

# Postgraduate Diploma Classic Electrotherapy



## Postgraduate Diploma Classic Electrotherapy

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-classic-electrotherapy](http://www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-classic-electrotherapy)

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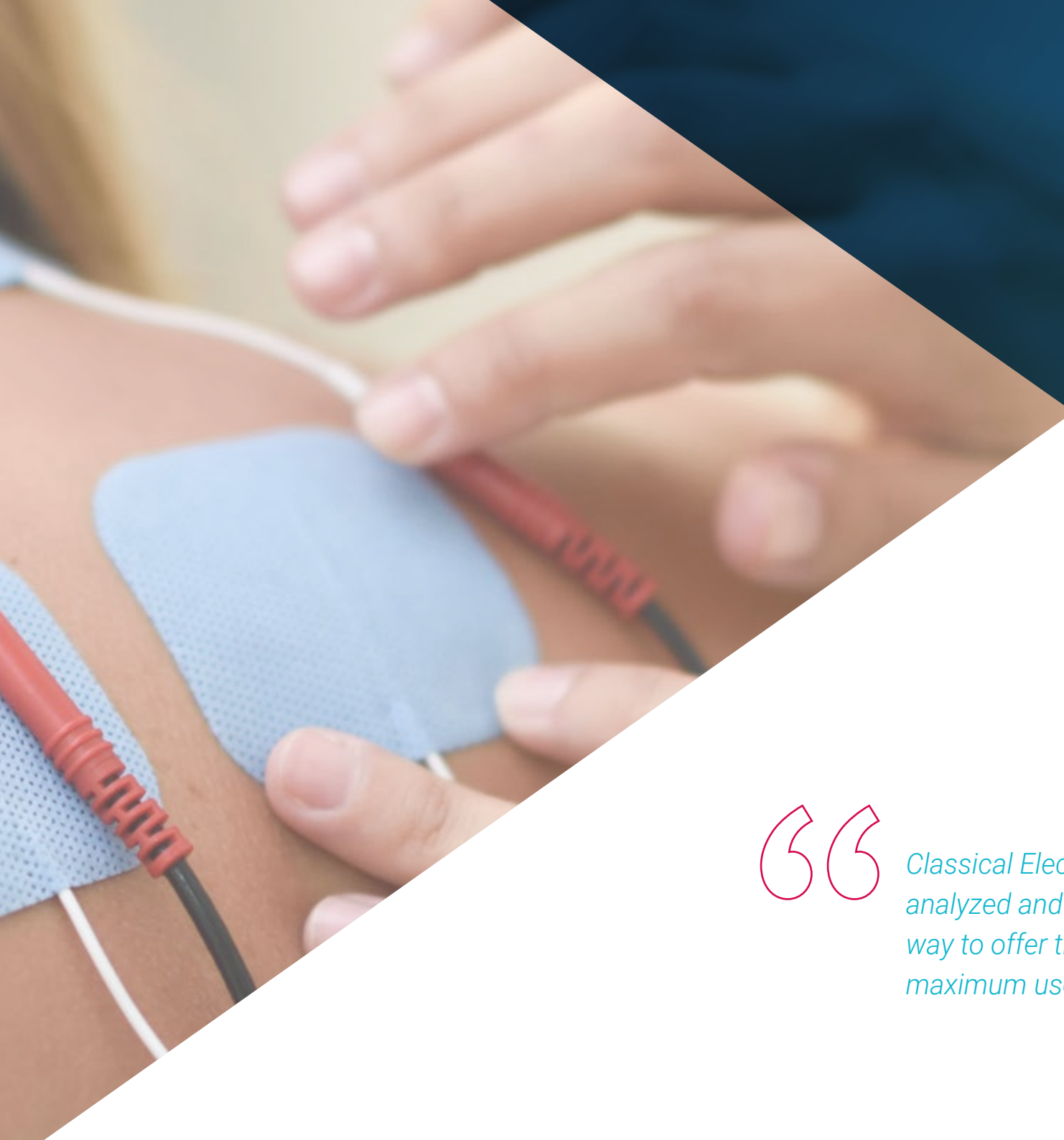
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# 01

# Introduction

Since its origins, electrotherapy has applied currents and waves that, in their most common form, are applied transcutaneously. Its therapeutic possibilities range from pain treatment, such as TENS, to muscle stimulation with methods such as Russian currents. This Postgraduate Diploma has compiled in a single learning and competence progress path, the most updated knowledge and techniques, with innovation and new therapeutic proposals, through a flexible but intensive approach that will allow the student to progress quickly and easily.





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*Classical Electrotherapy techniques analyzed and developed in a modern way to offer the professional their maximum usefulness in the application”*

The use of electromagnetic fields as a therapeutic tool has been used since ancient times, but it is since the end of the last century when it has experienced a great advance. This went hand in hand with a growing knowledge of the physiology of the human being, which facilitated the design and development of different types of treatments based on the application of electromagnetic fields.

The field of application of electrotherapy is very wide, so it is necessary to have an extensive knowledge of both the physiological functioning of the subject and the most appropriate agent in each case. This knowledge ranges from muscle contraction mechanisms to somatosensory transmission mechanisms, which makes it essential for the rehabilitation physician to know both the pathophysiological mechanisms of the subject and the physicochemical basis of electrotherapy.

The objective of the Postgraduate Diploma in Classic Electrotherapy is to present in an updated way the applications of electrotherapy in neuromusculoskeletal pathologies, always based on scientific evidence when selecting the most appropriate type of current in each case. To this end, the neurophysiological bases are always presented at the beginning of each module, so that learning is complete. Each module is supported by practical applications of each type of current, so that the integration of the knowledge of the pathology and its treatment is complete.

This **Postgraduate Diploma in Classic Electrotherapy**, contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- More than 75 practical cases presented by experts in electrotherapy
- 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
- New developments on the role of the rehabilitation physician in the application of electrotherapy
- Practical exercises where self-assessment can be used to improve learning
- Algorithm-based interactive learning system for decision-making in the situations that are presented to the student
- Its special emphasis on research methodologies on electrotherapy applied to Rehabilitation Medicine
- 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



*Acquire the necessary knowledge in the neurophysiological bases that justify the operation of electrotherapy and act with the most accurate vision in this field"*

“

*The Postgraduate Diploma works on simulated environments and cases providing an integrated vision that allows to act with competence in real situations”*

*A practical approach that will allow you to work with classical techniques in an effective and safe way.*

*The best training in the online market in the various applications of Classic Electrotherapy in various pathologies.*

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

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 programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this, the professional will have the help of an innovative interactive video system made by recognized experts in Electrotherapy in Rehabilitation Medicine, with great experience.



# 02 Objectives

The Postgraduate Diploma in Classic Electrotherapy has been developed so that the professional in his daily practice incorporates the most current and relevant knowledge and techniques that have arrived in the sector, in relation to the classical techniques of electrotherapy. Through an approach focused on effectiveness, it will allow you to take your knowledge to the highest level of updating, facilitating the intervention as a specialist in this field. In this way, a series of general and specific objectives have been established to guarantee the excellence of future graduates.







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*This exceptional Postgraduate Diploma will teach you how to approach the patient holistically and achieve the best possible therapeutic results"*



## General Objectives

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- Update the knowledge of the Rehabilitation Medicine professional in the field of Electrotherapy
- Promote work strategies based on a comprehensive approach to the patient as a standard model for achieving excellent care
- Encourage the acquisition of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online simulation workshops and/or specific training
- Encourage professional stimulation through continuing education and research



*It includes the precise knowledge of the new techniques and systems for the application of electromagnetic laser radiation in rehabilitation"*





## Specific Objectives

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### Module 1. Principles of Electrotherapy

- ◆ Learn about the evolution of electrotherapy and the physical basis of electric current
- ◆ Study the bases of nervous and muscular physiopathology
- ◆ Identify the main parameters of electric current and those applied to electrotherapy
- ◆ Know the waveform-dependent currents

### Module 2. Galvanic Currents Iontophoresis

- ◆ Know the fundamentals and classification of the TENS type current
- ◆ Identify the types and application of electrodes, depending on the importance of pulse width
- ◆ Study the applications and contraindications of TENS
- ◆ Analyze the effects of high and low frequencies

### Module 3. Variable Intensity Currents

- ◆ Know the analgesic effects of high and low frequency and Brunt type TENS
- ◆ Identify the effects of currents of varying intensities
- ◆ Know the type and application of variable current electrodes



# 03

## Course Management

Experts in the application of the different systems and techniques of electrotherapy will be in charge of carrying out this program, professionals chosen for their wide prestige in the profession. All of them have an excellent background in rehabilitation medicine and are professionals with years of teaching experience that offer the student of the Postgraduate Diploma, the most complete, direct and real vision of the work with electrotherapy in rehabilitation medicine.



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*Get, first hand, the most realistic view of this type of therapeutic intervention and take a step towards greater professional competitiveness”*

## Management



### Dr. del Villar Belzunce, Ignacio

- ♦ Head of the Rehabilitation and Physical Medicine Department of the Rey Juan Carlos I Hospital in Móstoles. Madrid
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital La Paz, Madrid
- ♦ Head of the Rehabilitation and Physical Medicine Associate Department of the Rey Juan Carlos I Hospital in Móstoles
- ♦ Specialist Physician in the Rehabilitation and Physical Medicine Service of the Rey Juan Carlos I Hospital in Móstoles
- ♦ Professor of ultrasound Quierón Salud guided interventional techniques in the locomotor system
- ♦ Degree in Medicine and Surgery from the University of Zaragoza
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital La Paz, Madrid

## Professors

### Dr. Aguirre Sánchez, Irene

- ♦ F.E.A. of Physical Medicine and Rehabilitation in the Physical Medicine and Rehabilitation Service of the Regional Hospital García Orcoyen of Estella. Navarra, Spain
- ♦ Echoguided interventional rehabilitation. Meixoeiro Hospital Vigo, Spain
- ♦ Spinal cord injury unit National Hospital of Paraplegics. Toledo, Spain
- ♦ Degree in Medicine from the University of Navarra, Spain
- ♦ Specialist in Physical Medicine and Rehabilitation at the Navarra Hospital Complex, Spain
- ♦ University Expert "Musculoskeletal Ultrasound", Francisco de Vitoria Online University
- ♦ University expert "Prescription of physical exercise", UPNA. Face-to-Face

### Dr. López Hermoza, Jenny Gladys

- ♦ Assistant Physician, Rehabilitation Service, Hospital Rey Juan Carlos
- ♦ Resident Physician of Physical Medicine and Rehabilitation, Fundación Jiménez Díaz University Hospital, Madrid
- ♦ Surgeon from Universidad Nacional Mayor de San Marcos Lima-Peru, with homologation to Medical Degree in Spain
- ♦ Specialist in Family and Community Medicine at the ADM Sureste of Madrid
- ♦ Doctorate Courses s Degree in Biomedical Sciences at the Complutense University of Madrid. Presentation of work as research proficiency: "Anemia as a prevalent factor in Heart Failure", with the qualification of outstanding in obtaining the diploma of advanced studies (DEA)

**Dr. Pulido Poma, Rosa Mercedes**

- ♦ Physician specializing in Physical Medicine and Rehabilitation in the Rehabilitation Service of the Hospital Universitario Rey Juan Carlos Móstoles, Madrid
- ♦ Physician specializing in Physical Medicine and Rehabilitation At Santa Rosa Hospital, Lima, Peru
- ♦ Physician specializing in Physical Medicine and Rehabilitation Alberto L. Barton Hospital Callao, Peru
- ♦ Surgeon, San Fernando School of Medicine - Universidad Nacional Mayor de San Marcos, Lima, Peru
- ♦ Surgeon, San Fernando School of Medicine - Universidad Nacional Mayor de San Marcos, Lima, Peru

**Dr. Sánchez Gómez, Gema**

- ♦ Attending Physician in the specialty of Physical Medicine and Rehabilitation at the Rey Juan Carlos de Móstoles University Hospital, Madrid
- ♦ Medical Specialist in Physical Medicine and Rehabilitation at Jaca Clinic, Madrid
- ♦ Specialist in Physical Medicine and Rehabilitation. Rey Juan Carlos Hospital, Móstoles, Madrid
- ♦ Degree in Medicine from the Complutense University of Madrid

**Dr. Torres Noriega, Daniel**

- ♦ Rehabilitation Physician. Rehavitalis Clinic Madrid- Spain
- ♦ Emergency and primary care physician. Manises Hospital. Valencia, Spain
- ♦ Prehospital Medical Assistance. Vallada Ambulances Valencia, Spain
- ♦ Medical Surgeon Central University of Venezuela
- ♦ Physical medicine and rehabilitation. Ramón y Cajal University Hospital Spain
- ♦ Master's Degree in Integration and Clinical Problem Solving in Medicine. University of Alcalá, Spain
- ♦ Theoretical and practical course for the treatment of spasticity in stroke

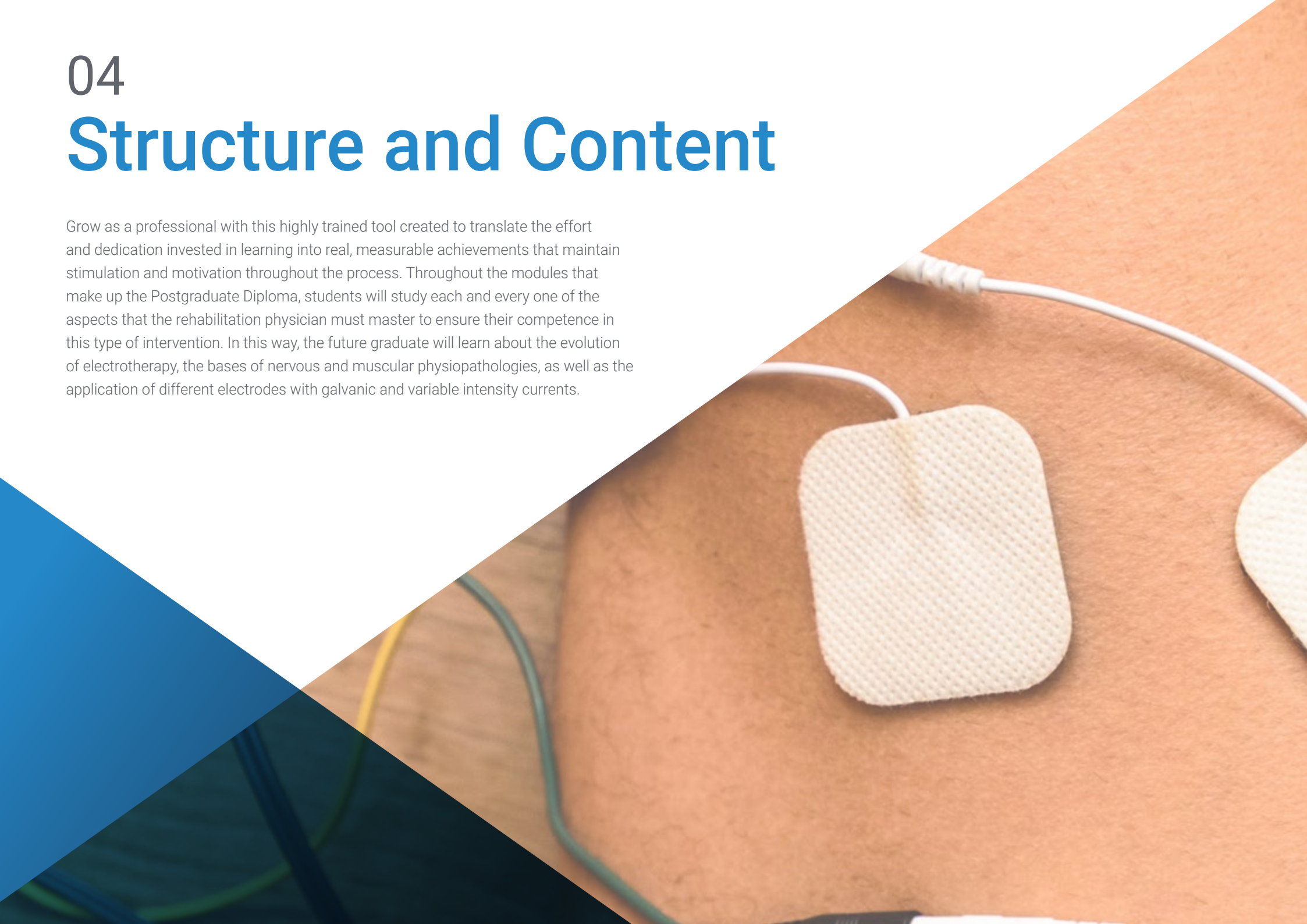


*Learn from the best in the industry and benefit from their experience in the reality of this profession"*

# 04

## Structure and Content

Grow as a professional with this highly trained tool created to translate the effort and dedication invested in learning into real, measurable achievements that maintain stimulation and motivation throughout the process. Throughout the modules that make up the Postgraduate Diploma, students will study each and every one of the aspects that the rehabilitation physician must master to ensure their competence in this type of intervention. In this way, the future graduate will learn about the evolution of electrotherapy, the bases of nervous and muscular physiopathologies, as well as the application of different electrodes with galvanic and variable intensity currents.







“

*The most complete and current syllabus in a high training process, of exceptional quality"*

## Module 1. Principles of Electrotherapy

- 1.1. Evolution of Electrotherapy
- 1.2. Physical Basis of Electric Current
- 1.3. Basis of Nerve Pathophysiology
- 1.4. Basis of Muscular Pathophysiology
- 1.5. Main Parameters of Electric Current
- 1.6. Parameters Applied to Electrotherapy
- 1.7. Classification of the Most Commonly Used Currents
- 1.8. Waveform-Dependent Currents
- 1.9. Current Transmission Electrodes
- 1.10. Bipolar and Tetrapolar Application Importance of Polarity Alternation

## Module 2. Galvanic Currents Iontophoresis

- 2.1. Fundamentals of TENS Type Current
- 2.2. Classification of TENS Type Current
- 2.3. Concept of Accommodation
- 2.4. Analgesic Effects of High and Low Frequency TENS and Burst Type TENS
- 2.5. Electrodes: Types and Application Importance of Pulse Width
- 2.6. Applications and Contraindications of TENS
- 2.7. Fundamentals and Parameters of Interferential Currents
- 2.8. Effects of High and Low Frequency
- 2.9. Electrodes: Type and Application Importance and Adjustment of the Frequency Spectrum Concept of Accommodation
- 2.10. Applications and Contraindications



### Module 3. Variable Intensity Currents

- 3.1. Fundamentals of TENS Type Current
- 3.2. Classification of TENS Type Current
- 3.3. Concept of Accommodation
- 3.4. Analgesic Effects of High- and Low- Frequency TENS and Burst Type TENS
- 3.5. Electrodes: Types and Application Importance of Pulse Width
- 3.6. Applications and Contraindications of TENS
- 3.7. Fundamentals and Parameters of Interferential Currents
- 3.8. Effects of High and Low Frequency
- 3.9. Electrodes: Type and Application Importance and Adjustment of the Frequency Spectrum Concept of Accommodation
- 3.10. Applications and Contraindications



*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: **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. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250.000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



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



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

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

This exclusive multimedia content presentation training Exclusive 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 your goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



#### 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 Classic Electrotherapy guarantees, in addition to the most rigorous and update training, access to a Postgraduate Diploma issued by TECH Global University.



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*Successfully complete this training and receive your university degree without travel or laborious paperwork”*

This program will allow you to obtain your **Postgraduate Diploma in Classic Electrotherapy** 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.

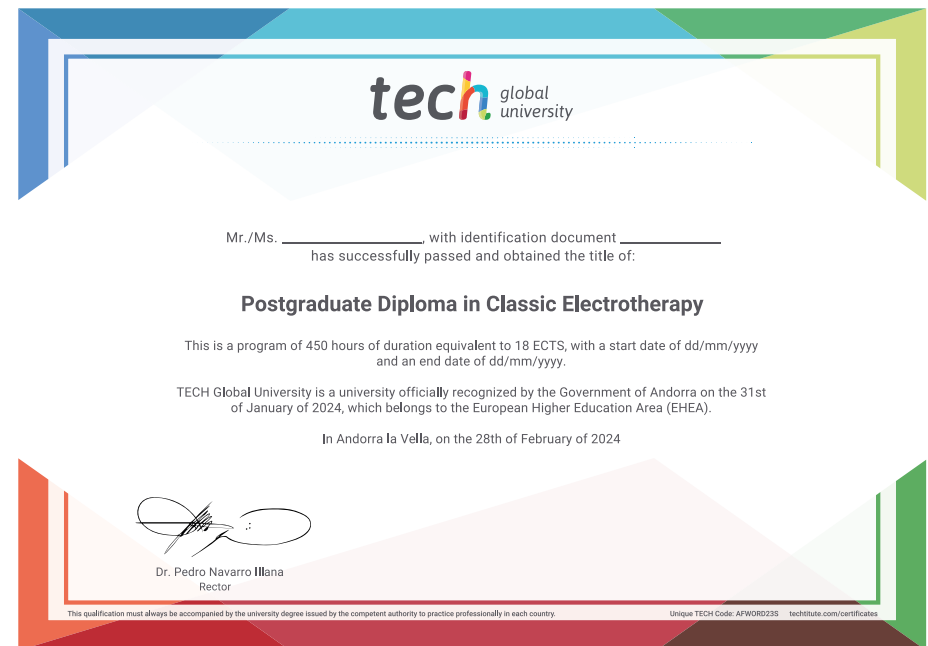
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Classic Electrotherapy**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



health future  
confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development language  
virtual classroom

**tech** global  
university

## Postgraduate Diploma Classic Electrotherapy

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