

# Postgraduate Certificate

Neurological Bases in Veterinary  
Rehabilitation and Physiology of Pain





## Postgraduate Certificate Neurological Basis in Veterinary Rehabilitation and Physiology of Pain

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/neurological-bases-veterinary-rehabilitation-physiology-pain](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/neurological-bases-veterinary-rehabilitation-physiology-pain)

# 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

This Postgraduate Certificate, designed by professionals from TECH Technological University, examines the main physiological mechanisms of pain. Veterinarians will be able to understand in depth, the most effective methods based on the case study and the most efficient techniques used in rehabilitation due to their high rate of success. In addition, the main theoretical aspects of the nervous system will also be studied so that veterinarians learn to carry out the five stages of the neurological examination successfully. The topics covered in this program will provide veterinarians with the expert knowledge needed to drive them to achieving success in their careers.





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*Welcome to the training that will take your knowledge to the next level and position you as a prestigious veterinarian, capable of understanding the Neurological Bases of Animal Rehabilitation"*

The Postgraduate Certificate in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain examines the physiological mechanisms of pain in order to understand how to employ the most effective techniques used in Rehabilitation, whilst at the same time analyzing the signs of pain and identifying the different types and their relationships. Throughout the training course, the theoretical aspects related to the functioning of the Nervous System will be addressed and the five stages of the neurological examination will be investigated in an applied and practical way.

Helping veterinarians dedicated to the physical rehabilitation of animals, to be able to recognize, identify and localize neurological conditions, something which is essential for all professionals in this field of study. In this way, the contents covered in this Postgraduate Certificate will be of great service to veterinarians striving to carry out their daily work in a more successful and effective way, achieving optimal results for their patients.

All this is condensed into a training course which is 100% online, full of quality multimedia and didactic material, and specially designed to lead veterinarians to accomplish their goals in the field.

This **Postgraduate Certificate in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of case studies presented by experts in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain
- ◆ The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ What's new in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Studying the neurological bases and physiology of animal pain is not a simple task, and requires first-rate professionals and effective practical theoretical material"*

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*A first-class program, especially oriented towards veterinarians who want to learn everything they need to administer rehabilitation physiotherapy in an optimal way”*

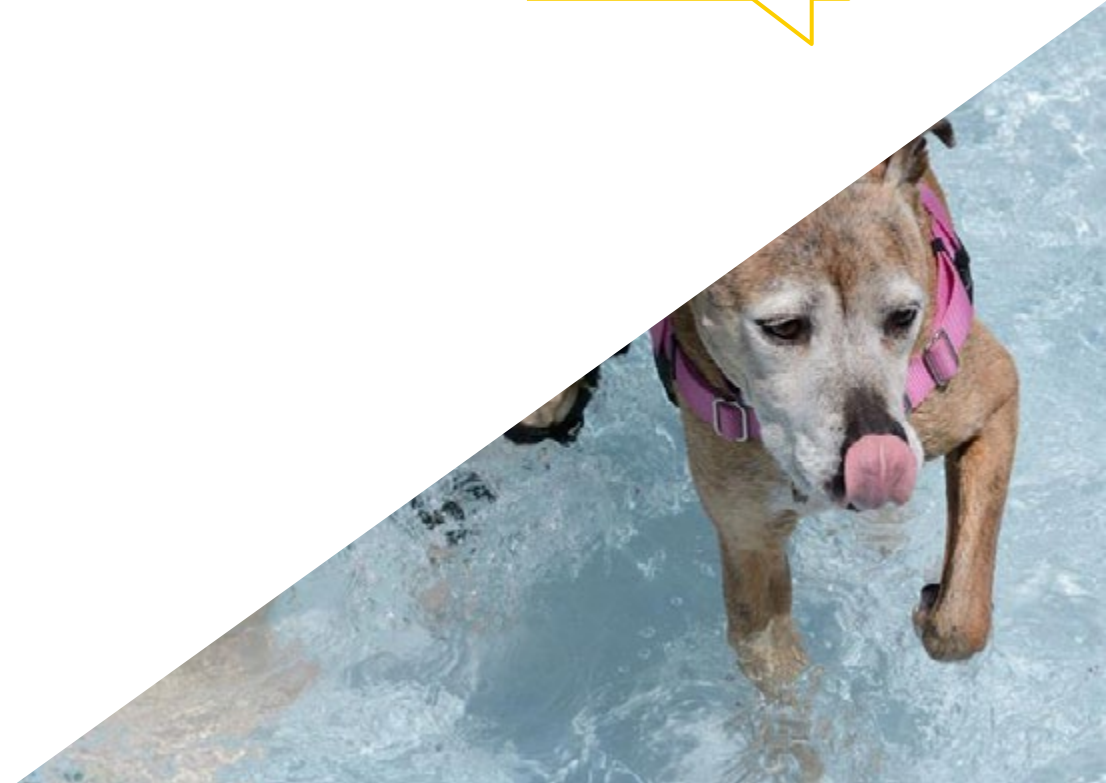
The program includes, in its teaching staff, professionals belonging to the veterinary field, who bring their vast work experience to the course, in addition to recognized specialists from both prestigious and leading societies and universities.

The multimedia content, developed using 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 professionals must try to solve the different professional practice situations that arise during the program. To do so, the professional will be assisted by an innovative interactive video system created by renowned experts with a wealth of experience in

*Go into this Postgraduate Certificate with the comfort of knowing that you will benefit from being able to study wherever and whenever you want.*

*A quality Postgraduate Certificate, full of practical case studies specially designed to lead the veterinarian to success in their profession.*



# 02

# Objectives

Thanks to this Postgraduate Certificate, veterinary professionals will be able to learn to detect, in an eminently practical way, the five stages of the neurological examination. All of this with the objective of enabling professionals to recognize, identify and localize neurological conditions. In this way, the knowledge addressed throughout the course will be hugely beneficial to professionals when it comes to entering a job market that is increasingly demanding veterinarians who are specialized experts in this area.







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*Your goals are our goals. And we won't stop training you until you achieve the professional growth you're looking for"*



## General objectives

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- Identify signs related to pain
- Determine the most useful tools to assist in the assessment of pain
- Develop specialized knowledge about pain
- Compile the latest therapies used in rehabilitation for the treatment of pain and for the management of neurological patients in rehabilitation
- Review the functioning of the Nervous System to understand the rationale for neurological evaluation
- Examine the different parts of the neurological examination





## Specific objectives

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- ◆ Identify signs related to pain
- ◆ Determine the most useful tools to assist in the assessment of pain
- ◆ Develop specialized knowledge about pain
- ◆ Compile the latest therapies used in rehabilitation for the treatment of pain and for the management of neurological patients in rehabilitation
- ◆ Review the functioning of the Nervous System to understand the rationale for neurological evaluation
- ◆ Examine the different parts of the neurological examination

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*A pathway to achieving specialization and professional growth that will propel you towards a greater level of competitiveness in the employment market”*

03

# Course Management

The teaching staff that TECH has assembled for this course is made up of a number of veterinary experts, who have great prestige and recognition in the profession due to the number of clinical cases they have reviewed, their publications and years of experience. In addition, experts from other related areas have participated in the preparation of the content, which completes the Postgraduate Certificate in a global and multidisciplinary way. This guarantees that students will learn the latest developments in the neurological bases of veterinary rehabilitation from the best professionals in the sector.



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*Sign up for this Postgraduate Certificate today and start learning from the best professionals in the industry”*

## Management



### Ms. Ceres Vega-Leal, Carmen

- Veterinarian in the Physiotherapy and Rehabilitation Service at Clínica Veterinaria A Raposeira, Vigo (Pontevedra)
- Veterinarian in Tierklinik Scherzingen, Freiburg (Germany)
- Degree in Veterinary Medicine from the Faculty of Veterinary Medicine of León in 2008
- Master's Degree in Physiotherapy and Rehabilitation of Small Animals, Complutense University of Madrid
- Master's Degree in Veterinary Physiotherapy and Rehabilitation for Dogs and Cats, Complutense University of Madrid
- Postgraduate Diploma in Bases of Physiotherapy and Animal Rehabilitation, Complutense University of Madrid 2014

## Professors

### Ms. Hernández Jurado, Lidia

- ♦ Co-owner and head of the Animal Physical Rehabilitation Service of the Amodiño Veterinary Clinic in Lugo
- ♦ Graduate in Veterinary Medicine from the University of Santiago de Compostela
- ♦ Degree in Biology from the University of Santiago de Compostela
- ♦ Specialization Postgraduate Certificate in Small Animal Rehabilitation

### Ms. Rodríguez-Moya Rodríguez, Paula

- ♦ Veterinarian at the Rehabcan Animal Rehabilitation and Physiotherapy Center. Traditional Chinese veterinary medicine service
- ♦ Graduate in Veterinary Medicine, Catholic University of Valencia.
- ♦ Specialty in Traditional Chinese Medicine by Chi Institute. Certified acupuncturist. Certified Food Therapist
- ♦ Postgraduate Degree in Physiotherapy and Rehabilitation of Small Animals by Euroinnova Business School

### Ms. Picón Costa, Marta

- ♦ Outpatient Rehabilitation and Physiotherapy Service in Seville and Cadiz areas
- ♦ Veterinarian by the Faculty of Veterinary Medicine of Alfonso X the Wise
- ♦ Postgraduate Certificate in Physiotherapy and Animal Rehabilitation from the Complutense University of Madrid

### Ms. Pascual Veganzones, María

- ♦ Head veterinarian at the Narub Rehabilitation and Hydrotherapy Center
- ♦ Manager and Coordinator of the Rehabilitation and Physiotherapy service at home, Animal Nutrition in Vetterapia Animal
- ♦ Head of the veterinary clinic at Don Pelanas Veterinary Center. Animal Rehabilitation and Physiotherapy Service
- ♦ Graduate in Veterinary Medicine from the University of Leon
- ♦ Postgraduate course in Rehabilitation and Veterinary Physiotherapy in Small Animals, FORVET school

### Ms. Laliena Aznar, Julia

- ♦ Head of the Rehabilitation Service, Veterinary Hospital Anicura Valencia Sur. Valencia
- ♦ I-VET academy teacher in Rehabilitation classes of the Veterinary Technical Assistant postgraduate course
- ♦ Degree in Veterinary from the University of Zaragoza
- ♦ Master's Degree in Small Animal Clinic I and II
- ♦ Postgraduate Certificate in Small Animal Veterinary Rehabilitation
- ♦ Postgraduate Certificate in Clinical Diagnosis in the Canine and Feline Patient

# 04

## Structure and Content

For this university, providing its students with thorough, quality content is crucial. As a result, TECH, and its professional team design all its didactic material based on the latest evidence and the utmost scientific rigor. This will ensure that, upon completion of the training, you will be fully qualified in this field from a multidisciplinary approach that favors the longevity and quality of life of the animal. In addition, these contents will be a great tool for veterinarians to provide theoretical support to their clinical case studies.





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*The course content provides you with the necessary theoretical support to be able to enter the job market with confidence"*

## Module 1. Physiology of Pain. Neurological Evaluation

- 1.1. Introduction
  - 1.1.1. What is Pain?
  - 1.1.2. How to Identify Pain?
  - 1.1.3. How to Quantify Pain?
  - 1.1.4. Perception of Pain in Different Organs and Tissues
- 1.2. Types of Pain
  - 1.2.1. Classification of the Types of Pain
  - 1.2.2. Terminology Related to Pain
  - 1.2.3. Components of Pain
- 1.3. Neurophysiology of Pain
  - 1.3.1. Transduction
  - 1.3.2. Transmission
  - 1.3.3. Modulation
  - 1.3.4. Perception
- 1.4. Chronic Pain and Related Types of Pain
  - 1.4.2. Neurophysiology of Chronic Pain
  - 1.4.2. Pain due to Osteoarthritis (OA)
  - 1.4.2. Neuropathic Pain
  - 1.4.2. Myofascial Pain
- 1.5. The Role of Rehabilitation in Pain Management
  - 1.5.1. Review of Pain Inhibition Mechanisms
  - 1.5.2. Analgesic Therapies Used in Rehabilitation
  - 1.5.3. Management of the Patient with Acute Pain
  - 1.5.4. Management of the Chronic Pain Patient
- 1.6. Neurological Evaluation I
  - 1.6.1. Introduction
  - 1.6.2. Motor System: Review of the Concepts of Upper Motor Neuron and Lower Motor Neuron
  - 1.6.3. Sensory System: Review of Cranial Nerves and Spinal Nerves





- 1.7. Neurological Evaluation II
  - 1.7.1. Review
  - 1.7.2. Observation of State of Mind
  - 1.7.3. Behavioral Assessment
  - 1.7.4. Posture Observation
  - 1.7.5. Gait Evaluation
- 1.8. Neurological Evaluation III. Neurological Tests
  - 1.8.1. Evaluation of Cranial Nerves
  - 1.8.2. Evaluation of Spinal Reflexes
  - 1.8.3. Postural Reaction Tests
- 1.9. Neurological Evaluation III
  - 1.9.1. Evaluation of Cranial Nerves
  - 1.9.2. Postural Reactions
  - 1.9.3. Evaluation of Cranial Nerves
- 1.10. Neurological Patient
  - 1.10.1. General Care
  - 1.10.2. Postural Rehabilitation Exercises
  - 1.10.3. Neurological Facilitation Exercises



*Welcome to the training that will help  
define your professional career"*

# 05 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.





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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 you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is 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, in an attempt to recreate the actual conditions in a veterinarian'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. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
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. The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the 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.



*Veterinarians 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 65,000 veterinarians have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. Our teaching method is developed in a highly demanding environment, where the students have a high socio-economic profile and an average age of 43.5 years.

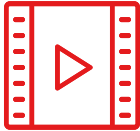
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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 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.



### Latest Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary 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

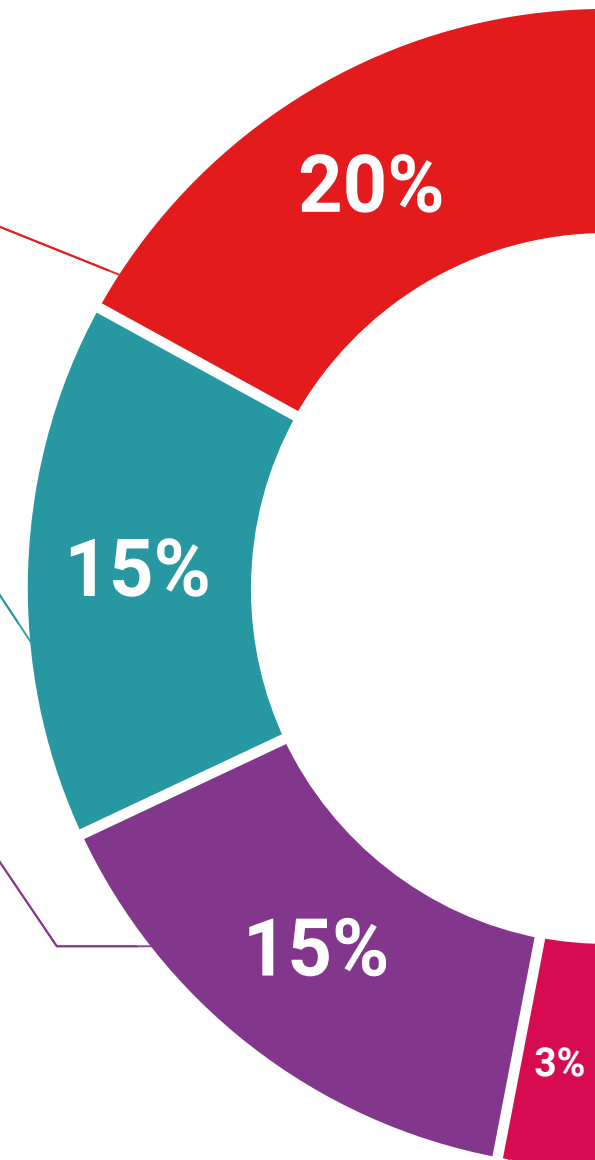
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

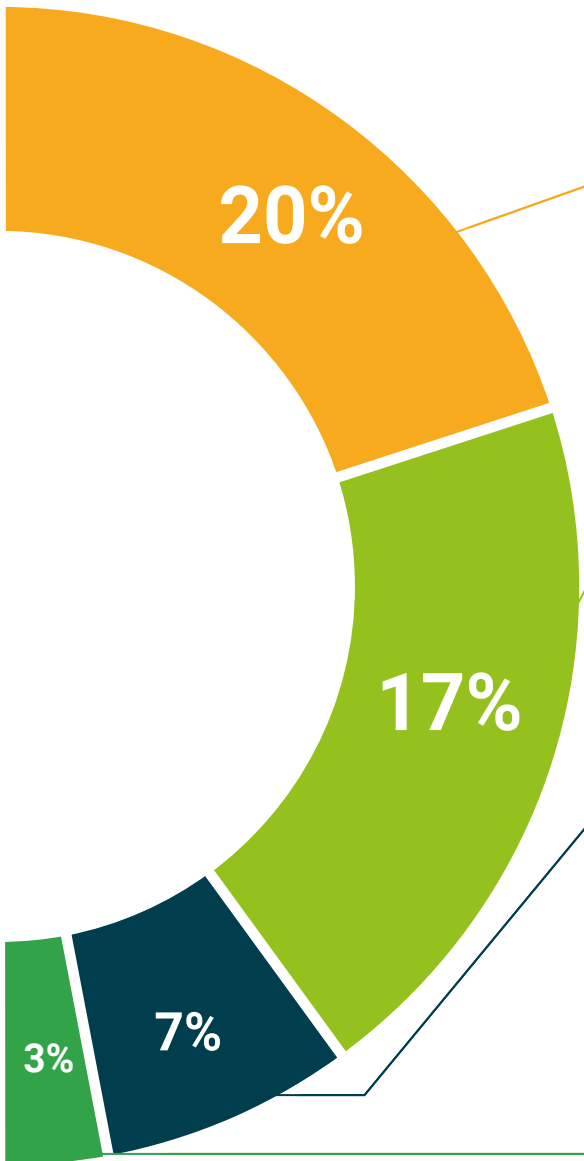
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### 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 suggesting that observing third-party experts can be useful.

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 Neurological Basis in Veterinary Rehabilitation and Physiology of Pain guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Neurological Bases in Veterinary Rehabilitation and Physiology of Pain** 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 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 Neurological Basis in Veterinary Rehabilitation and Physiology of Pain**

Official N° of hours: **150 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.

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



**Postgraduate Certificate**  
Neurological Basis in  
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