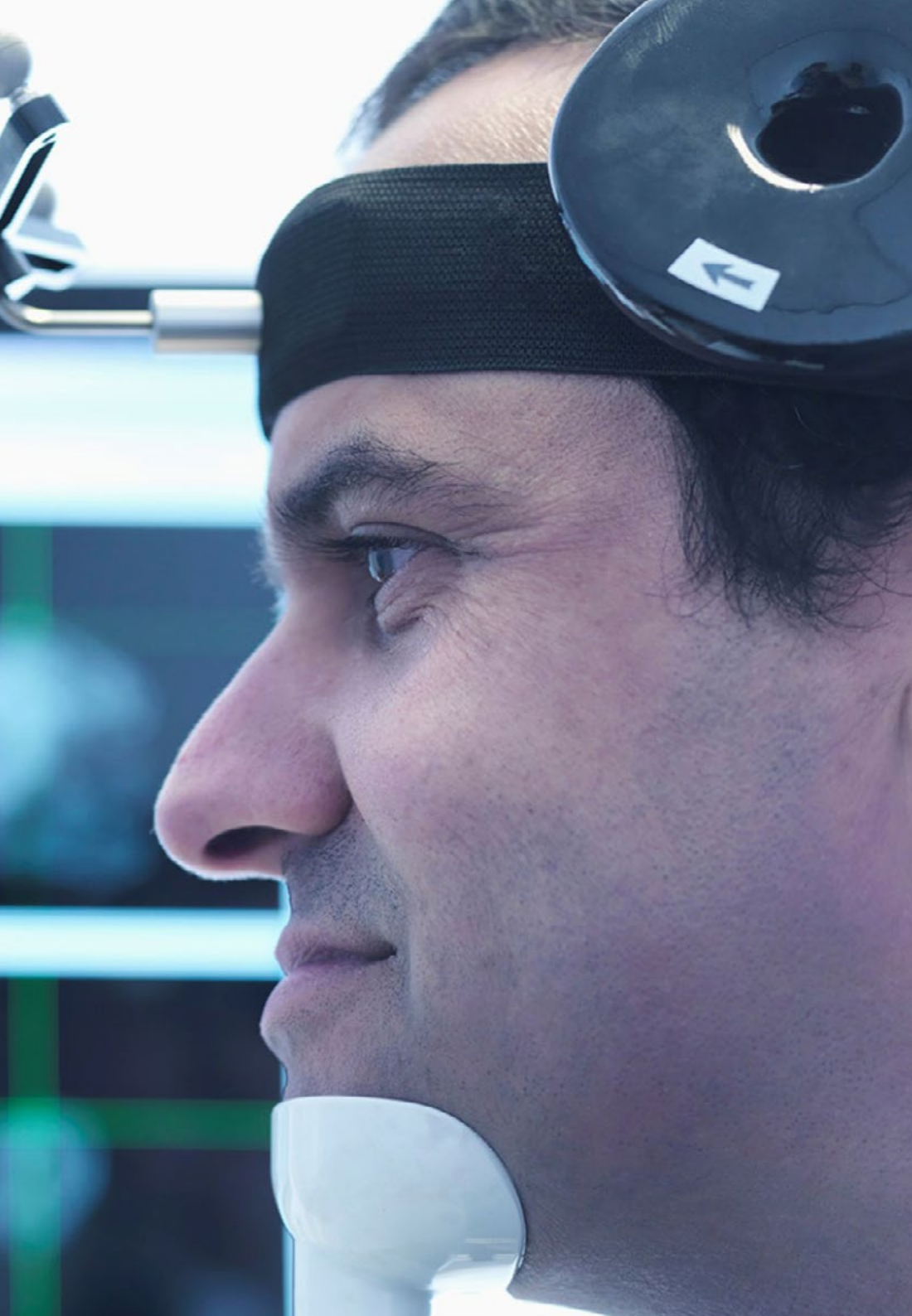


## General Objectives

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- To update knowledge of rehabilitation professional in electrotherapy field
- To promote work strategies based on integral approach to the patient as a reference model in the achievement of healthcare excellence
- To encourage acquisition of technical skills and abilities, through a powerful audiovisual system, and the development possibility through online simulation workshops and/or specific education
- To encourage professional stimulation through continuing education and research





## Specific Objectives

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### Module 1. Electrostimulation in Neurological Patients

- ♦ To expand knowledge of new ultrasound therapy applications in rehabilitation of neuromusculoskeletal pathologies
- ♦ To identify new applications of laser electromagnetic radiation in rehabilitation of neuromusculoskeletal pathologies

### Module 2. Non-Invasive Brain Stimulation

- ♦ To master the stimulation protocols
- ♦ To understand the therapeutic applications of non-invasive brain stimulation

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*You will achieve your goals thanks to our tools and along the way you will be accompanied by the best experts in Neurological Rehabilitation”*

# 04

# Course Management

In its commitment to offer an elite education for all, TECH counts on renowned experts who have followed an outstanding professional career in electrostimulation, as well as an extensive experience in the teaching field. This way, students will have at their disposal the best multimedia materials, the most updated contents and support of excellent professionals to solve any doubts or questions that may arise.





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*Consult your doubts directly with an expert teaching team in electrostimulation and reach your goals, without need to travel"*

## Management



### Dr. León Hernández, Jose Vicente

- Expert Physiotherapist in the Study and Pain Treatment and Manual Therapy
- Doctorate in Physiotherapy from the Rey Juan Carlos University
- Master's Degree in the Study and Treatment of Pain from the Rey Juan Carlos University
- Degree in Chemical Sciences from the Complutense University of Madrid, specializing in Biochemistry
- Diploma in Physiotherapy from the Alfonso X el Sabio University
- Member and training coordinator at the Institute of Neuroscience and Movement Sciences

## Professors

### Mr. Suso Martí, Luis

- Physiotherapist
- Researcher at the Institute for Neurosciences and Movement Sciences
- Contributor to the popular science magazine NeuroRhab News
- Physiotherapy Degree: University of Valencia
- Doctorate, Autonomous University of Madrid
- Degree in Psychology. Open University of Catalonia
- Master's Degree in "Advanced Physiotherapy in Pain Management"

### Mr. Losana Ferrer, Alejandro

- Clinical Physiotherapist and New Rehabilitation Technologies Trainer at Rebiotex
- Physiotherapist at Clínica CEMTRO
- Professional Master's Degree in Advanced Physiotherapy in Musculoskeletal Pain Management
- Expert in Neuroorthopedic Manual Therapy
- Higher University Education in Therapeutic Exercise and Invasive Physiotherapy for Musculoskeletal Pain
- Graduate in Physiotherapy at La Salle

**Dr. Gurdíel Álvarez, Francisco**

- ◆ Physiotherapist at Powerexplosive
- ◆ Physiotherapist at Clínica Fisad
- ◆ Physiotherapist for Sociedad Deportiva Ponferradina
- ◆ D. in Health Sciences from the Universidad Rey Juan Carlos, Spain
- ◆ Degree in Physiotherapy by the University of Leon
- ◆ Degree in Psychology from UNED
- ◆ Professional Master's Degree in Advanced Physiotherapy in Treatment of Musculoskeletal Pain from the Universidad Autónoma de Madrid
- ◆ Expert in Orthopedic Manual Therapy and Myofascial Pain Syndrome by the Universidad Europea

**Ms. Merayo Fernández, Lucía**

- ◆ Expert Physiotherapist in Pain Treatment
- ◆ Physiotherapist in the Navarra Health Service
- ◆ Physiotherapist. Doctor San Martín Ambulatory
- ◆ Degree in Physiotherapy
- ◆ Professional Master's Degree in Advanced Physiotherapy in Musculoskeletal Pain Management

**Dr. Cuenca Martínez, Ferrán**

- ◆ Expert Physiotherapist in Pain Treatment
- ◆ Physiotherapist at FisiocranioClinic
- ◆ Physiotherapist at the Institute of Functional Rehabilitation La Salle
- ◆ Researcher at the Centro Superior de Estudios Universitarios CSEU La Salle
- ◆ Researcher at EXINH Research Group
- ◆ Researcher in Motion in Brans Research Group of the Institute of Neuroscience and Movement Sciences (INCIMOV)
- ◆ Editor-in-Chief of The Journal of Move and Therapeutic Science
- ◆ Editor and publisher of NeuroRehab News magazine
- ◆ Author of Multiple articles Scientific in national and international journals
- ◆ PhD in Medicine and Surgery from the Autonomous University of Madrid
- ◆ Graduate in Physiotherapy from University of Valencia
- ◆ Professional Master's Degree in Advanced Physiotherapy in the Treatment of Pain by UAM

# 05

# Structure and Content

This Syllabus is designed by a team of professors with a vast professional experience and an excellent reputation, who have defined and prepared the program based on pre-established objective of offering the highest quality, updated, practical and dynamic materials, guaranteeing correct learning of the students, by means of the latest and most innovative educational technologies.





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*TECH provides you with a Syllabus developed by experts in Electrostimulation and a completely updated content"*

## Module 1. Electrostimulation in the Neurological Patient

- 1.1. Assessment of Nerve Injury. Principles of Muscle Innervation
- 1.2. Intensity/Time (I/T) and Amplitude/Time (A/T) Curves
- 1.3. Main Trends in Neurological Rehabilitation
- 1.4. Electrotherapy for Motor Rehabilitation in the Neurological Patient
- 1.5. Electrotherapy for Somatosensory Rehabilitation in the Neurologic Patient
- 1.6. Practical Applications
- 1.7. Contraindications

## Module 2. Non-Invasive Brain Stimulation

- 2.1. Non-Invasive Brain Stimulation: Introduction
  - 2.1.1. Introduction to Non-Invasive Brain Stimulation
  - 2.1.2. (EMT Transcranial Magnetic Stimulation)
    - 2.1.2.1. Introduction to Transcranial Magnetic Stimulation
    - 2.1.2.2. Mechanisms of action
    - 2.1.2.3. Stimulation Protocols
      - 2.1.2.3.1. Transcranial magnetic stimulation with single and paired pulses
      - 2.1.2.3.2. Location of the Stimulation Site "Hot Spot"
      - 2.1.2.3.3. Repetitive Transcranial Magnetic Stimulation
      - 2.1.2.3.4. Simple Repetitive Pattern Stimulation
      - 2.1.2.3.5. Theta-Burst Stimulation (TBS)
      - 2.1.2.3.6. Quadripulse Stimulation (QPS)
      - 2.1.2.3.7. Paired Associative Stimulation(PAS)
    - 2.1.2.4. Security/Safety
    - 2.1.2.5. Therapeutic Applications
  - 2.1.3. Bibliography



- 2.2. Transcranial Direct Current
  - 2.2.1. Transcranial Direct Current
    - 2.2.1.1. Introduction to Transcranial Direct Current
    - 2.2.1.2. Mechanism of Action
    - 2.2.1.3. Security/Safety
    - 2.2.1.4. Procedures
    - 2.2.1.5. Applications
    - 2.2.1.6. Other Forms of Transcranial Electrical Stimulation
  - 2.2.2. Transcranial Neuromodulation Combined with other Therapeutic Interventions
  - 2.2.3. Conclusions
  - 2.2.4. Bibliography

“ *A program designed for you, with the latest advances and best multimedia materials on practical applications and contraindications of electrostimulation*”



06

# Methodology

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

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





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

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Physiotherapists/kinesiologists 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 of professional physiotherapy 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. Physiotherapists/kinesiologists 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 physiotherapist/kinesiologist 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.



*The physiotherapist/kinesiologist 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 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 we trained more than 65,000 physiotherapists/kinesiologists with unprecedented success in all clinical specialties, regardless of the workload. 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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 our learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really 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.



#### Physiotherapy Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current Physiotherapy techniques and procedures. 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 them as many times as you want.



#### 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.

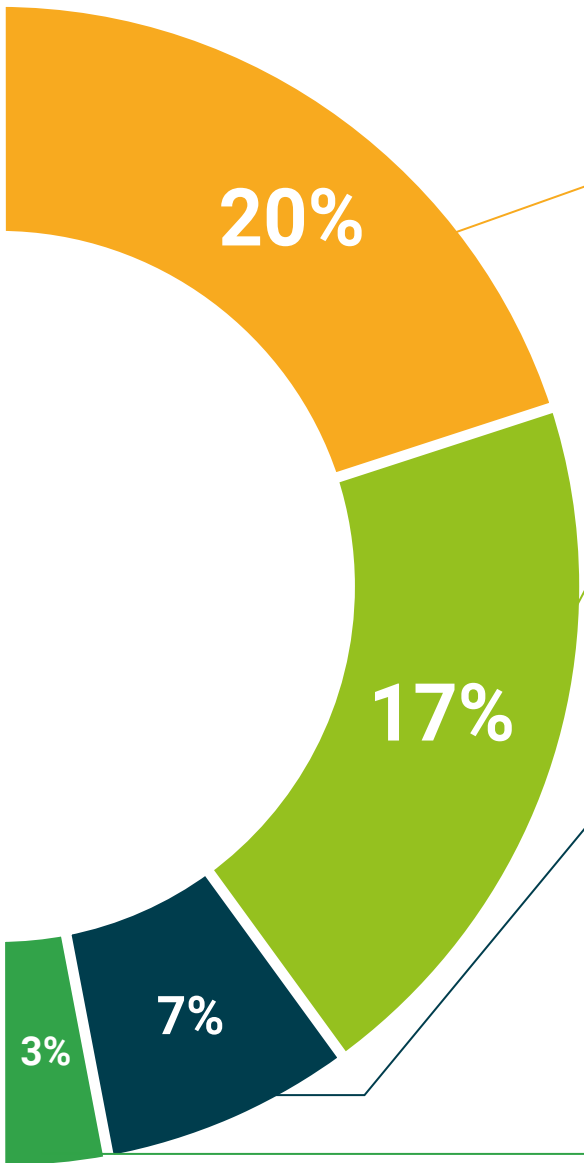
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



**Classes**

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



**Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

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



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

This **Postgraduate Certificate in Electrostimulation in Neurological Patients** contains the most complete and up-to-date scientific on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Electrostimulation in Neurological Patients**  
Official No. of Hours: **300 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



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