

# Postgraduate Certificate

## Therapeutic Exercise for Horses





## Postgraduate Certificate Therapeutic Exercise for Horses

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of hours: 150 h.

Website: [www.techitute.com/us/veterinary-medicine/postgraduate-certificate/therapeutic-exercise-horses](http://www.techitute.com/us/veterinary-medicine/postgraduate-certificate/therapeutic-exercise-horses)

# 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

---

*p. 28*

# 01

# Introduction

With this program, professionals will update their knowledge in the field of therapeutic exercise for horses and develop new skills to treat equines with the utmost professionalism, so that they can easily recover from an injury. Joining this community of learners will allow students to develop the professional skills needed to deal with these animals.





“

*If you want to improve your skills to apply appropriate therapies for horse injuries, don't think twice and join our community of students"*

One of the main subjects of ongoing monitoring and concern among riders, trainers and equine veterinarians is the locomotion of the horse, as well as improving and maintaining performance or recovery after an injury.

The veterinarian's knowledge in this area should not focus solely on mechanical factors, since locomotion does not occur independently of the neuroregulatory system, i.e., the nervous system, through a concept called motor control. Throughout this Postgraduate Certificate you will develop an in-depth understanding of what motor control is and how the motor and sensory system work together in the execution of movement, as well as in the maintenance of posture and balance in dynamic stability.

Impaired motor control may trigger locomotor deficits, decreased performance or structural disorders. Therefore, we will discuss the factors responsible for this impairment and the pathophysiological mechanism triggered, as well as the importance of rehabilitation, since this does not occur by itself, not even when the cause of the impairment has been resolved.

Historically, the post-injury rehabilitation process focused on the restoration of muscular strength and endurance and joint flexibility without addressing the role of neuromuscular mechanisms. It is now known that this simplified approach leads to a higher risk of injury and incomplete restoration of function, so it is vital to undertake specific professional development that takes into account neuromotor re-education.

This will provide a solid foundation to understand the fundamentals and application of active exercises and tools to establish an active therapeutic approach to restore function and structure and effectively design and develop training and re-education programs based on clinical and scientific findings.

This Postgraduate Certificate provides students with specialist tools and skills to enhance their professional practice, and key competencies such as knowledge of the day-to-day work of the veterinary professional, and responsibility in the monitoring and supervision of their work, as well as communication skills for effective teamwork.

This **Postgraduate Certificate in Therapeutic Exercise for Horses** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The exploration of practical cases presented by experts in equine physiotherapy and rehabilitation
- ♦ Graphic, schematic, and practical contents which provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Special emphasis on innovative methodologies in Therapeutic Exercise for Horses
- ♦ 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



*Do not miss the opportunity to take this Postgraduate Certificate in Therapeutic Exercise for Horses. It's the perfect opportunity to advance your career"*

“

*This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Therapeutic Exercise for Horses”*

The faculty includes veterinary professionals, who bring their professional experience to this 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 learning programmed to prepare for real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in therapeutic exercise.

*This program comes with the best educational material, providing you with a contextual approach that will facilitate your learning.*

*This 100% online Postgraduate Certificate will allow you to balance your studies with your professional work while increasing your knowledge in this field.*



02

# Objectives

This Postgraduate Certificate in Therapeutic Exercise for Horses is aimed at facilitating the performance of veterinary professionals with the latest advances and newest treatments in the sector.





“

*Our goal is to provide high-quality professional development so that our students become the best in their profession"*



## General objectives

---

- Analyze what motor control is and its importance in locomotion and rehabilitation
- Evaluate the main tools and exercises of active therapy
- Develop clinical and in-depth reasoning on the use of therapeutic exercises in the horse
- Generate autonomy when developing active re-education programs



*A professional development and growth path that will propel you towards a greater level of competitiveness in the employment market"*





## Specific objectives

---

- ◆ Analyze the neuromuscular physiology involved in motor control
- ◆ Identify the consequences of disrupted motor control
- ◆ Define the specific tools that are used and how to include them in a motor control re-education program
- ◆ Examine the elements to consider when designing an active kinesitherapy program
- ◆ Define Core Training techniques and their application as a therapeutic exercise
- ◆ Define proprioceptive facilitation techniques and their application as a therapeutic exercise
- ◆ Evaluate the characteristics and biomechanical implications of some of the main exercises from a therapeutic point of view
- ◆ Evaluate the effects of active work

03

# Course Management

The program's teaching staff includes leading experts in Therapeutic Exercise for Horses who contribute their extensive professional experience to this program. They are world-renowned professionals from different countries with proven theoretical and practical professional experience.



“

*We have the most complete and successful  
teaching team in the academic world”*

## Management



### Dr. Hernández Fernández, Tatiana

- ♦ PhD in Veterinary Medicine from the UCM
- ♦ Diploma in Physiotherapy at the URJC
- ♦ Degree in Veterinary Medicine from the UCM
- ♦ Professor at the Complutense University of Madrid of: Expert in Equine Physiotherapy and Rehabilitation, Expert in Bases of Animal Rehabilitation and Physiotherapy, Expert in Physiotherapy and Rehabilitation of Small Animals, Postgraduate Certificate in Podiatry and Shoeing
- ♦ Resident in the field of Equidae at the Clinical Veterinary Hospital of the UCM
- ♦ Practical experience of more than 500 hours in hospitals, sports centers, primary care centers and human physical therapy clinics
- ♦ More than 10 years working as a specialist in rehabilitation and physiotherapy

## Professors

### Dr. Gutiérrez Cepeda, Luna

- ♦ Degree in Veterinary Medicine from the Complutense University Madrid
- ♦ Official Master's Degree in Veterinary Science Research from the Complutense University of Madrid
- ♦ Master's Degree in Physiotherapy at the Autonomous University of Barcelona
- ♦ Diploma in Acupuntura Veterinaria por The International Veterinary Acupuncture Society (IVAS)
- ♦ Postgraduate in Physiotherapy of Large Animals (Horses) by the Autonomous University of Barcelona
- ♦ Kinesiotaping Instructor for horses by the International Kinesiotaping Society

### Dr. Muñoz Juzgado, Ana

- ♦ Degree in Veterinary Medicine from the University of Córdoba
- ♦ Professor in the Department of Animal Medicine and Surgery. Faculty of Veterinary Medicine at the University of Cordoba



04

# Structure and Content

The syllabus has been designed by the best professionals in Equine Physiotherapy and Rehabilitation, with extensive experience and excellent standing within the profession, backed by a large volume of cases reviewed, studied, and diagnosed, and extensive knowledge of new technologies applied to veterinary care.







“

*We have the most complete and up-to-date academic program on the market. We strive for excellence and for you to achieve it too”*

## Module 1. Therapeutic Exercise and Active Kinesitherapy

- 1.1. Physiological Basis of Motor Control I
  - 1.1.1. Sensory Physiology
    - 1.1.1.1. What is it and Why is it Important? Sensation Vs. Perception
    - 1.1.1.2. Interconnection Between the Sensory and Motor System
  - 1.1.2. Sensory Afferent Fibers
  - 1.1.3. Sensory Receptors
    - 1.1.3.1. Definition, Types and Characteristics
    - 1.1.3.2. Cutaneous Sensory Receptors
    - 1.1.3.3. Muscle Proprioceptors
- 1.2. Physiological Basis of Motor Control II
  - 1.2.1. Afferent Sensory Tracts
    - 1.2.1.1. Dorsal Spine
    - 1.2.1.2. Spinothalamic Tracts
    - 1.2.1.3. Spinocerebellar Tracts
    - 1.2.1.4. Other Afferent Sensory Tracts
  - 1.2.2. Efferent Motor Tracts
    - 1.2.2.1. Corticospinal Tract
    - 1.2.2.2. Rubrospinal Tract
    - 1.2.2.3. Reticulospinal Tract
    - 1.2.2.4. Vestibulospinal Tract
    - 1.2.2.5. Tectospinal Tract
    - 1.2.2.6. Importance of the Pyramidal and Extrapyramidal System in Animals
  - 1.2.3. Neuromotor Control, Proprioception and Dynamic Stability
  - 1.2.4. Fascia, Proprioception and Neuromuscular Control
- 1.3. Motor Control: Operation and Alteration
  - 1.3.1. Motor Patterns
  - 1.3.2. Levels of Motor Control
  - 1.3.3. Theories of Motor Control
  - 1.3.4. How Motor Control is Altered?
  - 1.3.5. Dysfunctional Patterns
  - 1.3.6. Pain and Motor Control
  - 1.3.7. Fatigue and Motor Control
  - 1.3.8. The Gamma Circuit
- 1.4. Motor Control: Disorder and Re-Education
  - 1.4.1. Consequences of Disrupted Motor Control
  - 1.4.2. Neuromuscular Re-Education
  - 1.4.3. Learning Principles and Other Theoretical Considerations in Motor Control Re-Education
  - 1.4.4. Assessment and Goals in Motor Control Re-Education
  - 1.4.5. Importance of Rider-Horse Communication in the Neuromotor System
- 1.5. Motor Control: Re-Education II: Core Training
  - 1.5.1. Basis of Application
  - 1.5.2. Core Anatomy of the Horse
  - 1.5.3. Dynamic Mobilizations
  - 1.5.4. Facilitation or Strengthening Exercises
  - 1.5.5. Imbalance or Destabilization Exercises
- 1.6. Motor Control: Re-Education II: Proprioceptive Facilitation Techniques
  - 1.6.1. Basis of Application
  - 1.6.2. Environmental Stimulation Techniques
  - 1.6.3. Use of Proprioceptive or Tactile Stimulators and Wristbands
  - 1.6.4. Use of Unstable Surfaces
  - 1.6.5. Use of Neuromuscular Taping
  - 1.6.6. Use of Resistive Elastic Bands
- 1.7. Training and Active Rehabilitation Programs I
  - 1.7.1. Initial Considerations
  - 1.7.2. The Natural Gaits of the Horse: Biomechanical Aspects to be Considered in Re-Education
    - 1.7.2.1. Walk
    - 1.7.2.2. Trot
    - 1.7.2.3. Canter
  - 1.7.3. Working With the Neck in a Low and Elongated Position: Biomechanical Aspects to Be Considered in Re-Education
  - 1.7.4. Working in Circles: Biomechanical Aspects to Consider in Re-Education



- 1.8. Training and Active Rehabilitation Programs II
  - 1.8.1. The Backward Step: Biomechanical Aspects to Be Considered in Re-Education
    - 1.8.1.1. Initial Considerations
    - 1.8.1.2. Effects from a Biomechanics Perspective
    - 1.8.1.3. Effects from a Neurological Perspective
  - 1.8.2. Two-Track Work: Biomechanical Aspects to Be Considered in Re-Education
  - 1.8.3. Work With Bars and Cavalettis: Biomechanical Aspects to Be Considered in Re-Education
  - 1.8.4. Slope Work: Biomechanical Aspects to Be Considered in Re-Education
  - 1.8.5. Footwork and Use of Auxiliary Renderings: Biomechanical Aspects to be Considered in Re-Education
- 1.9. Training and Active Rehabilitation Programs III
  - 1.9.1. Considerations and Objectives in the Design of an Active Rehabilitation Program
  - 1.9.2. Considerations of the Effect of Training on Muscle Physiology
  - 1.9.3. Consideration of the Effect of Training on the Cardiorespiratory System
  - 1.9.4. Considerations of Specific Active Rehabilitation Programs
  - 1.9.5. Effect of the Rider on Posture and Movement
- 1.10. Hydrotherapy
  - 1.10.1. Therapeutic Properties of Water
  - 1.10.2. Resting and Exercise Forms of Hydrotherapy
  - 1.10.3. Physiological Adaptations to Exercise in Water, With Special Emphasis on Locomotor Adaptations
  - 1.10.4. Use of Aquatic Exercise in the Rehabilitation of Tendon Ligament Injuries
  - 1.10.5. Use of Aquatic Exercise in the Rehabilitation of pathologies of Dorsal Pathologies
  - 1.10.6. Use of Aquatic Exercise in the Rehabilitation of Joint Pathologies
  - 1.10.7. Precautions and General Considerations When Designing an Aquatic Exercise Protocol in Musculoskeletal Rehabilitation

# 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.





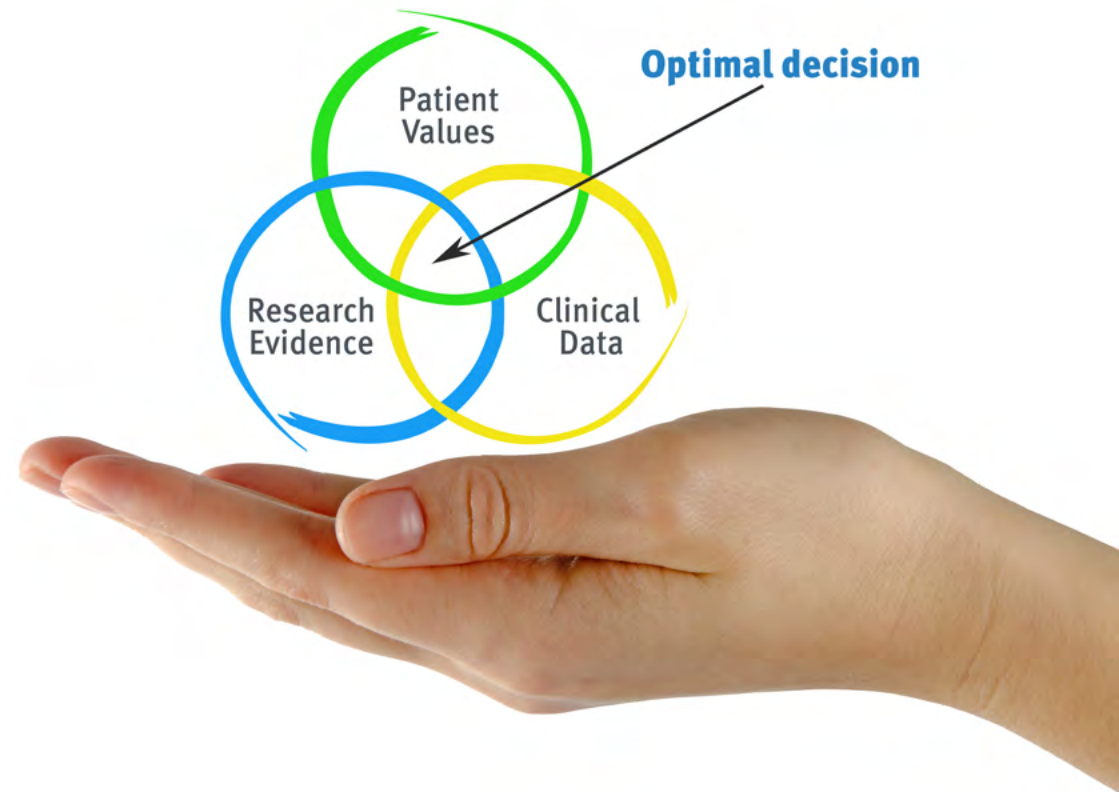
“

*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. 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, in an attempt to recreate the actual conditions in a veterinarian's professional practice.

“

*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 Therapeutic Exercise for Horses guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.





“

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

This **Postgraduate Certificate in Therapeutic Exercise for Horses** 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 Therapeutic Exercise for Horses**

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 quality  
development language  
classroom



**Postgraduate Certificate**  
Therapeutic Exercise  
for Horses

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of hours: 150 h.

# Postgraduate Certificate

## Therapeutic Exercise for Horses

