

# Postgraduate Certificate

## Variable Intensity Currents





## Postgraduate Certificate Variable Intensity Currents

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of Hours: 150 h.

Website: [www.techtute.com/medicine/postgraduate-certificate/variable-intensity-currents](http://www.techtute.com/medicine/postgraduate-certificate/variable-intensity-currents)

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# 01

# Introduction

To understand the therapeutic possibilities of electric current, it is necessary to know the physical foundations on which its use is based and from which its efficacy derives. In this field, the use of variable intensity currents offers a wide range of applications. This work is performed through pulsed or alternating current, with pulses of short duration. This program in Variable Intensity Currents will teach interested professionals how to achieve the desired clinical effects through the choice and use of different polarities, duration, intensity, charge, frequency, inter-pulse interval, emission rate and shape. A high-level training process that will boost professional development.





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*An exceptional Postgraduate Certificate  
that will give you all the guidelines for the  
efficient use of Variable Intensity Currents  
in Electrotherapy”*

The Variable Intensity Currents are characterized by their variation as a function of time. They also present differences due to their orientation and can be unidirectional (faradic and exponential), alternating or modulated. These differences also determine the ways in which they are applied and the pathologies in which they are most useful and safe to use.

This Postgraduate Certificate develops all aspects of learning that the professional working in electrotherapy has to master. We will learn the analgesic effects of Variable Intensity Currents, studying the nociception pathways and depending on them, the use of direct spinothalamic, spino-reticulotalamic or cortical integration bundles.

Within this analgesic use, the professional will acquire the necessary knowledge about the entry gates, the descending inhibitory pathways, the nociceptive inhibition controls and, in short, all the aspects involved in the use and exploitation of the effects of this type of currents.



*With a planning aimed at efficiency, this program puts in your hands the most innovative theoretical knowledge and the most interesting working protocols in the use of Variable Intensity Currents"*

The **Postgraduate Certificate in Variable Intensity Currents** 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 the self-assessment process can be carried out 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

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*The best online training in the market on Variable Intensity Currents and their specific use in different 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.

Its Multimedia Content, elaborated with the latest Educational Technology, will allow the Professional a situated and contextual learning, that is to say, a Simulated Environment that will provide an immersive specialization 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.

*Focused on practical learning, this Postgraduate Certificate will allow you to develop the appropriate guidelines in each case, offering your patients the best treatment alternative.*

*You will learn about real cases achieving an integrated, more efficient and contextual vision.*



# 02 Objectives

Studying and analyzing Variable Intensity Currents in an updated way is the only way to advance in clinical practice, incorporating the most innovative and relevant knowledge and techniques available in the sector. This Postgraduate Certificate will help professionals to get up to date in everything related to the use of Variable Intensity Currents. All this, through an approach focused on efficiency that will allow you to take your knowledge to the highest level of updating, acting as a specialist in this field.





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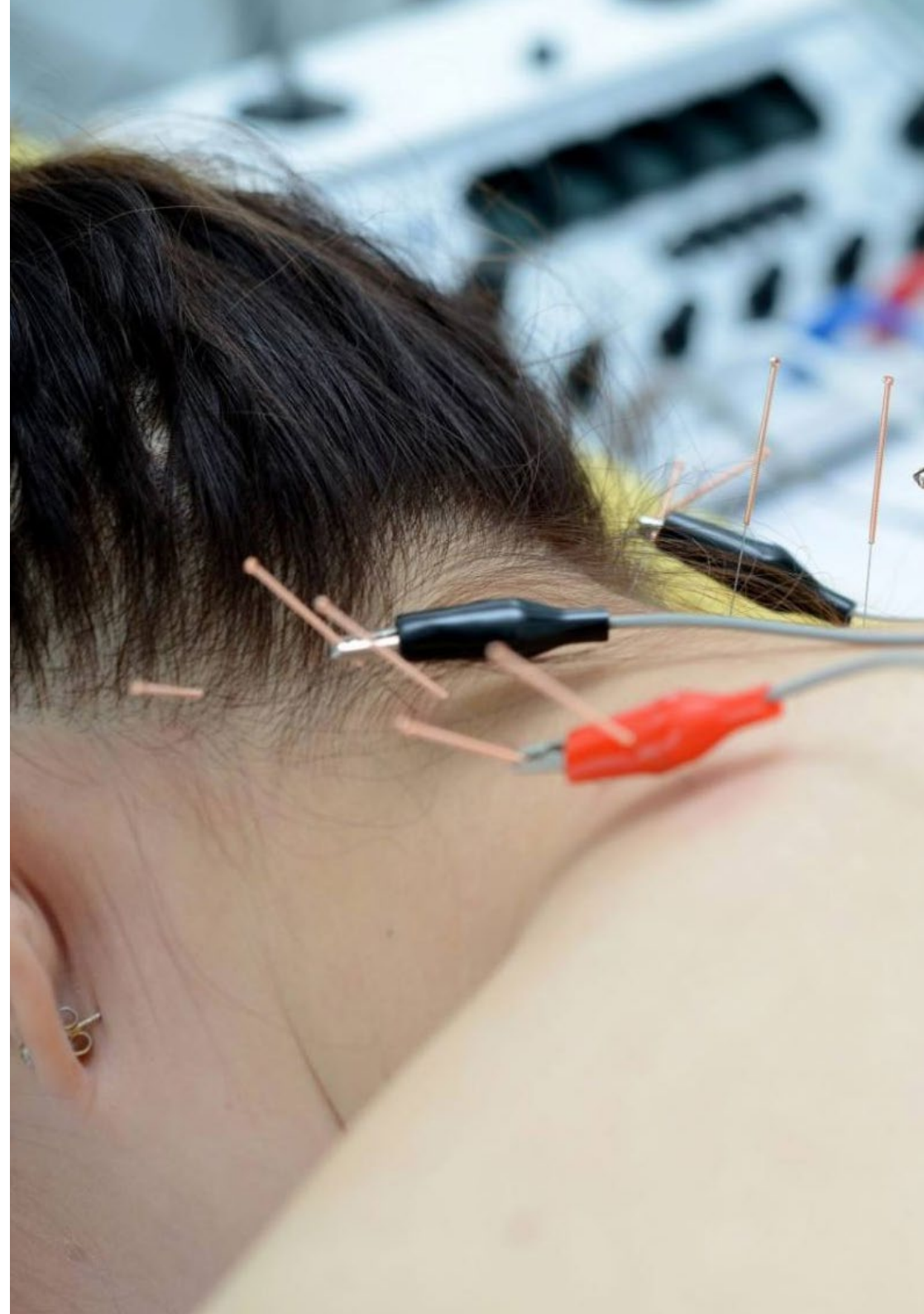
*Learn new techniques and new therapeutic possibilities of the Variable Intensity Currents in a few weeks of intensive and effective work”*

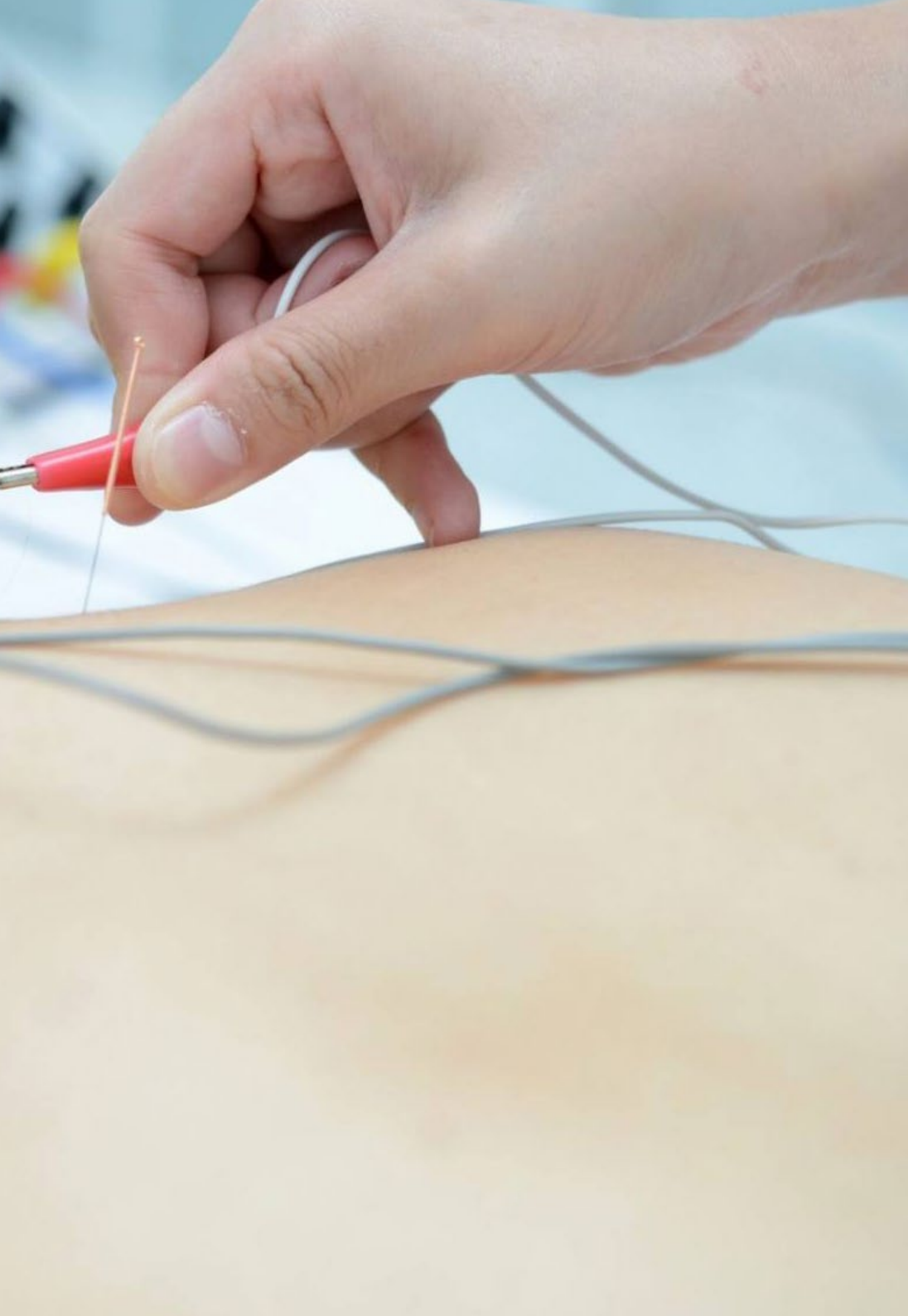


## General Objectives

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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





## Specific Objectives

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- 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

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*With the best support methods  
to ensure the penetration of  
learning”*

03

# Course Management

TECH's goal is to provide quality education for all its students. For this reason, it relies on renowned professionals for the development of its programs. In this opportunity, the teachers of the Postgraduate Certificate have extensive experience and prestige in their profession, namely rehabilitation medicine. In this way, the student will receive the best training in this area of study, with the most complete, direct and real vision of the work with electrotherapy in rehabilitation medicine.





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*Move unstoppably towards greater professional competitiveness with the guidance and advice of specialists in this field"*

## 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-guided interventional techniques in the locomotor system Quierón Salud
- ♦ Degree in Medicine and Surgery from the University of Zaragoza.
- ♦ Specialist in Physical Medicine and Rehabilitation, University Hospital La Paz, Madrid.

## Professors

### 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. 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)



# 04

## Structure and Content

With a work plan that aims for maximum penetration of the contents, this Postgraduate Certificate ensures that the student's work and dedication to learning are converted into real, quantifiable achievements that maintain the stimulus and motivation throughout the learning 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.





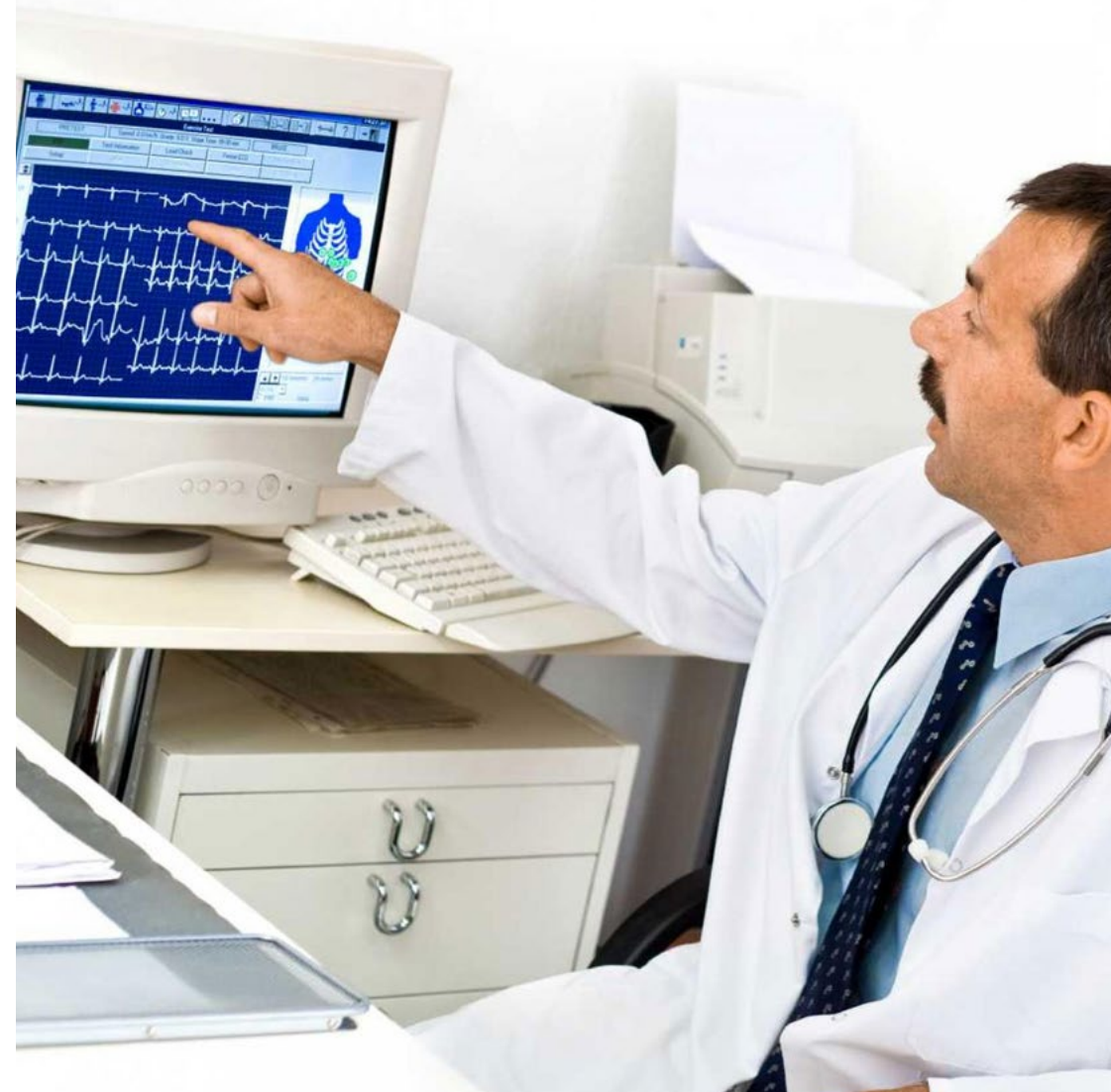


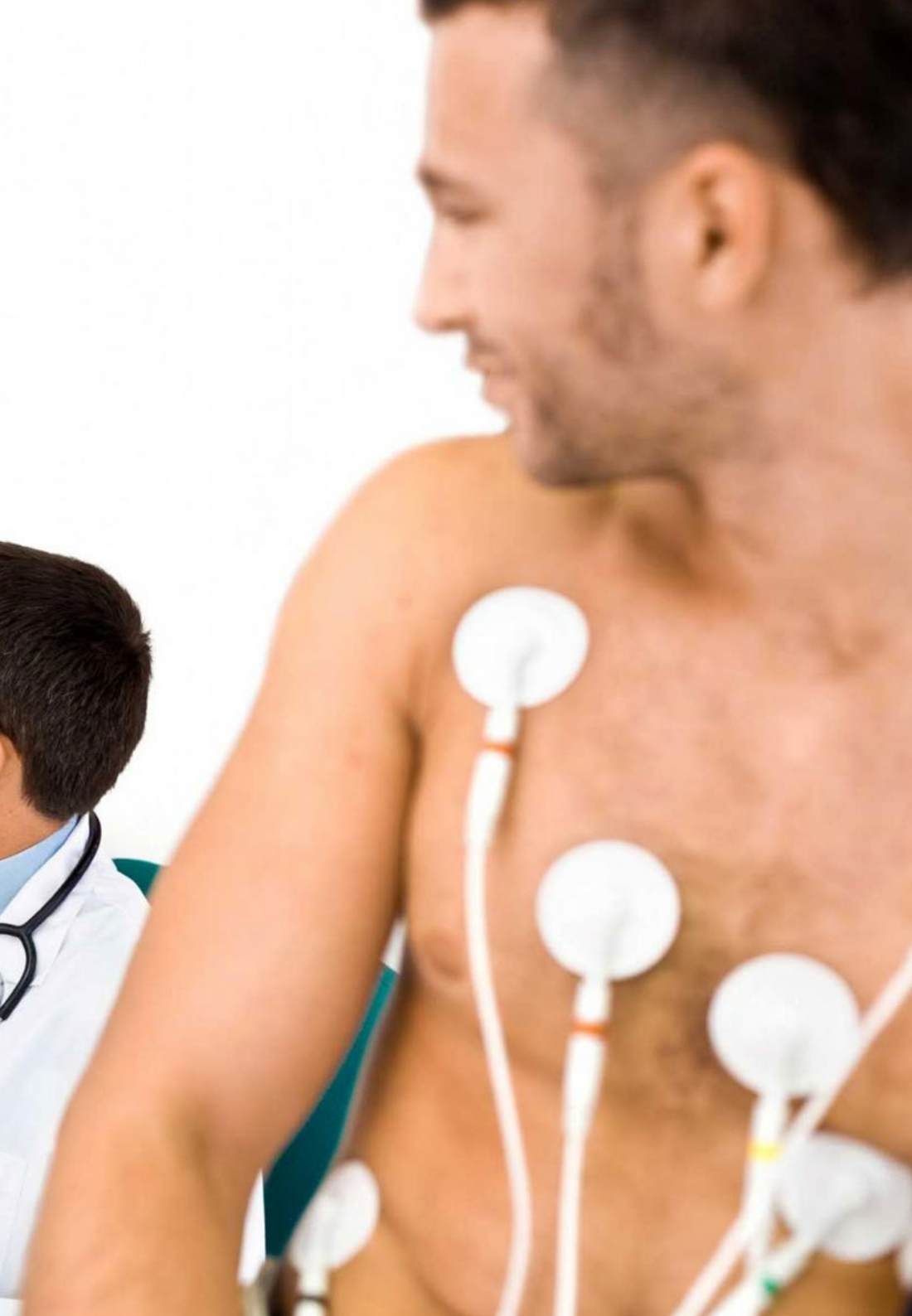
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*Join a high training process of exceptional quality and take a turn towards excellence in your profession"*

## Module 1. Variable Intensity Currents

- 1.1. Fundamentals of TENS Type Current
- 1.2. Classification of TENS Type Current
- 1.3. Concept of Accommodation
- 1.4. Analgesic Effects of High and Low Frequency TENS and Burst Type TENS
- 1.5. Electrodes: Types and Application Importance of Pulse Width
- 1.6. Applications and Contraindications of TENS
- 1.7. Fundamentals and Parameters of Interferential Currents
- 1.8. Effects of High and Low Frequency
- 1.9. Electrodes: Type and Application Importance and Adjustment of the Frequency Spectrum Concept of Accommodation
- 1.10. Applications and Contraindications





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*Make this Postgraduate Certificate the unique opportunity to develop in your profession and to be able to optimally apply a TENS therapy”*

# 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.



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*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. Gervas, 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

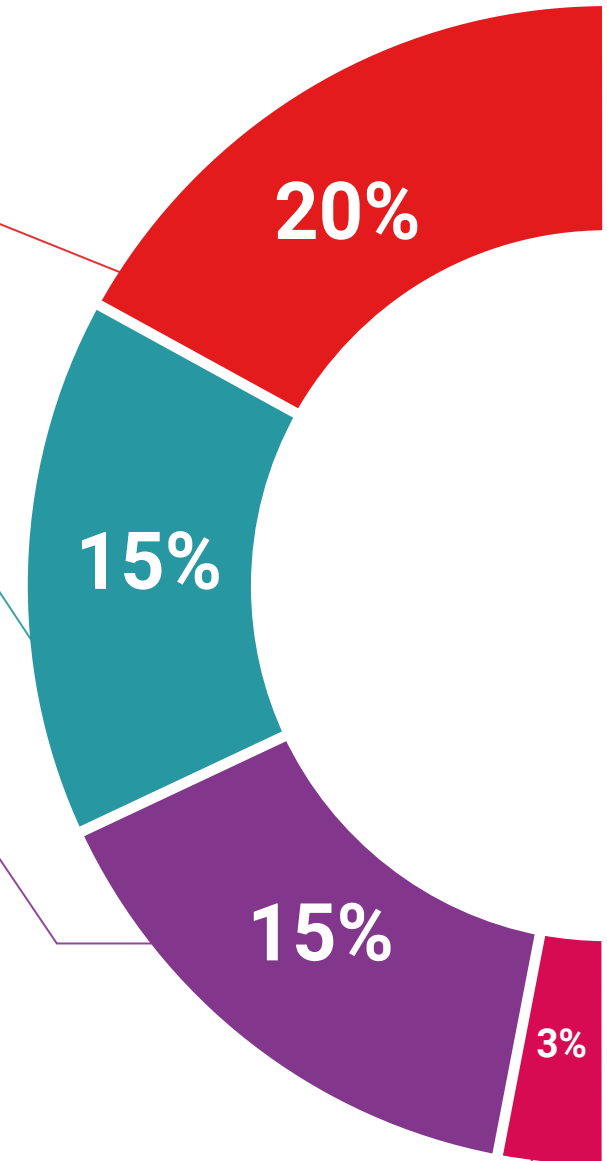
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

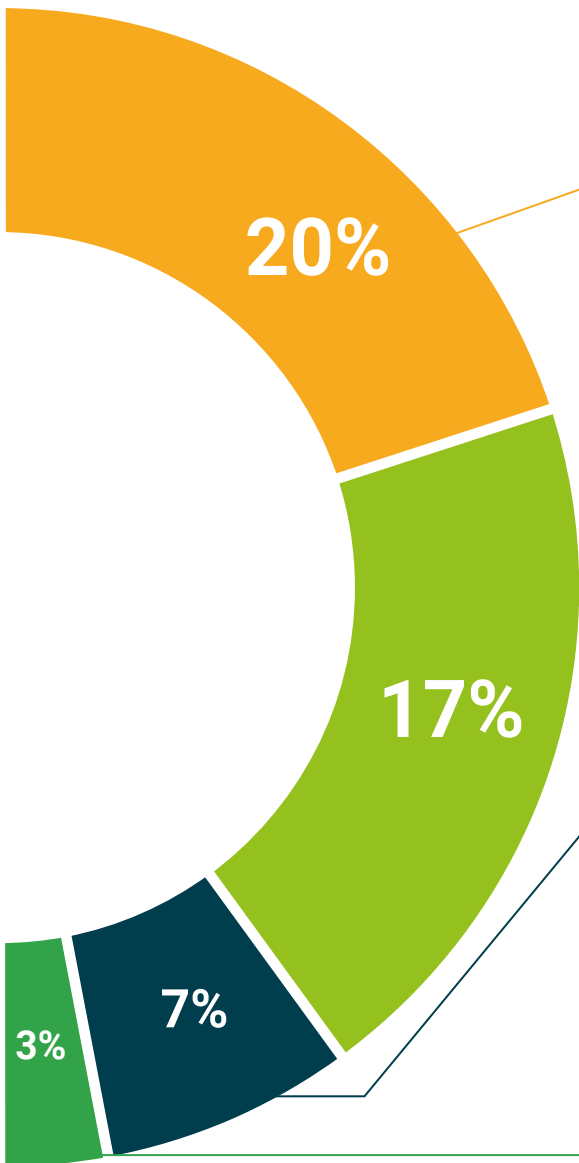
This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



#### 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 Certificate in Variable Intensity Currents guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate qualification issued by TECH Technological University.





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*Successfully complete this training program  
and receive your diploma without travel or  
laborious paperwork”*

The **Postgraduate Certificate in Variable Intensity Currents** contains the most complete and up-to-date scientific program 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 certificate 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 Variable Intensity Currents**

Official N° of Hours: **150 h.**



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

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



**Postgraduate Certificate**  
Variable Intensity Currents

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of Hours: 150 h.

# Postgraduate Certificate

## Variable Intensity Currents

