



## Postgraduate Diploma Major Species Lameness

Major Species Lameness and Rehabilitation in the Sport horse

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-major-species-lameness-rehabilitation-sport-horse

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## tech 06 | Introduction

Veterinarians face new challenges every day in treating their patients. The Postgraduate Diploma in Major Species Lameness and Rehabilitation in the Sport horse comprises a complete and up-to-date educational program including the latest advances in traumatology and orthopedic surgery in ruminants (cattle, sheep), camelids (camels, alpacas and llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules).

The theoretical and practical content has been chosen taking into account its potential practical application in daily clinical practice. Furthermore, the audiovisual material collects scientific and practical information on the essential disciplines for professional practice.

In each topic, practical cases presented by experts in Traumatology and Orthopedic Surgery in Large Animals have been developed, with the objective of the practically applying the knowledge acquired. In addition, students will participate in a self-evaluation process to improve their learning and knowledge during their practical activities.

The teaching team of the Postgraduate Diploma in Major Species Lameness and Rehabilitation in the Sport horse has programmed a careful selection of techniques used in the diagnosis and treatment of lameness in ruminants (cattle, sheep), camelids (camels, alpacas, llamas), swine (pigs, wild boars) and equidae (horses, donkeys and mules), including the description of musculoskeletal surgery and rehabilitation in those species to which they are applied.

The teaching surgeons of this Postgraduate Diploma are Graduates of the European or American College of Veterinary Surgeons and have extensive experience both in the university field and in private practice. In both areas, they are responsible for large animal surgery services in leading veterinary centers and most of them direct residency programs, master's degree programs and research projects.

As a result of the training of the faculty of this Postgraduate Diploma in North America and Europe, the techniques developed have been widely contrasted and are internationally recognized.

This Postgraduate Diploma in Major Species Lameness and Rehabilitation in the Sport horse 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 Major Species Lameness and Rehabilitation in the Sport horse
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Novelties about Major Species Lameness and Rehabilitation in the Sport Horse
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies in Major Species Lameness and Rehabilitation in the Sport horse
- 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



## Introduction | 07 tech



This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Major Species Lameness and Rehabilitation in the Sport horse"

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 education programmed to learn 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 throughout the program. For this, the professional will have the help of an innovative interactive video system made by renowned and experienced experts in Major Species Lameness and Rehabilitation in the Sport horse.

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

You will analyze the importance of musculoskeletal injuries and the correct recovery from them, from professionals with years of experience in the sector.







## tech 10 | Objectives



### **General Objectives**

- Establish the basic system and procedures in a lameness examination
- Identify the means available to locate an anatomical site as the cause of a claudication
- Establish the indications for the use of the different imaging techniques in the presence of an orthopedic problem
- Examine the main therapeutic options currently available on the market
- Examine the main pathological entities of the musculoskeletal system
- Analyze the main lesions of the axial skeleton
- Define the etiology of palmar hoof pain or podotrochlear pathology
- Compile the main findings in the diagnosis of bone, joint and soft tissue pathologies
- Present the different therapeutic options in the management of these pathologies
- Examine the importance of musculoskeletal injury rehabilitation in horses
- Establish the basis of the techniques used in rehabilitation
- Analyze the main musculoskeletal rehabilitation techniques in sport horses
- Present rehabilitation plans based on the location of the injury





### **Specific Objectives**

#### Module 1. Diagnosis of Lameness in Large Animals: Ruminants, Swine and Equidae

- Specialize the student in the collection of essential data to obtain a complete anamnesis
- Differentiate between the different conformations that are predisposed to developing injuries in the musculoskeletal system
- Recognize the symptoms presented by a patient with thoracic limb claudication
- Recognize the symptoms presented by a patient with pelvic limb claudication
- Interpret the results of local or regional anesthesia as diagnostic tools
- Generate criteria that allows for the appropriate selection of imaging diagnostic techniques in each case
- Assess in detail the indications and considerations of each pharmacological group in the therapeutic management of a musculoskeletal injury

## Module 2. Main Musculoskeletal Pathologies in Large Animals: Ruminants, Swine and Equidae

- Gain specialized knowledge for diagnosing and treating an articular pathology
- Recognize the symptoms of tendon and ligament injuries
- Analyze the etiology and pathogenesis of lesions associated with biomechanical maladaptation processes
- Present the most frequent acute and subclinical myopathies
- Identify and recognize pathologies of the axial skeleton that are involved in a drop in sports performance
- Analyze the different differential diagnoses related to podotrochlear pathology and their therapeutic management
- Examine the different treatment strategies based on biological therapy

## Module 3. Arthroscopy, Bursoscopy and Tenoscopy in Large Animals: Ruminants, Swine and Equidae

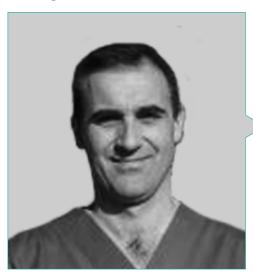
- Analyze the significance of musculoskeletal injuries and the correct recovery needed
- Gain knowledge of the basic principles of physiotherapeutic examination in horses
- Evaluate the physical restrictions and physiological adaptations that occur as a consequence of an injury
- Examine the different physiotherapeutic techniques available to the equine veterinarian
- Determine the physical properties of each one of the therapies available in veterinary medicine
- Create prevention plans for equine athletes
- Propose rehabilitation plans depending on the musculoskeletal injury





## tech 14 | Course Management

#### Management



#### Dr. Muñoz Morán, Juan Alberto

- PhD in Specialist Veterinary Medicine in Large Animals
- Degree in Veterinary Medicine from the Complutense University of Madrid
- Certified by the European College of Veterinary Surgeons
- Professor in Large Animal surgery at the Veterinary University of Pretoria, South Africa
- Head of the Equine Surgery residency program at the Veterinary University of Pretoria, South Africa
- Head of the large animal surgery service and professor at Alfonso X el Sabio University, Madrid
- Surgeon at the Equine Hospital of Aznalcollar, Seville

#### **Professors**

#### Dr. Saitua Penas, Aritz

- Expert Equine Surgeon
- Currently studying a PhD in the Department of Animal Medicine and Surgery at the University of Cordoba
- Degree in Veterinary Medicine from the University of Santiago de Compostela
- Internship in an Equine Clinic at the Clinical Veterinary Hospital of the University of Córdoba

#### Dr. Argüelles Capilla, David

- PhD in Veterinary Medicine from the Autonomous University of Barcelona (UAB)
- Degree in Veterinary Medicine, Autonomous University of Barcelona
- Resident in Sports Medicine and Rehabilitation for the ACVSMR

#### Dr. Gómez Lucas, Raquel

- Doctor of Veterinary Medicine specializing in large species
- Degree in Veterinary Medicine from the Complutense University Madrid
- Graduate of the American College of Veterinary Sports Medicine and Rehabilitation (ACVSMR)
- Head of the Sports Medicine and Diagnostic Imaging Service of the Large Animal Area of the Clinical Veterinary Hospital, Alfonso X el Sabio University



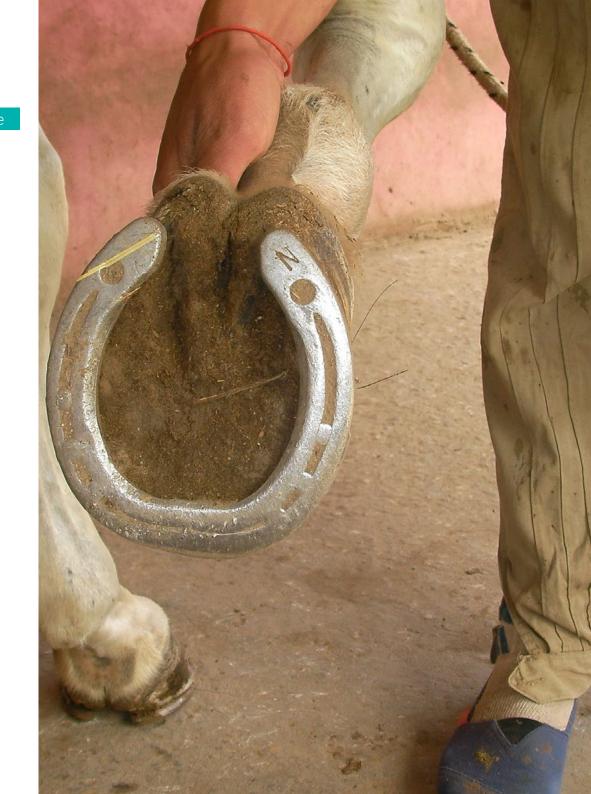




## tech 18 | Structure and Content

#### Module 1. Diagnosis of Lameness in Large Animals: Ruminants, Swine and Equidae

- 1.1. Clinical History and Anamnesis
  - 1.1.1. Basic Information
  - 1.1.2. Current Problem
  - 1.1.3. Importance of Conformation
    - 1.1.3.1. Thoracic Limbs
    - 1.1.3.2. Pelvic Limbs
    - 1.1.3.3. Back
    - 1.1.3.4. Digits
- 1.2. Static Physical Examination
  - 1.2.1. Observation
  - 1.2.2. Palpitation
- 1.3. Dynamic Physical Evaluation
  - 1.3.1. Basic Biomechanical Characteristics
  - 1.3.2. Examination Protocol
  - 1.3.3. Lameness of the Thoracic Limbs
  - 1.3.4. Lameness of the Pelvic Limb
  - 1.3.5. Types of Claudication
  - 1.3.6. Compensatory Lameness
  - 1.3.7. Classification
  - 1.3.8. Flexion Test
- 1.4. Diagnostic Anesthesia
  - 1.4.1. Types of Local Anesthetics
  - 1.4.2. General Considerations
  - 1.4.3. Perineural Anesthesia
  - 1.4.4. Intrasynovial Anesthesia
  - 1.4.5. Recommended Action Protocols
  - 1.4.6. Interpretation of Results



- 1.5. Analysis and Quantification of Movement
  - 1.5.1. Kinetic Study
  - 1.5.2. Kinematic Study
- 1.6. Radiological Examination
  - 1.6.1. General Considerations
  - 1.6.2. Main Findings and Interpretation
- 1.7. Ultrasound Examination
  - 1.7.1. General Considerations
  - 1.7.2. Main Findings and Interpretation
- 1.8. Advanced Diagnostic Imaging Techniques
  - 1.8.1. Magnetic Resonance
  - 1.8.2. Computerized Tomography
  - 1.8.3. Gammagraphy
- 1.9. Introduction to Treatment
  - 1.9.1. Conservative Medicine Therapies
  - 1.9.2. Surgical Management
- 1.10. Clinical Examination in Ruminants, Swine and Camelids
  - 1.10.1. Ruminants ,(Cattle, Sheep) and Camelids (Camels, Alpacas and Llamas)
  - 1.10.2. Swine (Pigs, Wild Boar)

## **Module 2.** Main Musculoskeletal Pathologies in Large Animals: Ruminants, Swine and Equidae

- 2.1. Articular Pathology
  - 2.1.1. Classification
  - 2.1.2. Etiology
  - 2.1.3. Main Joints Affected in Sport Horses
  - 2.1.4. Diagnosis
  - 2.1.5. Treatment Management
- 2.2. Maladaptive Bone Pathology
  - 2.2.1. Etiology
  - 2.2.2. Diagnosis
  - 2.2.3. Treatment Management

- 2.3. Tendon Pathology
  - 2.3.1. Etiology
  - 2.3.2. Main Areas Affected in Sport Horses
  - 2.3.3. Diagnosis
  - 2.3.4. Treatment Management
- 2.4. Ligament Pathology
  - 2.4.1. Etiology
  - 2.4.2. Main Areas Affected in Sport Horses
  - 2.4.3. Diagnosis
  - 2.4.4. Treatment Management
- 2.5. Muscular Pathology
  - 2.5.1. Etiology and Classification
  - 2.5.2. Diagnosis
  - 2.5.3. Treatment Management
- 2.6. Head, Dorsum and Pelvis Pathologies
  - 2.6.1. Cervical Pathology
  - 2.6.2. Thoracolumbar Pathologies
  - 2.6.3. Lumbosacral Pathologies
  - 2.6.4. Sacroiliac Pathology
- 2.7. Podotrochlear Pathologies. Palmar Hoof Pain
  - 2.7.1. Etiology
  - 2.7.2. Clinical Signs
  - 2.7.3. Diagnosis
  - 2.7.4. Treatment Management
- 2.8. Conservative Therapy and Therapeutic Farriery
  - 2.8.1. Nonsteroidal Anti-Inflammatories
  - 2.8.2. Corticosteroids
  - 2.8.3. Hyaluronic Acid
  - 2.8.4. Glycosaminoglycans and Oral Supplements
  - 2.8.5. Bisphosphonates
  - 2.8.6. Polyacrylamide Gel
  - 2.8.7. Other treatments
  - 2.8.8. Therapeutic Farriery

## tech 20 | Structure and Content

- 2.9. Regenerative Biological Therapy
  - 2.9.1. Use of Mesenchymal Cells
  - 2.9.2. Autologous Conditioned Serum
  - 2.9.3. Autologous Protein Solution
  - 2.9.4. Growth Factors
  - 2.9.5. Platelet-rich Plasma
- 2.10. Main Musculoskeletal Pathologies in Ruminants, Camelids and Swine
  - 2.10.1. Ruminants (Cattle, Sheep) and Camelids (Camels, Alpacas and Llamas)
  - 2.10.2. Swine (Pigs, Wild Boar)

#### Module 3. Rehabilitation of Musculoskeletal Injuries in Sport Horses

- 3.1. Significance of Musculoskeletal Injuries in Sport Horses
  - 3.1.1. Introduction
  - 3.1.2. Impact of Musculoskeletal Injuries on the Equine Industry
  - 3.1.3. Most Common Musculoskeletal Injuries According to the Equestrian Discipline
  - 3.1.4. Factors Associated With the Incidence of Injuries in Sport Horses
- 3.2. Physiotherapeutic Assessment of the Horse
  - 3.2.1. Introduction
  - 3.2.2. Clinical Assessment
  - 3.2.3. Body Alignment Assessment
  - 3.2.4. Static Physical Assessment
    - 3.2.4.1. Palpitation
    - 3.2.4.2. Active Mobility Test
    - 3.2.4.3. Passive Mobility Tests

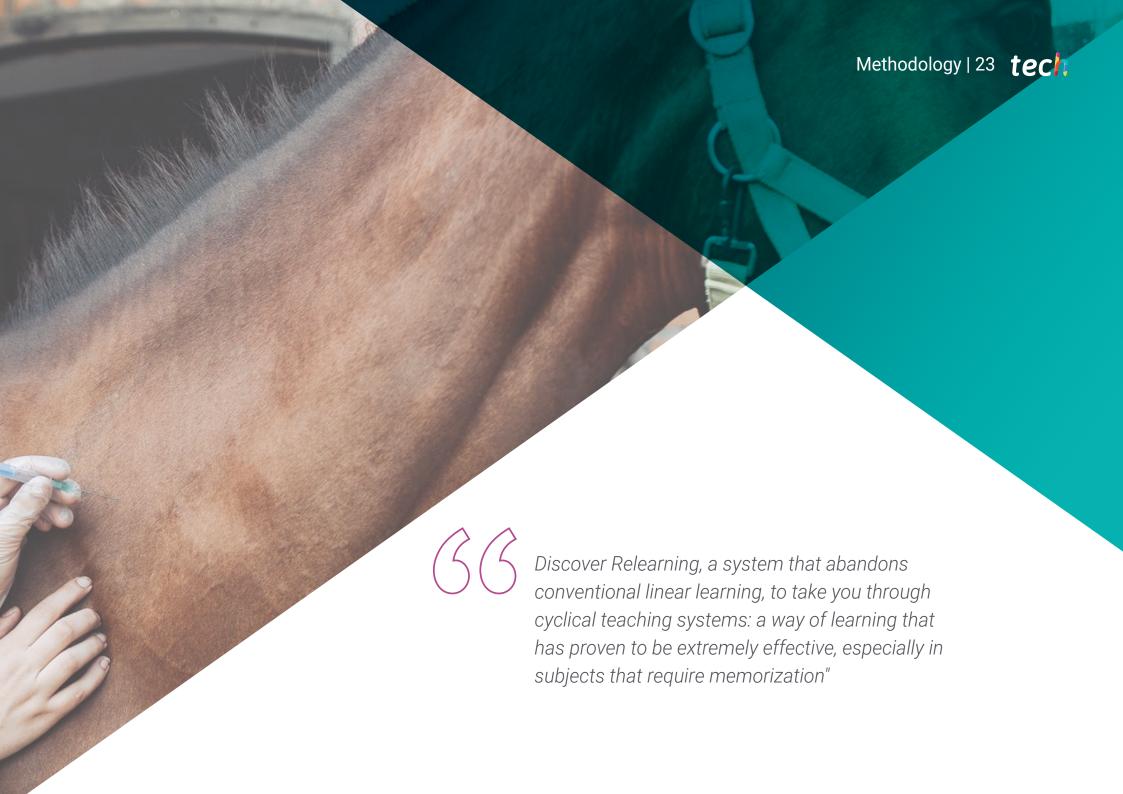
- 3.3. Physiotherapeutic Assessment of the Limbs
  - 3.3.1. Physiotherapeutic Assessment of the Thoracic Limbs
    - 3.3.1.1. Scapula and Scapulohumeral Joint
    - 3.3.1.2. Elbow and Forearm Joint
    - 3.3.1.3. Carpal Joint and Shank
    - 3.3.1.4. Distal Joints: Metacarpal/Tarsal-Phalangeal, Proximal Interphalangeal and Distal Interphalangeal Joints
  - 3.3.2. Physiotherapeutic Assessment of the Pelvic Limbs
    - 3.3.2.1. Coxofemoral and Rump Joints
    - 3.3.3.2. Stifle and Leg Articulation
    - 3.3.3.3. Tarsal Joint
- 3.4. Physiotherapeutic Assessment of the Head of Vertebral Column
  - 3.4.1. Physiotherapeutic Assessment of the Head
    - 3.4.1.1. Head
    - 3.4.1.2. Hyoid Apparatus
    - 3.4.1.3. Temporomandibular Joint
  - 3.4.2. Physiotherapeutic Assessment of the Vertebral Column
    - 3.4.2.1. Cervical Region
    - 3.4.2.2. Thoracic Region
    - 3.4.2.3. Lumbar Region
    - 3.4.2.4. Sacroiliac Joint
- 3.5. Neuromuscular Assessment of the Sport Horse
  - 3.5.1. Introduction
  - 3.5.2. Neurological Evaluation
    - 3.5.2.1. Neurological Examination
    - 3.5.2.2. Evaluation of Cranial Nerves
    - 3.5.2.3. Evaluation of Posture and Gait
    - 3.5.2.4. Assessment of Reflexes and Proprioception

	3.5.3.	Diagnostic Tests	
		3.5.3.1. Diagnostic Imaging Techniques	
		3.5.3.2. Electromyography	
		3.5.3.3. Cerebrospinal Fluid Analysis	
	3.5.4.	Main Neurologic Pathologies	
	3.5.5.	Main Muscular Pathologies	
.6.	Manual Therapy Techniques		
	3.6.1.	Introduction	
	3.6.2.	Technical Aspects of Manual Therapy	
	3.6.3.	Considerations of Manual Therapy	
	3.6.4.	Main Techniques of Manual Therapy	
	3.6.5.	Manual Therapy in Limbs and Joints	
	3.6.6.	Manual Therapy in the Spine	
.7.	Electrotherapy		
	3.7.1.	Introduction	
	3.7.2.	Principles of Electrotherapy	
	3.7.3.	Tissue Electrostimulation	
		3.7.3.1. Activation of Peripheral Nerves	
		3.7.3.2. Aplication of Electric Stimulation	
	3.7.4.	Pain Control	
		3.7.4.1. Mechanism of Action	
		3.7.4.2. Indications of Its Use in Pain Control	
		3.7.4.3. Main Applications	
	3.7.5.	Muscular Stimulation	
		3.7.5.1. Mechanism of Action	
		3.7.5.2. Indications for Use	
		3.7.5.3. Main Applications	

	3.7.6.	Laser Therapy		
	3.7.7.	Ultrasound		
	3.7.8.	Radiofrequency		
3.8.	Hydrotherapy			
	3.8.1.	Introduction		
	3.8.2.	Physical Properties of Water		
	3.8.3.	Physiological Response to Exercise		
	3.8.4.	Types of Hydrotherapy		
		3.8.4.1. Aquatic Therapy in Flotation		
	3.8.4.2. Aquatic Therapy in Semi-Flotation			
	3.8.5.	Main applications of Hydrotherapy		
3.9.	Controlled Exercise			
	3.9.1.	Introduction		
	3.9.2.	Stretching		
	3.9.3.	Core Training		
	3.9.4.	Cavalleti and Proprioceptive Bracelets		
3.10.	Rehabilitation Plans			
	3.10.1.	Introduction		
	3.10.2.	Tendo-Ligament Injuries		
	3.10.2.	Muscle Injuries		
	3.10.3.	Bone and Cartilage Lesions		





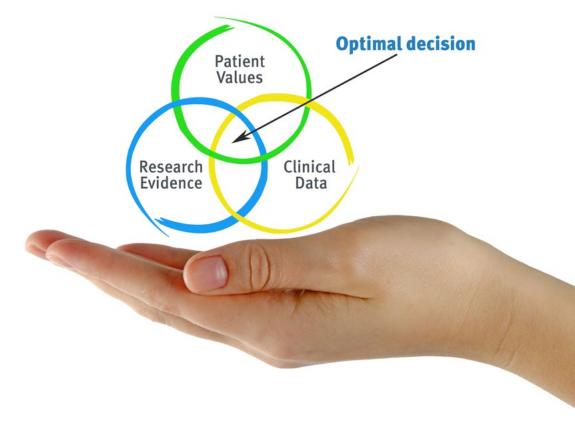


## tech 24 | Methodology

#### 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.



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.



## Methodology | 27 tech

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**

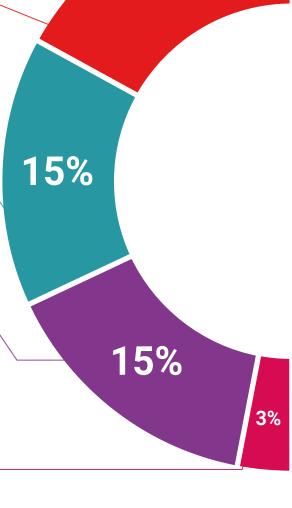
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch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



## Effective learning ought to be contextual. Therefore, TECH presents real cases in which

#### **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.





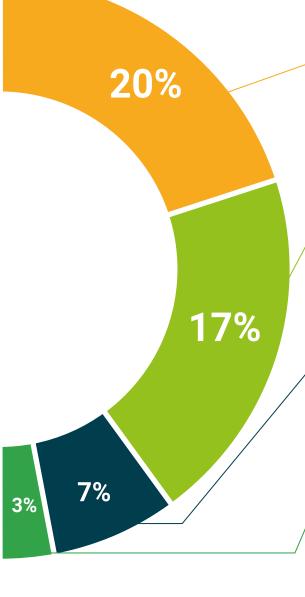
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







## tech 32 | Diploma

This Postgraduate Diploma in Major Species Lameness and Rehabilitation in the **Sport horse** 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 Diploma** issued by **TECH Technological University** via tracked delivery\*.

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

Title: Postgraduate Diploma in Major Species Lameness and Rehabilitation in the Sport Horse

Official No of Hours: 450 h.



## For having passed and accredited the following program POSTGRADUATE DIPLOMA

in

Major Species Lameness and Rehabilitation in the Sport Horse

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

Inique TECH Code: AFWORD23S techtitute.com/certi

<sup>\*</sup>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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education information tutors
guarantee accreditation teaching
institutions technology learning



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Rehabilitation in the Sport horse

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