

# Postgraduate Diploma

Field Musculoskeletal and Dermatological  
Surgical Disorders in Horses and Foals





## Postgraduate Diploma Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals

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

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-patologias-field-musculoskeletal-dermatological-surgical-disorders-horses-foals](http://www.techtute.com/us/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-patologias-field-musculoskeletal-dermatological-surgical-disorders-horses-foals)

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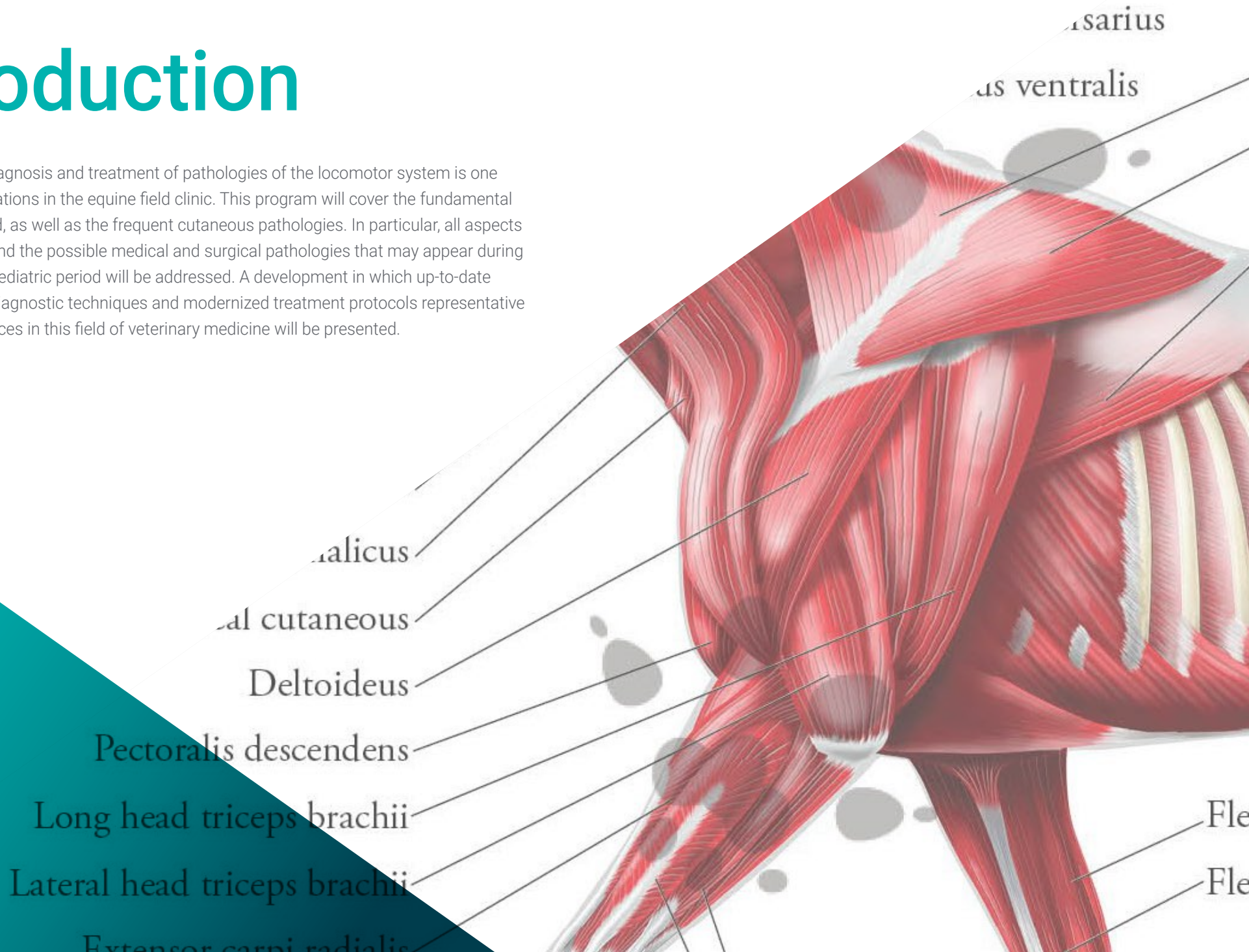
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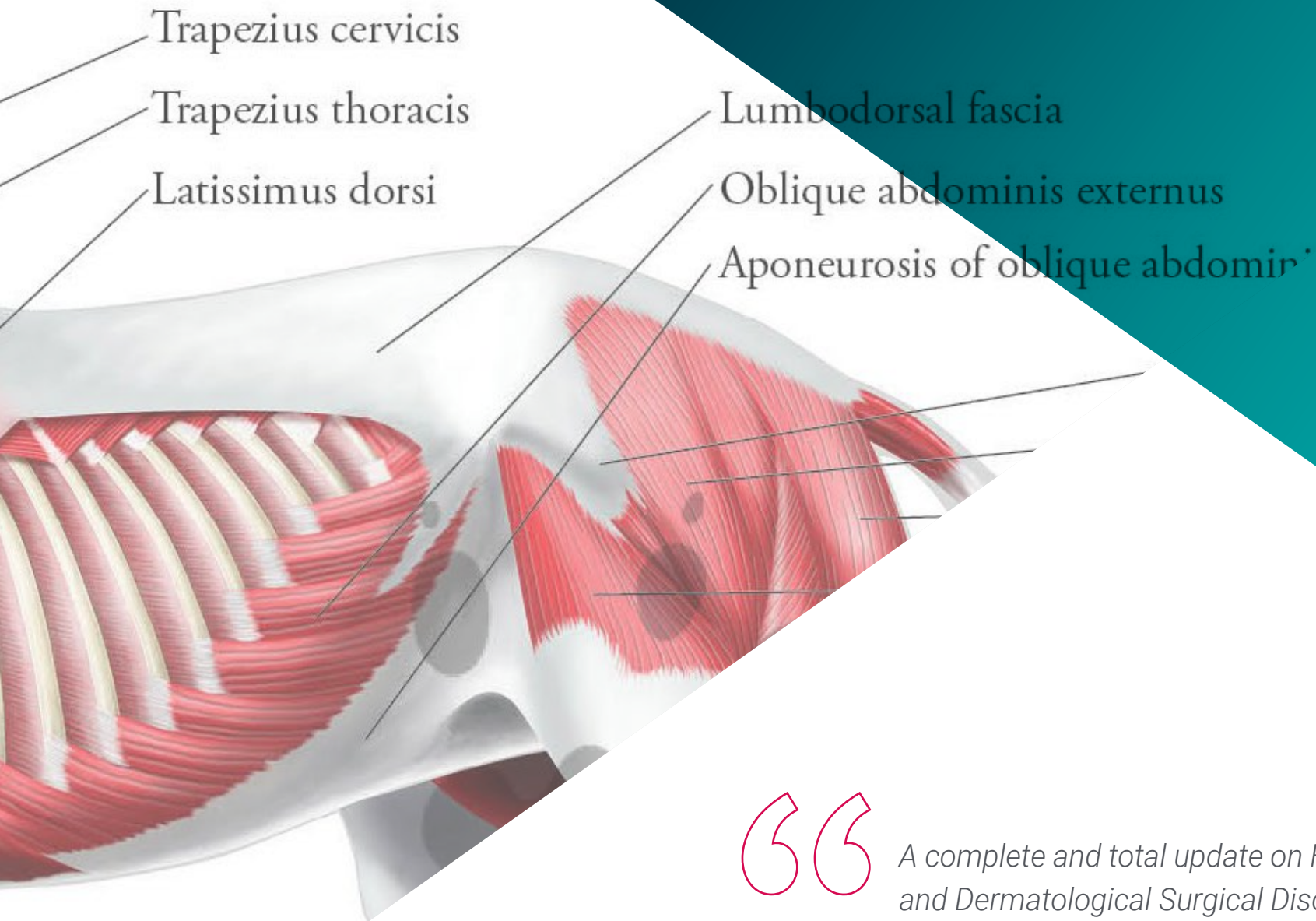
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# 01

# Introduction

The exploration, diagnosis and treatment of pathologies of the locomotor system is one of the main occupations in the equine field clinic. This program will cover the fundamental aspects in this field, as well as the frequent cutaneous pathologies. In particular, all aspects concerning foals and the possible medical and surgical pathologies that may appear during the neonatal and pediatric period will be addressed. A development in which up-to-date examination and diagnostic techniques and modernized treatment protocols representative of the latest advances in this field of veterinary medicine will be presented.





Flexor carpi ulnaris

Flexor carpi

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*A complete and total update on Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals with the most complete and effective online educational program on the market”*

The exploration, diagnosis and treatment of pathologies of the locomotor system are one of the main occupations in the equine field clinic, so it is of primary importance for the veterinarian to have the knowledge and skills necessary to develop this specialty from their professional work.

Equestrian competitions are developed from regional and national levels, starting from basic riding, to higher national competitions and reaching international and world competitions of the highest level, with some equestrian sports reaching Olympic and Paralympic levels.

These pathologies have a high economic impact on the equine sector and represent a large part of the work of the equine veterinarian, who has to deal with them almost daily. In addition, because of their economic relevance, these pathologies are the subject of constant research, so advances in new diagnostic and treatment methods are dynamic and are the order of the day.

It is for this reason that professionals must update their knowledge and correctly use the portable diagnostic equipment, which are the same in both cases. This is why this diagnostic tool is of special interest in the thoracic and abdominal regions, which can be explored practically 100% in these young patients, making radiology and ultrasound an essential tool, and the veterinarian must implement and optimize their performance in the pediatric outpatient clinic.

This **Postgraduate Diploma in Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The latest technology in online teaching software
- ◆ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ◆ Practical cases presented by practising experts
- ◆ State-of-the-art interactive video systems
- ◆ Teaching supported by telepractice
- ◆ Continuous updating and recycling systems
- ◆ Autonomous learning: full compatibility with other occupations
- ◆ Practical exercises for self-assessment and learning verification
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums
- ◆ Communication with the teacher and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection
- ◆ Supplementary documentation databases are permanently available, even after finishing the course



*Join the elite, with this highly effective educational program, and open new paths to your professional progress"*

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*A complete scientific program with which you will master and develop in depth the techniques of diagnostic imaging and other complementary diagnostic methods in the field"*

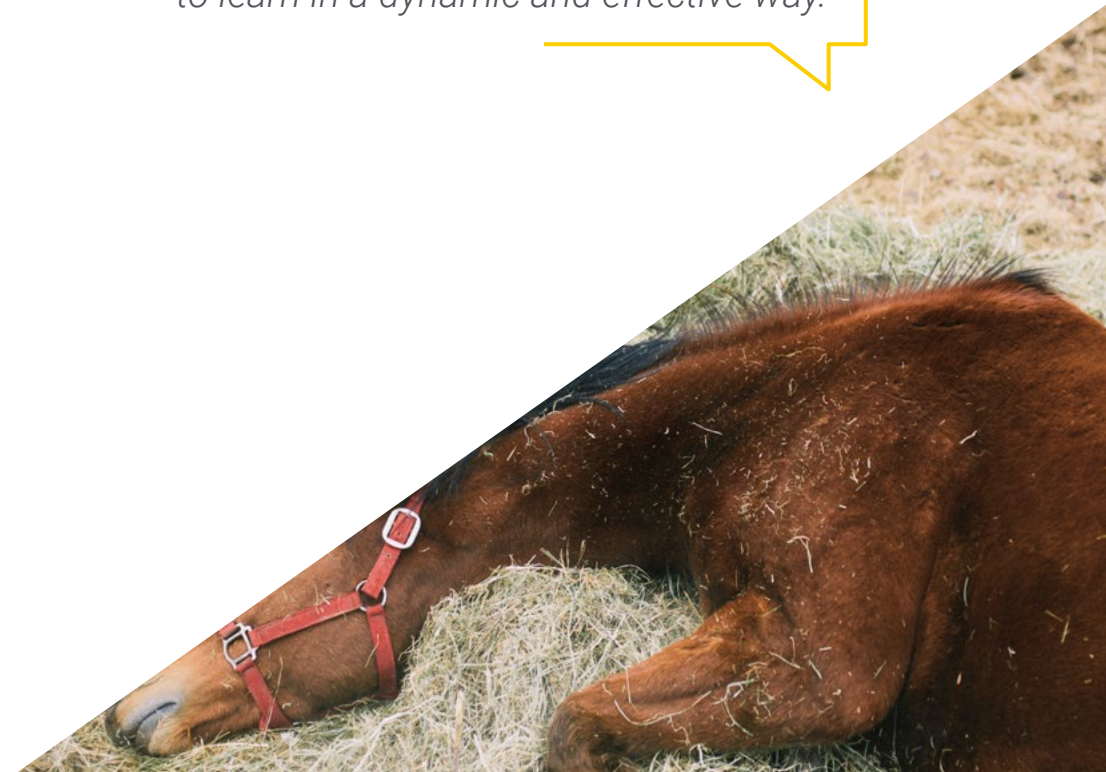
Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the educational update we are aiming for. A multidisciplinary team of professionals with expertise and experience in different areas, will efficiently cover the theoretical knowledge, but above all, will bring practical knowledge from their own experience to the education: one of the factors that makes this program unique.

This mastery of the subject matter is complemented by the effectiveness of the methodological design. Developed by a multidisciplinary team of *e-Learning* experts, it integrates the latest advances in educational technology. In this way, you will be able to study with a range of easy-to-use and versatile multimedia tools that will give you the necessary skills you need for your specialization.

The design of this program is based on Problem-Based Learning: an approach that views learning as a highly practical process. To achieve this remotely, we will use telepractice learning: with the help of an innovative interactive video system, and *learning from an expert*, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*With the experience of active professionals and the analysis of real cases of success, in a high impact scientific approach.*

*With a methodological design based on proven teaching techniques, this innovative course will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*



# 02 Objectives

The objective is to prepare highly qualified professionals for work experience. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is materialized in helping professionals to reach a much higher level of competence and control. A goal that, in just a few months you will be able to achieve, with a high intensity and effective education.







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*If your goal is to reorient your capabilities towards new paths of success and development, this is the place for you: an educational program that aspires to excellence”*



## General Objectives

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- ◆ Identify the different anatomical structures and pathologies of the digestive tract of the horse
- ◆ Develop and advance in the most frequent procedures to solve oral cavity pathologies
- ◆ Recognize the symptoms of digestive disorders
- ◆ Enable the clinician to correctly assess the systemic state of the animal and the consequent severity of the pathology
- ◆ Establish diagnostic protocols and generate optimized treatments and prognoses
- ◆ Establish optimal preventive medicine criteria and good management guidelines
- ◆ Establish an appropriate methodology for the examination of the horse with respiratory or cardiac problems
- ◆ Identify all clinical signs associated with respiratory or cardiovascular disease in equines
- ◆ Generate specialized knowledge of respiratory and cardiac auscultation
- ◆ Establish the specific clinical approach to the horse with a respiratory or cardiovascular disorder
- ◆ Identify the pathologies of the urinary system of the horse
- ◆ Establish diagnostic protocols to facilitate the recognition of patients with urinary pathology
- ◆ Expand the alternatives of possible treatments according to pathological situations
- ◆ Recognize the medical and surgical genital pathologies of the stallion and the dam mare, assess their extent and provide appropriate treatments for recovery and restoration of proper reproductive function
- ◆ Develop surgical techniques for the resolution of pathologies of the reproductive system that can be performed in the field





## Specific Objectives

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### Module 1. Locomotor System

- ♦ Identify in depth the pathologies affecting the horse's musculoskeletal system by types of pathologies of the different anatomical regions
- ♦ Master in depth the correct approach to the clinical case that may be presented. Obtain and control the tools to correctly explore animal patients and correctly interpret the data obtained
- ♦ Develop optimized work schemes and diagnostic protocols
- ♦ Advanced diagnosis of joint, tendon, bone and muscle pathologies in horses
- ♦ Master in depth the neural anesthetic blocks, their technique, main advantages and possible disadvantages. Develop proximal blocks and other advanced anesthetic desensitization techniques
- ♦ Master and develop in depth imaging techniques and other complementary diagnostic methods in the field
- ♦ Receive education in the latest published therapeutic measures and the latest advances in research in the treatment of locomotor pathologies
- ♦ Master and develop advanced medical and surgical techniques that can be performed in the field

### Module 2. Surgical Pathologies of the Skin and Related Structures

- ♦ Specify the different types of wounds that can occur in the equine clinic. Identify them and differentiate between acute and chronic pathologies, assess their degree of contamination and/or infection if any, and recognize damaged adnexal structures, assessing whether they are septic or not
- ♦ Develop knowledge of the different phases of skin healing
- ♦ Determine the techniques of tissue management, hemostasis, suturing, reconstruction and skin grafting

- ♦ Set guidelines for the choice of the different types, materials and patterns of suture and needle and drainage models available to the clinician in the field
- ♦ Establish the different types and materials of bandages, both for wound treatment and immobilization. Select the appropriate dressing or bandage for each clinical situation
- ♦ Apply the different therapeutic guidelines and reparation procedures and other first aid techniques for acute and fresh wounds
- ♦ Apply the different therapeutic guidelines and repair procedures for complicated, chronic and infected wounds, contemplating the possibility of the application of alternative procedures and technologies
- ♦ Indicate the tests to be performed on a patient with a musculoskeletal injury or infection to determine the significance of the injury
- ♦ Perform correct diagnosis and treatment of synovial and bone infections, and perform joint lavage procedures and regional and intraosseous perfusion of antibiotics in the field
- ♦ Specify the use of the different tenorrhaphy techniques in order to treat damage and lacerations of tendon and/or ligamentous structures
- ♦ Present the different causes of exuberant granulation and its treatment
- ♦ Apply the different therapeutic guidelines in burns and abrasions of different types

### Module 3. Foal Medicine and Surgery

- ♦ Identify the neonatal patient with abnormal behaviors indicative of disease
- ♦ Establish lines of action for neonatal patients with sepsis, based on severity
- ♦ Determine work protocols for patients with symptoms of neonatal asphyxia syndrome
- ♦ Recognize the patient with cardio-respiratory symptomatology, being able to issue prognoses that determine their viability
- ♦ Develop field stabilization protocols for patients with bladder rupture or persistent urachus
- ♦ Identify the difference in diagnostic test results between neonates and adults
- ♦ Determine the use of diagnostic imaging tools that can be used in the field to diagnose pathologies in the foal, both in the neonatal and pediatric period. Use these methods accurately to diagnose and assess the different pathologies that may occur in these stages
- ♦ Develop techniques for the examination, diagnosis and parenteral and local treatment by joint lavage of septic arthritis in the neonate
- ♦ Develop techniques that can be performed in the field to solve surgical pathologies of the growing foal, such as umbilical hernia correction
- ♦ Compile knowledge of angular and flexural deformities of the foal. Develop different treatments and establish specificities according to patient age and the anatomical region affected
- ♦ Detail the medical treatments and application of resins, splints and orthopedic hardware used in the treatment of angular and flexural deformities





- ◆ Specify the techniques for delaying and stimulating bone growth used in the surgical treatment of angular deformities
- ◆ Determine the desmotomy and tenotomy techniques used in the treatment of flexural deformities
- ◆ Establish an appropriate methodology for the identification, treatment and prognostication of osteochondral injuries and subchondral bone cysts

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*An avenue for education and professional growth that will propel you towards greater competitiveness in the labor market”*

03

# Course Management

Within the concept of total quality of our program, we are proud to put at your disposal a Teaching Staff of the highest level, chosen for their proven experience. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.



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*Our teaching team, experts in Musculoskeletal and Dermatological Field Surgical Pathologies in the Horse and Foal, will help you achieve success in your profession"*

## International Guest Director

As one of the foremost veterinary surgeons in equine care, Dr. Andy Fiske-Jackson is the Deputy Director of the Royal Veterinary College Equine in the United Kingdom. This is one of the leading institutions in both equine patient care and veterinary development, education and innovation. This has allowed him to develop in a privileged environment, even receiving the James Bee Educator Awards for excellence in educational work.

In fact, Dr. Andy Fiske-Jackson is also part of the team of surgeons at the Equine Referral Hospital, focusing his work on orthopedic and soft tissue surgery. As such, his main areas of focus are low performance, back pain, dental and sinus issues, digital flexor tendinopathies and regenerative medicine.

In terms of research, his work leans between diagnostic techniques for digital flexor tendinopathies, clinical uses of objective gait analysis and objective assessment of back pain. His efficiency in this field has led him to actively participate in various international events and conferences, including congresses in Portugal, Czech Republic, Finland, Belgium, Hungary, Switzerland, Austria, Germany, Ireland, Spain and Poland.





## Dr. Fiske-Jackson, Andy

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- Deputy Director at the Royal Veterinary College Equine. Hertfordshire, United Kingdom
- Associate Professor of Equine Surgery at the Royal Veterinary College
- Equine Surgeon at the Equine Referral Hospital. Hertfordshire, United Kingdom
- Veterinarian at Axe Valley Veterinary
- Veterinarian at Liphook Equine Hospital
- Veterinarian at the Humane Society International. Morocco
- Degree from the University of Liverpool
- Master's Degree in Veterinary Medicine from the Royal Veterinary College

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*Thanks to TECH you will be able to learn with the best professionals in the world"*

## Management



### Dr. Varela del Arco, Marta

- Clinical veterinarian specialized in Equine Surgery and Sports Medicine
- Head of Large Animal Unit at the Complutense Clinical Veterinary Hospital of Madrid
- Associate Professor, Department of Animal Medicine and Surgery, Complutense University of Madrid
- Head of Large Animal Unit at the Complutense Clinical Veterinary Hospital of Madrid
- Associate Professor of the Department of Animal Medicine and Surgery, UCM
- Teacher in different graduate and postgraduate courses, university specialization programs and master's degrees
- Director of Final Year Project in the Veterinary Degree and as a member of the tribunal of different doctoral theses
- PhD in Veterinary Medicine, Complutense University of Madrid
- Spanish Certificate from Equine Clinic (CertEspCEq)



### **Dr. De la Cuesta Torrado, María**

- Veterinarian with clinical specialty in Equine Internal Medicine
- Associate Professor of the Department of Equine Medicine and Surgery at the Cardenal Herrera CEU University of Valencia
- Doctorate in Advanced Studies from the Complutense University of Madrid
- Master's Degree in Equine Internal Medicine by Alfonso X el Sabio University
- Founder of MC Veterinaria
- Member of the Organizing Committee of the 12th European College of Equine Internal Medicine Congress
- Member of the Board of Directors of Spanish Society of Ozone Therapy
- Member of the Equine Clinicians Commission of the Official College of Veterinarians of Valencia
- Member of the Spanish Association of Equine Veterinarians (AVEE)
- Member of the scientific committee and coordinator of courses and congresses in the field of ozone therapy, supported by continuing education credits (CEC) granted by the National Health System

## Professors

### Dr. Muñoz Morán, Juan Alberto

- ♦ Head of Equine Surgery at the Sierra de Madrid Veterinary Hospital
- ♦ Editor of the Journal of Equine Veterinary Medicine and Surgery Equinus
- ♦ Equine surgery clinician at the Montreal Veterinary University
- ♦ Equine surgery clinician at the Veterinary University of Lyon
- ♦ Partner Surgeon at Grand Renaud Veterinary Clinic
- ♦ Surgeon at the Equine Hospital of Aznalcóllar
- ♦ Professor and coordinator of several university programs, both theoretical and practical, at the Veterinary University of Pretoria and at the Alfonso X El Sabio University
- ♦ Head of the Postgraduate Program in Sports Medicine and Equine Surgery at Alfonso X El Sabio University
- ♦ Doctor of Veterinary Science from the Complutense University of Madrid
- ♦ Certified by the European College of Veterinary Surgeons
- ♦ Diploma in Experimental Animals Category C from the University of Lyon
- ♦ Master's Degree in Veterinary Science from the University Alfonso X el Sabio
- ♦ Residency in Large Animal Surgery at the Veterinary University of Lyon
- ♦ Internship in Equine Surgery at London Equine Hospital
- ♦ Internship in Equine Medicine and Surgery at the Veterinary University of Lyon
- ♦ Member of the Examination Committee of the European College of Veterinary Surgeons

### Dr. Iglesias García, Manuel

- ♦ Clinical veterinarian and surgeon at the University Hospital of Extremadura
- ♦ Director of Final Year Project in the Veterinary Degree at the University of Extremadura
- ♦ Collaboration in teaching interns and students of the Veterinary Degree during the Master's Degree in Equine Surgery at the University of Extremadura
- ♦ Professor of the Master's Degree in Large Animal Internship at the University of Extremadura
- ♦ Doctor in Veterinary Medicine from Alfonso X El Sabio University
- ♦ Master's Degree in Equine Surgery and obtained the Master's Degree in Equine Surgery and obtaining the title of General Practitioner in Equine Surgery by the European School of Veterinary Postgraduate Studies
- ♦ Professional Master's Degree in Equine Surgery at the Veterinary Hospital of Alfonso X el Sabio University  
Spanish Certificate in Clinical Equine (CertEspCEq)

### Dr. Aguirre Pascasio, Carla

- ♦ Veterinary specialist in equine clinical care and soft tissue surgery
- ♦ Doctor in Veterinary Medicine from the University of Murcia
- ♦ Postgraduate degree in equine physiotherapy from the University of Barcelona
- ♦ Master in Business and Administration by ENAE Business School, Murcia
- ♦ Certificate in Internal Medicine from the Royal Veterinary College of London and by the University of Liverpool
- ♦ Certified in Soft Tissue Surgery by the Royal Veterinary College of London and by the University of Liverpool
- ♦ Spanish Certificate in Equine Clinical Practice from the Spanish Veterinary Council
- ♦ Board Eligible in the ECEIM (European College of Equine Internal Medicine)  
Fellowship in the Equine Hospital Casal do Rio

**Dr. Manso Díaz, Gabriel**

- ♦ Clinical veterinarian, member of the Diagnostic Imaging Service at Complutense Veterinary Clinical Hospital
- ♦ Assistant Professor, Department of Animal Medicine and Surgery, Complutense University of Madrid
- ♦ Collaborator in the practical teaching in the Department of Animal Medicine and Surgery at the Complutense University of Madrid
- ♦ Regular speaker at courses, workshops and congresses in the field of Equine Diagnostic Imaging
- ♦ PhD in Veterinary from the Complutense University of Madrid
- ♦ Degree in Veterinary Medicine from the Complutense University of Madrid
- ♦ Large Animal Diagnostic Imaging Resident (ECVDI) Equine Referral Hospital, Royal Veterinary College
- ♦ Certified by the European College of Veterinary Diagnostic Imaging (ECVDI) in the specialty of Large Animals

**Dr. López San Román, Javier**

- ♦ Veterinarian member of the Equine Surgery Service of the Complutense Clinical Veterinary Hospital
- ♦ Professor of the Department of Animal Medicine and Surgery of the Complutense University of Madrid and deputy director of the Department
- ♦ Assistant Professor at the LRU University School
- ♦ Professor of Veterinary Medicine at national universities (Las Palmas de Gran Canaria, Córdoba and Extremadura) and abroad (University of Trás-os-Montes e Alto Douro, National Veterinary School of Lyon, National University of Litoral in Argentina)

- ♦ Lecturer in different undergraduate and postgraduate courses, university specialization programs and masters, both national and international, and coordinator of different subjects and courses in the Veterinary Degree
- ♦ Reviewer of scientific articles in several journals indexed in the Journal Citation Report
- ♦ Deputy Director of the Department of Animal Medicine and Surgery, UCM
- ♦ PhD in Veterinary from the Complutense University of Madrid
- ♦ Certified by the European College of Equine Veterinary Surgery

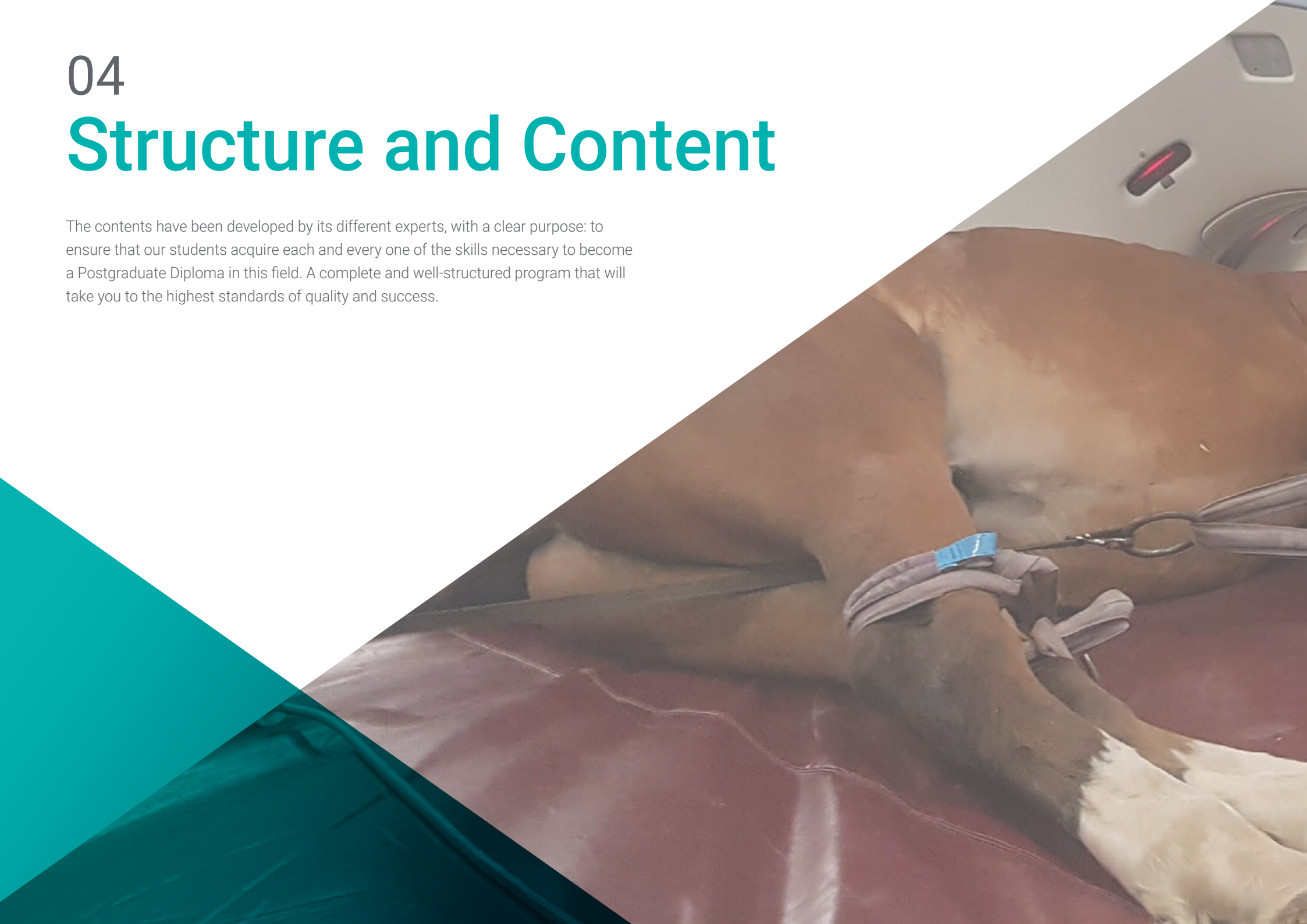
**Dr. Goyoaga Elizalde, Jaime**

- ♦ DVM; Head of Equine Surgery Service HCVC-UCM
- ♦ Director and veterinarian at the Equine Clinic Jaime Goyoaga SLP
- ♦ Professor in the Master's Degree in Animal Medicine, Health and Improvement: Diagnostic Imaging
- ♦ Professor in the Expert in Principles of Physiotherapy and Animal Rehabilitation of the UCM
- ♦ Co-director and teacher of the Master's Degree in Equine Medicine and Surgery by Improve International
- ♦ Associate Professor in the Department of Animal Medicine and Surgery, Faculty of Veterinary Medicine, Complutense University of Madrid
- ♦ Professor of Medical Pathology and Nutrition, Special Surgery of Large Animals, Equine Pathology and Clinic, Hospitalization, Emergency and Intensive Care in Equine Clinic, Radiology and Diagnostic Imaging
- ♦ Spanish Certificate from Equine Clinic (CertEspCEq)
- ♦ Veterinarian Specialist

04

# Structure and Content

The contents have been developed by its different experts, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become a Postgraduate Diploma in this field. A complete and well-structured program that will take you to the highest standards of quality and success.





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*A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life"*

## Module 1. Locomotor System

- 1.1. Examination and Diagnosis of Lameness
  - 1.1.1. Introduction
    - 1.1.1.1. Definition of Lameness
    - 1.1.1.2. Causes and Types of Lameness
    - 1.1.1.3. Symptoms of Lameness
  - 1.1.2. Static Examination of Lameness
    - 1.1.2.1. Medical History
    - 1.1.2.2. Approach to the Horse and General Examination
      - 1.1.2.2.1. Visual Examination: General Condition and Conformation
      - 1.1.2.2.2. Static Physical Examination, Palpation, Percussion and Flexion
  - 1.1.3. Dynamic Examination of Lameness
    - 1.1.3.1. Examination in Motion
    - 1.1.3.2. Flexion Test
    - 1.1.3.3. Assessment and Quantification of Lameness Objective and Subjective Methods
    - 1.1.3.4. Introduction to Neural Anesthetic Blocks
  - 1.1.4. Introduction to Complementary Diagnostic Methods
- 1.2. Anesthetic Nerve Blocks
  - 1.2.1. Diagnostic Loco-Regional Analgesia: Introduction
    - 1.2.1.1. General Considerations and Pre-Diagnostic Requirements
    - 1.2.1.2. Types of Blockages and Injection Techniques
    - 1.2.1.3. Drugs to be Used
    - 1.2.1.4. Election of Blockages
    - 1.2.1.5. Approach to the Patient
      - 1.2.1.5.1. Patient Management and Preparation
      - 1.2.1.5.2. Chemical Containment
    - 1.2.1.6. Evaluation of Results
      - 1.2.1.6.1. Subjective Assessment
      - 1.2.1.6.2. Objective Assessment
    - 1.2.1.7. Complications
  - 1.2.2. Perineural Anesthetic Blocks
    - 1.2.2.1. Perineural Analgesia in the Forelimb
    - 1.2.2.2. Perineural Analgesia in the Hindlimb
  - 1.2.3. Regional Anesthetic Blocks
  - 1.2.4. Intrasynovial Anesthetic Blocks
    - 1.2.4.1. Intra-Articular Blocks
    - 1.2.4.2. Bursa and Tendon Sheath Blocks
- 1.3. Diagnostic Imaging of Lameness
  - 1.3.1. Introduction to Diagnostic Imaging in the Field
  - 1.3.2. Technical Basis
    - 1.3.2.1. Radiology
    - 1.3.2.2. Ultrasound
    - 1.3.2.3. Advanced Techniques.
      - 1.3.2.3.1. Gammagraphy.
      - 1.3.2.3.2. Magnetic Resonance
      - 1.3.2.3.3. Computerized Tomography
  - 1.3.3. Bone Pathology Diagnosis
  - 1.3.4. Joint Pathology Diagnosis
  - 1.3.5. Diagnosis of Tendon and Ligament Pathology
- 1.4. Pathologies of the Axial Skeleton Diagnosis and Treatment
  - 1.4.1. Introduction to Axial Skeletal Pathology
  - 1.4.2. Axial Skeleton Exploration
  - 1.4.3. Cervical Spine Diagnosis
  - 1.4.4. Diagnosis of the Thoracolumbar and Sacroiliac Spine
  - 1.4.5. Axial Skeleton Pathology Treatment
- 1.5. Degenerative Joint Disease (DJD) Traumatic Arthritis and Post-Traumatic Osteoarthritis Etiology, Diagnosis and Treatment
  - 1.5.1. Anatomy and Physiology of the Joints
  - 1.5.2. Definition of EDA
  - 1.5.3. Cartilage Lubrication and Repair
  - 1.5.4. DJD Manifestations
    - 1.5.4.1. Acute Injuries
    - 1.5.4.2. Chronic Fatigue Injuries





- 1.5.5. DJD Diagnosis
  - 1.5.5.1. Clinical Examination
  - 1.5.5.2. Objective and Subjective Examination of Lameness
  - 1.5.5.3. Diagnostic Anesthesia
  - 1.5.5.4. Diagnostic Imaging
    - 1.5.5.4.1. Radiology
    - 1.5.5.4.2. Ultrasound
    - 1.5.5.4.3. Magnetic Resonance Imaging and Computerized Axial Tomography
    - 1.5.5.4.4. New Technologies
- 1.5.6. Treatment of DJD
  - 1.5.6.1. Nonsteroidal Anti-Inflammatories
  - 1.5.6.2. Steroid Anti-Inflammatories
  - 1.5.6.3. Hyaluronic Acid
  - 1.5.6.4. Glucosaminoglycans
  - 1.5.6.5. Pentosan
  - 1.5.6.6. Biological Therapies
    - 1.5.6.6.1. Autologous Conditioned Serum
    - 1.5.6.6.2. Platelet Rich Plasma
    - 1.5.6.6.3. Stem Cells
  - 1.5.6.7. Oral Supplements
- 1.6. Tendinitis, Desmitis and Adjacent Structures Pathologies
  - 1.6.1. Applied Anatomy and Tendon Damage Pathophysiology
  - 1.6.2. Alterations of Tendons, Ligaments and Associated Structures
    - 1.6.2.1. Soft Tissues of the Pastern
    - 1.6.2.2. Superficial Digital Flexor Tendon (SDFT)
    - 1.6.2.3. Deep Digital Flexor Tendon (DDFT)
    - 1.6.2.4. Inferior Accessory Ligament of the TFDSP
    - 1.6.2.5. Suspensory Ligament of the Fetlock (SL)
      - 1.6.2.5.1. Proximal part of the SL
      - 1.6.2.5.2. SL Body
      - 1.6.2.5.3. SL Branches
    - 1.6.2.6. Carpal Canal and Carpal Sheath
    - 1.6.2.7. Tarsal Sheath
    - 1.6.2.8. Plantar Fasciitis
    - 1.6.2.9. Bursitis

- 1.6.3. Management of Tendon and Ligament Injuries
  - 1.6.3.1. Medical Therapy
  - 1.6.3.2. Regenerative Therapies
    - 1.6.3.2.1. Stem Cell and Bone Marrow Therapies
    - 1.6.3.2.2. Platelet-Rich Plasma Therapy
  - 1.6.3.3. Shock Waves and Other Physical Therapies
  - 1.6.3.4. Surgical Therapies
  - 1.6.3.5. Rehabilitation and Return to Work Guidelines
- 1.7. Fractures. Bone Sequestration
  - 1.7.1. First Approach to Fractures, General Considerations Bone Sequestration
    - 1.7.1.1. Introduction
      - 1.7.1.1.1. First Aid for Fractures in Horses
      - 1.7.1.1.2. Case Selection, General Considerations
      - 1.7.1.1.3. Immobilization of Fractures According to Location
    - 1.7.1.2. Transport
      - 1.7.1.2.1. Transporting an Equine Patient for Fracture Treatment
    - 1.7.1.3. Prognosis
    - 1.7.1.4. Bone Sequestration
  - 1.7.2. Rehabilitation and Return to Work Guidelines
    - 1.7.2.1. In Fractures
    - 1.7.2.2. In Bone Sequestration
- 1.8. Laminitis
  - 1.8.1. Pathophysiology of Laminitis
  - 1.8.2. Clinical of Laminitis
  - 1.8.3. Diagnosis of Laminitis
    - 1.8.3.1. Physical Examination
    - 1.8.3.2. Diagnostic Imaging
    - 1.8.3.3. Endocrine and Metabolic Assessment
  - 1.8.4. Medical Treatment of Laminitis
    - 1.8.4.1. Anti-Inflammatories
    - 1.8.4.2. Vasoactive Drugs
    - 1.8.4.3. Analgesia
    - 1.8.4.4. Hypothermia.
    - 1.8.4.5. Sepsis
    - 1.8.4.6. Pituitary Pars Intermedia Dysfunction (PPID) and Equine Metabolic Syndrome (EMS)
  - 1.8.5. Stabilization of the Third Phalanx
    - 1.8.5.1. Sole Support Techniques
    - 1.8.5.2. Therapeutic Horseshoeing
  - 1.8.6. Treatment of Laminitis
    - 1.8.6.1. Use of Casts
    - 1.8.6.2. Flexor Digitorum Superficialis Tenotomy
    - 1.8.6.3. Dorsal Wall Resection
    - 1.8.6.4. Complications
  - 1.8.7. Chronic Laminitis
  - 1.8.8. Laminitis Prevention
- 1.9. Orthopedic Field Surgery
  - 1.9.1. Fractures of Rudimentary Metacarpals/Metatarsals
    - 1.9.1.1. Clinical History, Symptomatology and Different Presentations
    - 1.9.1.2. Diagnostic Techniques
    - 1.9.1.3. Decision Making and Optimal Treatment
    - 1.9.1.4. Surgical Management
    - 1.9.1.5. Complications to Surgery
    - 1.9.1.6. Post-Operative Care
    - 1.9.1.7. Rehabilitation and Return to Work Guidelines
  - 1.9.2. Demotomies
    - 1.9.2.1. Medical History
    - 1.9.2.2. Decision Making
    - 1.9.2.3. Surgical Management
    - 1.9.2.4. Complications of Demotomies
    - 1.9.2.5. Post-Operative Care
    - 1.9.2.6. Rehabilitation and Return to Work Guidelines

- 1.9.3. Neurectomies
  - 1.9.3.1. Indications
  - 1.9.3.2. Pre-Surgical Considerations and Implications
  - 1.9.3.3. Surgical Technique
  - 1.9.3.4. Complications
  - 1.9.3.5. Post-Operative Care
  - 1.9.3.6. Rehabilitation and Return to Work Guidelines
- 1.10. Myopathies in the Horse
  - 1.10.1. Genetic and Congenital Diseases
    - 1.10.1.1. Myotonia
    - 1.10.1.2. Myopathy due to Polysaccharide Storage
    - 1.10.1.3. Malignant Hyperthermia
    - 1.10.1.4. Hyperkalemic Periodic Paralysis
  - 1.10.2. Traumatic and Irritative Alterations
    - 1.10.2.1. Fibrotic Myopathy
    - 1.10.2.2. Bruises and Tears
    - 1.10.2.3. Intramuscular Irritant Injections
  - 1.10.3. Infectious Diseases
    - 1.10.3.1. Abscesses.
    - 1.10.3.2. Clostridial Myositis
  - 1.10.4. Ischemic Diseases
    - 1.10.4.1. Post-Anesthetic Myositis
  - 1.10.5. Nutritional Diseases
    - 1.10.5.1. Malnutrition
    - 1.10.5.2. Vitamin E and Selenium Alterations
    - 1.10.5.3. Cachectic Atrophy
  - 1.10.6. Pathologies Associated with Exercise
    - 1.10.6.1. Acute Exertional Rhabdomyolysis
    - 1.10.6.2. Recurrent Exertional Rhabdomyolysis
    - 1.10.6.3. Hypokinetic Atrophy

## Module 2. Surgical Pathologies of the Skin and Related Structures

- 2.1. Exploration and Wound Types
  - 2.1.1. Anatomy
  - 2.1.2. Initial Assessment and Emergency Treatment
  - 2.1.3. Wound Classification
  - 2.1.4. Wound Healing Process
  - 2.1.5. Factors Influencing Wound Infection and Wound Healing
  - 2.1.6. Primary and Secondary Intention Wound Healing
- 2.2. Tissue Management, Hemostasis and Suture Techniques
  - 2.2.1. Incision and Tissue Dissection
  - 2.2.2. Hemostasis
    - 2.2.2.1. Mechanical Hemostasis
    - 2.2.2.2. Ligatures
    - 2.2.2.3. Tourniquet
    - 2.2.2.4. Electrocoagulation
    - 2.2.2.5. Chemical Hemostasis
  - 2.2.3. Tissue Management, Irrigation and Suctioning
  - 2.2.4. Suture Materials Used
    - 2.2.4.1. Instruments
    - 2.2.4.2. Suture Material Selection
    - 2.2.4.3. Needles
    - 2.2.4.4. Drainages
  - 2.2.5. Approaches to Wound Suturing
  - 2.2.6. Suture Patterns
- 2.3. Bandages
  - 2.3.1. Materials and Bandage Types
  - 2.3.2. Hull Bandage
  - 2.3.3. Distal Extremity Bandage
  - 2.3.4. Full Limb Bandage
  - 2.3.5. Fiberglass Cast. Application and Peculiarities in Young Animals

- 2.4. Acute Wound Repair
  - 2.4.1. Wound Treatment Medication
  - 2.4.2. Debriding
  - 2.4.3. Emphysema Secondary to Wounds
  - 2.4.4. Negative Pressure Therapy
  - 2.4.5. Topical Treatment Types
- 2.5. Repair and Management of Chronic and/or Infected Wounds
  - 2.5.1. Particularities of Chronic and Infected Wounds
  - 2.5.2. Causes of Chronic Wounds
  - 2.5.3. Management of Severely Contaminated Wounds
  - 2.5.4. Laser Benefits
  - 2.5.5. Larvotherapy
  - 2.5.6. Cutaneous Fistulas Treatment
- 2.6. Hoof Wound Treatment Regional and Intraosseous Perfusion of Antibiotics
  - 2.6.1. Hoof Wounds
    - 2.6.1.1. Coronary Buckle Wounds
    - 2.6.1.2. Heel Wounds
    - 2.6.1.3. Puncture Wounds on the Palm
  - 2.6.2. Antibiotic Perfusion
    - 2.6.2.1. Regional Perfusion
    - 2.6.2.2. Intraosseous Perfusion
- 2.7. Management and Repair of Synovial Wounds and Joint Lavage
  - 2.7.1. Pathophysiology of Synovial Infection
  - 2.7.2. Epidemiology and Diagnosis of Synovial Wound Infections
  - 2.7.3. Synovial Wound Treatment Joint Lavage
  - 2.7.4. Synovial Wound Prognosis
- 2.8. Tendon Lacerations Management and Repair
  - 2.8.1. Introduction, Anatomy, Anatomical Implications
  - 2.8.2. Primary care, Examination of the Injury, Immobilization
  - 2.8.3. Case Selection: Surgical or Conservative Treatment
  - 2.8.4. Tendon Lacerations Surgical Repair
  - 2.8.5. Rehabilitation and Return to Work Guidelines after Tenorrhaphy

- 2.9. Reconstructive Surgery and Skin Grafting
  - 2.9.1. Principles of Basic and Reconstructive Surgery
    - 2.9.1.1. Skin Tension Lines
    - 2.9.1.2. Incision Orientation and Suture Patterns
    - 2.9.1.3. Tension Release Techniques and Plasties
  - 2.9.2. Closure of Skin Defects of Different Shapes
  - 2.9.3. Skin Grafts
- 2.10. Treatment of Exuberant Granulation Tissue Sarcoid Burns
  - 2.10.1. Causes of the Appearance of Exuberant Granulation Tissue
  - 2.10.2. Treatment of Exuberant Granulation Tissue
  - 2.10.3. Sarcoid Appearance in Wounds
    - 2.10.3.1. Wound Associated Sarcoid Type

### Module 3. Foal Medicine and Surgery

- 3.1. Neonatal Screening
  - 3.1.1. Normal Clinical Parameters in the Foal during the First Days of Life
  - 3.1.2. Beginning of the Functioning of Organ Systems at Birth and During the First Months of Life
    - 3.1.2.1. 9.1.2.1 Gastric System
    - 3.1.2.2. Respiratory System
    - 3.1.2.3. Endocrine System
    - 3.1.2.4. Muscular and Neurological System
    - 3.1.2.5. 9.1.2.5 Ophthalmic System
- 3.2. Immature Foal Failure in the Passive Transfer of Immunity Isoerythrolysis Septicemia
  - 3.2.1. The Premature, Immature and Stunted Foal
  - 3.2.2. Cardiopulmonary Resuscitation
  - 3.2.3. Failure of Passive Transfer of Immunity
  - 3.2.4. Isoerythrolysis
  - 3.2.5. Neonatal Sepsis
- 3.3. Neonatal Respiratory, Cardiac, Neurological and Musculoskeletal Pathologies
  - 3.3.1. Neonatal Respiratory Pathologies
    - 3.3.1.1. Respiratory Bacterial Pathologies
    - 3.3.1.2. Viral Respiratory Pathologies
    - 3.3.1.3. Rib Fractures

- 3.3.2. Neonatal Cardiac Pathologies
  - 3.3.2.1. Patent Ductus Arteriosus
  - 3.3.2.2. Foramen Ovale
  - 3.3.2.3. Tetralogy of Fallot
- 3.3.3. Neonatal Neurological Pathologies
  - 3.3.3.1. Hypoxic Ischemic Encephalopathy
  - 3.3.3.2. Septic Encephalitis, Meningitis and Metabolic Encephalopathies
  - 3.3.3.3. Congenital Neurological Pathologies
- 3.3.4. Neonatal Musculoskeletal Pathologies
  - 3.3.4.1. Vitamin E and Selenium Deficiency
- 3.4. Neonatal Gastrointestinal, Genitourinary and Endocrine Pathologies
  - 3.4.1. Neonatal Gastrointestinal Pathologies
    - 3.4.1.1. Bacterial and Viral Diarrhea
    - 3.4.1.2. Meconium Impaction
    - 3.4.1.3. Congenital Gastrointestinal Pathologies
    - 3.4.1.4. Gastric and Duodenal Ulcers
  - 3.4.2. Neonatal Genitourinary Pathologies
    - 3.4.2.1. Omphalophlebitis and Omphaloarteritis
    - 3.4.2.2. Patent Urachus
    - 3.4.2.3. Bladder Rupture
  - 3.4.3. Neonatal Endocrine Pathologies
    - 3.4.3.1. Thyroid Alterations
    - 3.4.3.2. Hypoglycemia, Hyperglycemia and Lack of Maturation of the Endocrine System
- 3.5. Identification and Stabilization of the Patient with Ruptured Bladder or Persistent Urachus
  - 3.5.1. Omphalophlebitis, Omphaloarteritis and Patent Urachus
  - 3.5.2. Bladder Rupture
  - 3.5.3. Diagnostic Assessment and Stabilization Treatments
  - 3.5.4. Medical Treatment and Surgical Options
- 3.6. Diagnostic Imaging of the Chest and Abdominal Cavity of the Foal
  - 3.6.1. Diagnostic Imaging the Chest
    - 3.6.1.1. Technical Basis
      - 3.6.1.1.1. Radiology
      - 3.6.1.1.2. Ultrasound
      - 3.6.1.1.3. Computerized Tomography
    - 3.6.1.2. Thoracic Pathology
  - 3.6.2. Diagnostic Imaging of the Abdomen
    - 3.6.2.1. Technical Basis
      - 3.6.2.1.1. Radiology
      - 3.6.2.1.2. Ultrasound
    - 3.6.2.2. Abdominal Pathology
- 3.7. Treatment of Septic Arthritis Umbilical Herniorrhaphy
  - 3.7.1. Pathophysiology and Diagnosis of Synovial Infections in Foals
  - 3.7.2. Treatment of Septic Arthritis in the Foal
  - 3.7.3. Etiopathogenesis and Diagnosis of Umbilical Hernias
  - 3.7.4. Umbilical Herniorrhaphy: Surgical Techniques
- 3.8. Angular Deformities Treatment
  - 3.8.1. Etiopathogenesis.
  - 3.8.2. Diagnosis
  - 3.8.3. Conservative Treatment
  - 3.8.4. Surgical Management
- 3.9. Flexural Deformities Treatment
  - 3.9.1. Etiopathogenesis.
  - 3.9.2. Diagnosis
  - 3.9.3. Conservative Treatment
  - 3.9.4. Surgical Management
- 3.10. Diagnosis of Developmental Diseases in the Foal Treatment of Phytitis, Epiphysitis and Hoof Management Guidelines for Healthy Foals
  - 3.10.1. Etiopathogenesis, Diagnosis and Treatment of different forms of Phytitis, Epiphysitis, Osteochondrosis and Subchondral Cysts
  - 3.10.2. Evaluation of Poise in the Healthy Foal
  - 3.10.3. Hoof Trimming Guideline in the Healthy Foal

# 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 Diploma in Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.



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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"*

This **Postgraduate Diploma in Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals** contains the most complete and up-to-date scientific program on the market.

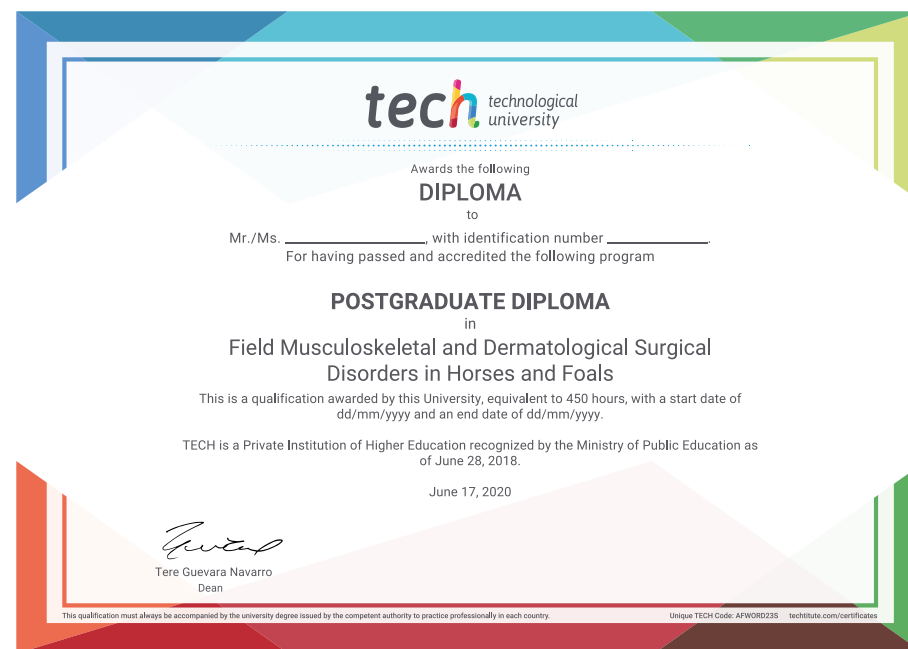
After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma**, issued by **TECH Technological University** via tracked delivery\*.

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 Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals**

ECTS: **18**

Official N° of Hours: **450 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.





**Postgraduate Diploma**  
Field Musculoskeletal  
and Dermatological  
Surgical Disorders in  
Horses and Foals

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

# Postgraduate Diploma

## Field Musculoskeletal and Dermatological Surgical Disorders in Horses and Foals

