Master's Degree

Veterinary Traumatology and Orthopedic Surgery

tech global university

tech global university

Master's Degree
Veterinary Traumatology and Orthopedic Surgery

- Modality: **online**
- Duration: **12 months.**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/veterinary-medicine/master/master-veterinary-traumatology-orthopedic-sugery**

Index

01

Introduction to the Program

According to research by the European College of Veterinary Surgeons, more than 40% of surgical consultations in small animals involve complex musculoskeletal pathologies, with fractures, dysplasias, and joint injuries being the most recurrent cases. Given this reality, mastering advanced orthopedic techniques has become a fundamental pillar of modern veterinary practice, enabling the restoration of mobility, alleviating chronic pain, and significantly improving the quality of life for patients. In response to this critical need, TECH has developed an advanced specialization in Orthopedic Surgery, fully designed by certified surgeons, training professionals in the latest techniques of Osteosynthesis, Arthroscopy, and Veterinary Reconstructive Management.

A 100% Online and Rigorous University Program, where you will master the key techniques of Veterinary Traumatology and Orthopedic Surgery applicable in clinical practice"

In current veterinary practice, musculoskeletal disorders represent an increasing clinical challenge that demands highly specialized surgical interventions. As such, the increase in the life expectancy of pets, coupled with the growing demand for highly precise reconstructive treatments, has raised the standards of Veterinary Orthopedic Surgery.

Moreover, Veterinary Traumatology today faces multiple demands: on one hand, the rise in complex cases calls for greater precision in techniques. On the other hand, the incorporation of technologies such as 3D printing of implants and computer-assisted surgical navigation requires constant updates. Furthermore, the high standards of functional recovery and the expectations of pet owners make specialized training in advanced Orthopedic Surgery indispensable.

To address these needs in Veterinary Medicine, TECH Global University presents its Postgraduate Master's Degree in Veterinary Traumatology and Orthopedic Surgery, a 100% online program that trains you in the most innovative techniques of Osteosynthesis, Arthroplasty, and Management of Complex Injuries. This specialty is designed by internationally renowned surgeons and combines theoretical training with practical applications in real cases, from preoperative planning to rehabilitation.

In this regard, the academic path is structured around key areas, such as specialized diagnostic imaging (CT, MRI), advanced surgical techniques, and management of postoperative complications. Through interactive simulations, 4K surgical video libraries, and the Relearning method, veterinarians will master evidence-based protocols. It is important to note that being 100% online, the program offers flexibility to balance training and clinical practice, with access to personalized tutoring and an updated resource library.

This **Master's Degree in Veterinary Traumatology and Orthopedic Surgery** 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 Veterinary Medicine
- 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
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in Veterinary Traumatology and Orthopedic Surgery
- 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

Update your competencies in Veterinary Orthopedics without interrupting your practice: flexible methodology with multimedia resources and competency-based certifications"

Master the most advanced techniques in Veterinary Orthopedic Surgery: from Arthroplasties to complex reconstructions"

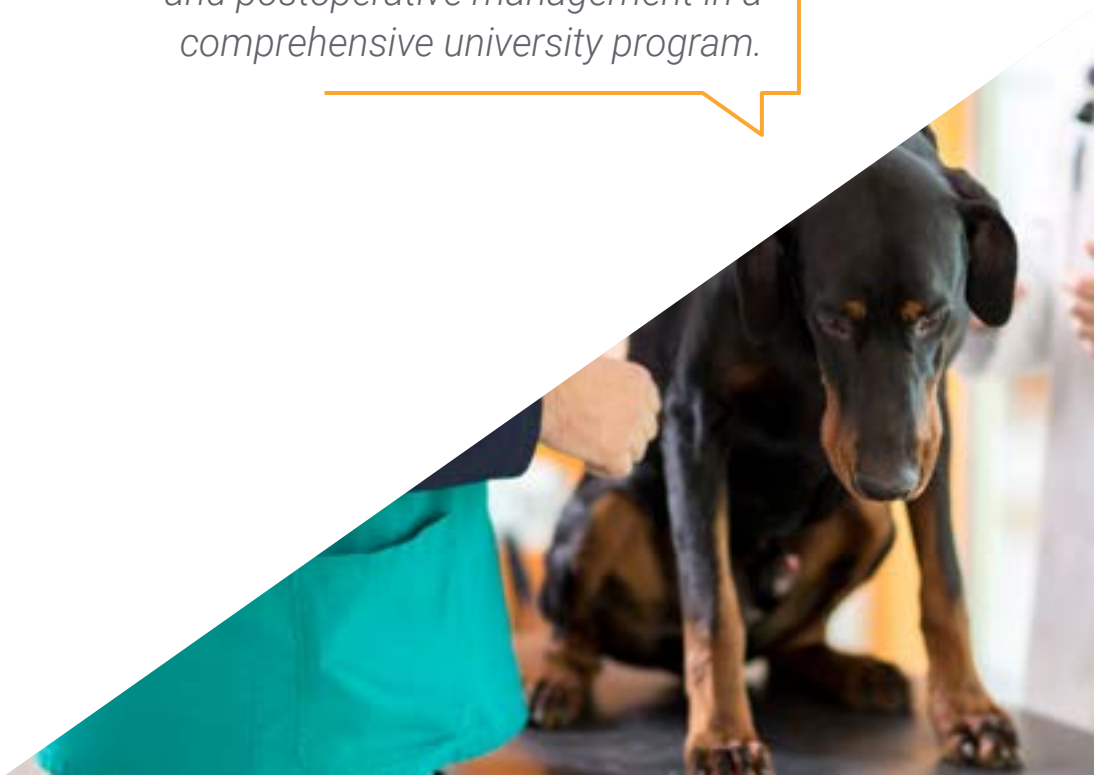
Learn from real cases and interactive simulations: develop decisive surgical skills through a unique virtual training system.

Become a leader in Veterinary Traumatology: advanced diagnostic imaging, reconstructive techniques, and postoperative management in a comprehensive university program.

The faculty includes professionals from the field of Veterinary Medicine, who bring their work 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 professionals to engage in situated and contextualized learning, offering a simulated environment that provides immersive training for real-life situations.

This program is designed around Problem-Based Learning, whereby the student 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.



02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.

Study at the largest online university in the world and ensure your professional success. The future begins at TECH"

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

The content of the curriculum for this Postgraduate Master's Degree has been developed collaboratively by a multidisciplinary team of renowned Veterinary Traumatologists and Orthopedic Surgeons. In this way, this academic pathway covers everything from diagnostic fundamentals to the most advanced Surgical Techniques. Each module integrates real clinical cases with a practical approach, ensuring the immediate application of knowledge. Additionally, it delves into the management of postoperative complications and rehabilitation strategies, preparing practitioners to tackle the most demanding challenges in Veterinary Traumatology.

100% Applied Training: from Osteosynthesis to Arthroplasties, with real clinical cases that prepare you for the most complex surgical challenges"

Module 1. Osteogenesis

1.1. Biomechanics of Fractures
- 1.1.1. Bone as a Material
- 1.1.2. The Role of Bone in Bone Fracture. Mechanical Concepts

1.2. Osteogenic Cells
- 1.2.1. Osteoblasts
- 1.2.2. Osteocytes
- 1.2.3. Osteoclasts

1.3. The Bone Matrix

1.4. The Growth Plate
- 1.4.1. Organization of the Growth Plate
- 1.4.2. Blood Supply of the Growth Plate
- 1.4.3. Structure and Function of the Growth Plate
- 1.4.4. Cartilaginous Components
  - 1.4.4.1. Reserve Zone
  - 1.4.4.2. Proliferative Zone
  - 1.4.4.3. Hypertrophic Zone
- 1.4.5. Bone Components (Metaphysis)
- 1.4.6. Fibrous and Fibrocartilaginous Components

1.5. Diaphyseal Bone Formation

1.6. Cortical Remodelling

1.7. Bone Irrigation
- 1.7.1. Normal Irrigation of Young Bone
- 1.7.2. Normal Irrigation of Mature Bone
  - 1.7.2.1. Afferent Vascular System
    - 1.7.2.1.1. Physiology of the Afferent Vascular System
  - 1.7.2.2. Efferent Vascular System
    - 1.7.2.2.1. Physiology of the Efferent Vascular System
  - 1.7.2.3. Intermediate Vascular System of Compact Bone
    - 1.7.2.3.1. Physiology Intermediate Vascular System of Compact Bone
    - 1.7.2.3.2. Bone Cell Activity

1.8. Calcium-Regulating Hormones
- 1.8.1. Parathyroid Hormone
  - 1.8.1.1. Anatomy of the Parathyroid Glands
  - 1.8.1.2. Parathyroid Hormone Biosynthesis
  - 1.8.1.3. Control of Parathyroid Hormone Secretion
  - 1.8.1.4. Biological Action of Parathyroid Hormone
- 1.8.2. Calcitonin
  - 1.8.2.1. Thyroid C (Parafollicular) Cells
  - 1.8.2.2. Calcitonin Secretion Regulation
  - 1.8.2.3. Biological Action and Physiological Significance of Calcitonin
  - 1.8.2.4. Primary and Secondary Hypercalcitoninemia
- 1.8.3. Cholecalciferol (vitamin D)
  - 1.8.3.1. Metabolic Activation of Vitamin D
  - 1.8.3.2. Subcellular Mechanisms of Action of Active Vitamin Metabolites
  - 1.8.3.3. Effects of Hormonal Alterations on the Skeleton under Pathological Conditions
  - 1.8.3.4. Vitamin D Deficiency
  - 1.8.3.5. Vitamin D Excess
  - 1.8.3.6. Primary and Secondary Hyperparathyroidism

1.9. Fracture Repair
- 1.9.1. Bone Response to Trauma
- 1.9.2. Basic Fracture Repair
  - 1.9.2.1. Inflammatory Phase
  - 1.9.2.2. Repair Phase
  - 1.9.2.3. Remodeling Phase
  - 1.9.2.4. Callus Formation
  - 1.9.2.5. Fracture Healing
  - 1.9.2.6. First Intention Repair
  - 1.9.2.7. Second Intention Repair
  - 1.9.2.8. Clinical Union
  - 1.9.2.9. Clinical Union Ranges

1.10. Fracture Complications
- 1.10.1. Delayed Union
- 1.10.2. Non-Union
- 1.10.3. Poor Union
- 1.10.4. Osteomyelitis

Module 2. Orthopedic Physical Examination

2.1. The Owner's First Contact with the Hospital
- 2.1.1. Questions to Be Asked at Reception
- 2.1.2. Appointment with the Patient
- 2.1.3. Age, Sex, Breed

2.2. Dynamic Orthopedic Physical Examination
- 2.2.1. Capturing Images and Video
- 2.2.2. Slow Motion Video
- 2.2.3. Front, Rear and Side Views
- 2.2.4. Walking, Trotting, Running

2.3. Static Orthopedic Physical Examination
- 2.3.1. Methodology for Its Implementation
- 2.3.2. Degrees of Claudication
- 2.3.3. Superficial Palpation
- 2.3.4. Deep Palpation
- 2.3.5. The Anatomy that One Should Know in Each Palpated Region
- 2.3.6. Joint Ranges of Motion and the Goniometer
- 2.3.7. According to Breed and Age Which Are the 5 Most Commonly Encountered Diseases

2.4. Diagnostic Imaging in Orthopedic Surgery and Traumatology I
- 2.4.1. Radiology
  - 2.4.1.1. General Aspects
  - 2.4.1.2. Positioning, Technology and Applications
- 2.4.2. Ultrasound
  - 2.4.2.1. General Aspects
  - 2.4.2.2. Positioning, Technology and Applications

2.5. Diagnostic Imaging in Orthopedic Surgery and Traumatology II
- 2.5.1. Tomography
  - 2.5.1.1. General Aspects
  - 2.5.1.2. Positioning, Technology and Applications
- 2.5.2. Magnetic Resonance Imaging (MRI)
  - 2.5.2.1. General Aspects
  - 2.5.2.2. Positioning, Technology and Applications

2.6. Arthrocentesis. Joint Disease from the Point of View of Cytology
- 2.6.1. Preparation for Arthrocentesis
- 2.6.2. Arthrocentesis Approach in Different Regions
- 2.6.3. Shipment of Samples
- 2.6.4. Physical Examination of Synovial Fluid

2.7. Arthritis and Polyarthritis
- 2.7.1. Types of Arthritis and Polyarthritis
  - 2.7.1.1. Autoimmunity
  - 2.7.1.2. Cells I
  - 2.7.1.3. Erlichia
  - 2.7.1.4. Ricketsia
- 2.7.2. Clinical Diagnosis
- 2.7.3. Differential Diagnosis

2.8. Osteoarthritis I
- 2.8.1. Etiology
- 2.8.2. Clinical and Laboratory Diagnosis

2.9. Osteoarthritis II
- 2.9.1. Treatment
- 2.9.2. Prognosis

2.10. Medicine, Orthopedics and Management of Exotic Species
- 2.10.1. Birds
- 2.10.2. Reptiles
- 2.10.3. Small Mammals

Module 3. Skeletal External Fixators and Circular Fixators

3.1. External Fixators
- 3.1.1. History of the External Skeletal Fixator
- 3.1.2. Description of the External Fixator

3.2. Parts Constituting the Kirschner-Ehmer Apparatus
- 3.2.1. Nails
  - 3.2.1.1. Fixators
- 3.2.2. Connecting Bar

3.3. Settings of the External Skeletal Fixator
- 3.3.1. Half Skeletal Fixation Apparatus
- 3.3.2. Standard Kirschner-Ehmer Apparatus
- 3.3.3. Modified Kirschner-Ehmer Apparatus
- 3.3.4. Bilateral External Fixator Model

3.4. Mixed Skeletal Fixator Apparatus

3.5. Methods of Application of the Kirschner-Ehmer Apparatus
- 3.5.1. Standard Method
- 3.5.2. Modified Method

3.6. External Fixators with Acrylic
- 3.6.1. The Use of Epoxy Resin
- 3.6.2. The Use of Dental Acrylics
  - 3.6.2.1. Preparation of Acrylics
  - 3.6.2.2. Application and Setting Time
  - 3.6.2.3. Post-Surgery Care
  - 3.6.2.4. Implant Removal
- 3.6.3. Acquisition of Acrylic Material
- 3.6.4. Care in the Application of Acrylics
- 3.6.5. Toxicity of Acrylic
- 3.6.6. Bone Cement for Use in Fractures

3.7. Indications and Uses of External Fixators
- 3.7.1. Anterior Member
- 3.7.2. Posterior Limb
- 3.7.3. Other Areas

3.8. Advantages and Disadvantages of Using External Fixators

3.9. Post-Surgical Care and Complications
- 3.9.1. Cleaning the Fixator
- 3.9.2. Radiographic Studies
- 3.9.3. Implant Removal
- 3.9.4. Repositioning a Fixator

3.10. Fixators in Exotic Species
- 3.10.1. Birds
- 3.10.2. Reptiles
- 3.10.3. Small Mammals

Module 4. Intramedullary Nailing

4.1. History
- 4.1.1. Kuntcher's Nail
- 4.1.2. The First Canine Patient with an Intramedullary Nail
- 4.1.3. The Use of the Steinmann Nail in the 1970s
- 4.1.4. The Use of the Steinmann Nail Today

4.2. Principles of Intramedullary Nail Application
- 4.2.1. Type of Fractures in which It Can Be Exclusively Placed
- 4.2.2. Rotational Instability
- 4.2.3. Length, Tip and Rope
- 4.2.4. Nail to Medullary Canal Diameter Ratio
- 4.2.5. Principle of the 3 Points of the Cortex
- 4.2.6. Behavior of the Bone and Its Irrigation after Intramedullary Nail Fixation

4.3. The Use of Locks with the Steinmann Intramedullary Nail
- 4.3.1. Principles of Application of Fastenings and Lashings
  - 4.3.1.1. Barrel Principle
  - 4.3.1.2. Type of Fracture Line

4.4. Principles of Application of the Tension Band
- 4.4.1. Pawel's or Brace Principle
- 4.4.2. Application of Engineering to Orthopedics
- 4.4.3. Bone Structures where the Tension Band Is to Be Applied

4.5. Method of Normograde and Retrograde Application of the Steinmann Nail
- 4.5.1. Proximal and Distal Normograde
- 4.5.2. Proximal and Distal Retrograde

4.6. Femur
- 4.6.1. Proximal Femoral Fractures
- 4.6.2. Fractures of the Medium Third of the Femur
- 4.6.3. Fractures of the Distal Third of the Femur

4.7. Tibia
- 4.7.1. Fractures of the Proximal Third
- 4.7.2. Fractures of the Middle Third of the Tibia
- 4.7.3. Fractures of the Distal Third of the Tibia
- 4.7.4. Fractures of the Tibial Malleoli

4.8. Anterior Member
- 4.8.1. Intramedullary Nail in the Humerus
- 4.8.2. Intramedullary Nail in the Ulna
- 4.8.3. Steinmann Intramedullary Nail Fixation
- 4.8.4. Steinmann Intramedullary Nail and Auxiliary Fixation
- 4.8.5. Acromion

4.9. Intramedullary and Proximal Nailing in Exotic Animals
- 4.9.1. X-Ray Monitoring
- 4.9.2. Bone Callus Formation
- 4.9.3. Consolidation Behavior of the Different Species

4.10. Centromedullary Steel Nail
- 4.10.1. History
- 4.10.2. Components
- 4.10.3. Structure
- 4.10.4. Application
- 4.10.5. Advantages and Disadvantages

Module 5. Bone Plates and Screws

5.1. History of Metal Plates in Internal Fixing
- 5.1.1. The Initiation of Plates for Fracture Fixation
- 5.1.2. The World Association of Orthopedic Manufacturers (AO/ASIF)
- 5.1.3. Sherman and Lane Plates
- 5.1.4. Steel Plates
- 5.1.5. Titanium Plates
- 5.1.6. Plates of Other Materials
- 5.1.7. Combination of Metals for New Plate Systems

5.2. Different Fixing Systems with Plate 8 (AO/ASIF, ALPS, FIXIN)
- 5.2.1. AO/ASIF Plates
- 5.2.2. Advanced Locked Plate System (ALPS)
- 5.2.3. FIXIN and Its Conical Block

5.3. Instrument Care
- 5.3.1. Cleaning and Disinfection
- 5.3.2. Washing
- 5.3.3. Drying
- 5.3.4. Lubrication
- 5.3.5. Organization

5.4. Instruments Used for the Fixation of Plates and Screws
- 5.4.1. Self-Tapping Screws and Tap Removal
- 5.4.2. Depth Gages
- 5.4.3. Drilling Guides
- 5.4.4. Plate Benders and Plate Twisters
- 5.4.5. Screw Heads
- 5.4.6. Screws/Bolts

5.5. Use and Classification of Screws
- 5.5.1. Cancellous Bone Screws
- 5.5.2. Cortical Bone Screws
- 5.5.3. Locked Screws/Bolts

5.5.4. Fastening Screws
5.5.4.1. Use of the Drill
5.5.4.2. Use of the Countersink
5.5.4.3. Borehole Depth Measurement
5.5.4.4. Use of the Tap
5.5.4.5. Introduction to Screws
5.6. Technical Classification of Screws
5.6.1. Big Screws
5.6.2. Small Screws
5.6.3. Minifragments
5.7. Classification of Screws According to Their Function
5.7.1. Screw with Interfragmentary Compression Effect
5.7.2. The Cortical Bone Screw with Interfragmentary Compression Effect
5.7.3. Screw Reduction and Fixation Techniques with Interfragmentary Compression Effect
5.7.4. Locked System
5.8. Bone Plates
5.8.1. Bases for Fixing with Plates
5.8.1.1. Classification of Plates According to Their Shape
5.8.1.2. Classification of Plates According to Their Function
5.8.1.2.1. Compression Plate
5.8.1.2.2. Neutralization Plate
5.8.1.2.3. Bridge Plate
5.8.1.3. Dynamic Comprehension Plates
5.8.1.3.1. Mode of Action
5.8.1.3.2. Fixing Technique
5.8.1.3.3. Advantages and Disadvantages
5.8.1.4. Blocked Plates
5.8.1.4.1. Advantages and Disadvantages
5.8.1.4.2. Types of Locks
5.8.1.4.3. Mode of Action
5.8.1.4.4. Techniques, Instrumental
5.8.1.5. Minimum Contact Plates
5.8.1.6. Mini Plates
5.8.1.7. Special Plates

5.9. How to Select an Implant
- 5.9.1. Biological Factors
- 5.9.2. Physical Factors
- 5.9.3. Collaboration of the Owner in the Treatment
- 5.9.4. Table of Implant Size According to Patient Weight

5.10. When to Remove a Plate
- 5.10.1. Fulfilled Clinical Function
- 5.10.2. Implant Ruptures
- 5.10.3. Implant Bends
- 5.10.4. Implant Migrates
- 5.10.5. Rejection
- 5.10.6. Infections
- 5.10.7. Thermal Interference

Module 6. Pelvis Fractures

6.1. Anatomy of the Pelvis
- 6.1.1. General Considerations

6.2. Non-Surgical Group
- 6.2.1. Stable Fractures
- 6.2.2. Weight of the Patient
- 6.2.3. Age of the Patient

6.3. Surgical Group
- 6.3.1. Intra-Articular Fracture
- 6.3.2. Closure of the Pelvic Canal
- 6.3.3. Joint Instability of a Hemipelvis

6.4. Fracture Separation of the Sacro Iliac Joint
- 6.4.1. Surgical Approach for Reduction and Fixation
- 6.4.2. Examples of Surgically Treated Fractures

6.5. Fractures of the Acetabulum
- 6.5.1. Examples of Surgically Treated Fractures

6.6. Fracture of the Ilium
- 6.6.1. Surgical Approach to the Lateral Surface of the Ilium
- 6.6.2. Examples of Surgically Treated Cases

6.7. Ischial Fractures
- 6.7.1. Surgical Approach to the Body of the Ischium
- 6.7.2. Examples of Surgically Treated Cases

6.8. Pubic Symphysis Fractures
- 6.8.1. Surgical Approach to the Ventral Surface of the Pubic Symphysis
- 6.8.2. Reparation Methods

6.9. Fractures of the Ischial Tuberosity
- 6.9.1. Surgical Approach
- 6.9.2. Healed, Non-Reduced, Compressive Fractures of the Pelvis

6.10. Post-Operative Management of Pelvic Fractures
- 6.10.1. The Use of the Harness
- 6.10.2. Waterbed
- 6.10.3. Neurological Damage
- 6.10.4. Rehabilitation and Physiotherapy
- 6.10.5. Radiographic Studies and Evaluation of the Implant and Bone Repair

Module 7. Pelvic Limb Fractures

7.1. General Aspects of Pelvic Limb Fractures
- 7.1.1. Soft Tissue Damage
- 7.1.2. Neurological Assessment
- 7.1.3. Pre-Operative Care
  - 7.1.3.1. Temporary Immobilization
  - 7.1.3.2. Radiographic Studies
  - 7.1.3.3. Laboratory Exams
- 7.1.4. Surgical Preparation

7.2. Fractures of the Proximal Femoral Proximal Third
- 7.2.1. Surgical Approach
- 7.2.2. Fractures of the Femoral Head. Pre-Surgical Assessment
- 7.2.3. Fracture of the Femoral Neck, Greater Trochanter and Femoral Body

7.3. Surgical Treatment for Complications of the Femoral Head and Neck
- 7.3.1. Excision of the Femoral Head and Neck
- 7.3.2. Total Hip Replacement or Prosthesis
  - 7.3.2.1. Cemented System
  - 7.3.2.2. Biological System
  - 7.3.2.3. Locked System

7.4. Fractures of the Middle Third of the Femur
- 7.4.1. Surgical Approach to the Femoral Body
- 7.4.2. Femoral Body Fracture Fixation
  - 7.4.2.1. Steinmann Nail
  - 7.4.2.2. Locked Nails
  - 7.4.2.3. Plates and Screws
    - 7.4.2.3.1. External Fixators
    - 7.4.2.3.2. System Combinations
- 7.4.3. Post-Operative Care

7.5. Fractures of the Distal Femoral Third
- 7.5.1. Surgical Approach
- 7.5.2. Fractures Due to Separation of the Distal Femoral Epiphysis or Supracondylar Fracture
- 7.5.3. Intercondylar Fracture of the Femur
- 7.5.4. Fracture of the Femoral Condyles. "T-" or "Y-Fractures"

7.6. Fractures of the Patella
- 7.6.1. Surgical Approach
- 7.6.2. Surgical Technique
- 7.6.3. Post-Surgical Treatment
- 7.6.4. Patellar and Patellar Ligament Tears

7.7. Fractures of the Proximal Portion of the Tibia and Fibula
- 7.7.1. Surgical Approach
- 7.7.2. Classification
- 7.7.3. Avulsion of the Tibial Tubercle
- 7.7.4. Fracture Separation of the Proximal Tibial Epiphysis

7.8. Fractures of the Body of the Tibia and Fibula
- 7.8.1. Surgical Approach
- 7.8.2. Internal/External/Open/Conservative Fixation
- 7.8.3. Intramedullary Nails
- 7.8.4. Intramedullary Nail and Supplementary Fixation
- 7.8.5. External Skeletal Fixator
- 7.8.6. Bone Plates
- 7.8.7. Mipo

7.9. Fractures of the Distal Portion of the Tibia
- 7.9.1. Surgical Approach
- 7.9.2. Separation Fracture of the Distal Epiphysis of the Tibia
- 7.9.3. Fractures of the Lateral Malleolus, Medial Malleolus or Both

7.10. Fractures and Dislocations of the Tarsus
- 7.10.1. Surgical Approach
- 7.10.2. Calcaneal Fracture
- 7.10.3. Fracture and/or Dislocation of the Central Tarsal Bone
- 7.10.4. Achilles Tendon Fracture
- 7.10.5. Tarsal Arthrodesis

Module 8. Thoracic Limb Fractures

8.1. Fractures of the Scapula
- 8.1.1. Classification of Fractures
- 8.1.2. Conservative Treatment
- 8.1.3. Surgical Approach
  - 8.1.3.1. Reduction and Fixation

8.2. Dorsal Dislocation of the Scapula
- 8.2.1. Diagnosis
- 8.2.2. Treatment

8.3. Proximal Humerus Fractures
- 8.3.1. Surgical Approach
- 8.3.2. Reduction and Fixation

8.4. Diaphyseal Fractures of the Humerus
- 8.4.1. Surgical Approach
- 8.4.2. Reduction and Fixation

8.5. Fractures of the Distal Humerus
- 8.5.1. Supracondylar
  - 8.5.1.1. Medial Approach
  - 8.5.1.2. Lateral Approach
  - 8.5.1.3. Reduction and Fixation
  - 8.5.1.4. Post-Surgical

8.5.2. Fixation of the Medial or Lateral Humeral Condyle
8.5.2.1. Reduction and Fixation
8.5.2.2. Post-Surgical
8.5.3. Intercondylar fractures, Condylar T-Fractures, and Y-Fractures
8.5.3.1. Reduction and Fixation
8.5.3.2. Post-Operative
8.6. Fractures of the Radius and Ulna
8.6.1. Fracture of the Proximal Third of the Radius and/or Ulna
8.6.1.1. Surgical Approach
8.6.1.2. Treatment
8.6.1.3. Post-Surgical
8.6.2. Fractures of the Radius and/or Ulna Body
8.6.2.1. Closed Reduction and External Fixation of the Radius and Ulna
8.6.2.2. Surgical Approach to the Body of the Radius and Ulna
8.6.2.2.1. Craniomedial to the Radius
8.6.2.2.2. Craniolateral
8.6.2.2.3. Ulnar Caudal
8.6.2.3. Reduction and Fixation
8.6.2.4. Post-Surgical
8.6.3. Fracture of the Distal Third of the Radius and/or Ulna
8.6.3.1. Surgical Approach
8.6.3.2. Reduction and Fixation
8.6.3.3. Post-Surgical
8.7. Carpal and Metacarpal Fractures
8.7.1. Fracture of the Carpus
8.7.2. Fracture of the Metacarpus
8.7.3. Fracture of the Phalanges
8.7.4. Reconstruction of Ligaments
8.7.4.1. Surgical Approaches
8.8. Fractures of the Maxilla and Mandible
8.8.1. Surgical Approaches
8.8.2. Fixation of the Mandibular Symphysis
8.8.3. Fixation of Fractures of the Mandibular Body
8.8.3.1. Orthopedic Wire Around the Teeth
8.8.3.2. Intramedullary Nailing
8.8.3.3. External Skeletal Fixator
8.8.3.4. Bone Plates
8.8.3.5. Fractures of the Maxilla
8.8.3.5.1. Treatment of Fractures in Young Growing Animals
8.8.3.5.2. Some Characteristic Aspects of Immature Bone
8.8.3.5.3. Primary Indications for Surgery
8.9. Fractures Resulting in Incongruence of the Articular Surface
8.9.1. Fractures Affecting the Growth Nucleus
8.9.2. Classification of the Epiphysis Based on Its Type
8.9.3. Classification of Slipped or Split Fractures Involving the Growth Nucleus and Adjacent Epiphyseal Metaphysis
8.9.4. Clinical Assessment and Treatment of Damage to Nucleus Growth
8.9.5. Some More Common Treatments for Premature Closure
8.10. Tendon Surgery
8.10.1. Most Common Tendon Ruptures
8.10.2. Types of Sutures
8.10.3. Transarticular External Fixators
8.10.4. Implant Removal

Module 9. Arthroscopy

9.1. History of Arthroscopy
9.1.1. Beginning of Arthroscopy in Human Medicine
9.1.2. Beginning of Veterinary Arthroscopy
9.1.3. Dissemination of Veterinary Arthroscopy
9.1.4. Future of Arthroscopy
9.2. Advantages and Disadvantages of Arthroscopy
9.2.1. Open Surgery vs. Minimally Invasive Surgery
9.2.2. Economic Aspects of Arthroscopy
9.2.3. Arthroscopy Techniques Training

9.3. Arthroscopy Instruments and Equipment
- 9.3.1. Endoscopy Equipment
- 9.3.2. Arthroscopy Specific Material
- 9.3.3. Instruments and Implants for Intra-Articular Surgery
- 9.3.4. Cleaning, Disinfection and Maintenance of Arthroscopy Instruments

9.4. Elbow Arthroscopy
- 9.4.1. Patient Preparation and Positioning
- 9.4.2. Joint Anatomy of the Elbow
- 9.4.3. Arthroscopic Approach to the Elbow
- 9.4.4. Fragmentation of the Medial Coronoid Process
- 9.4.5. Osteochondrosis-Osteochondritis Dissecans of the Humeral Condyle
- 9.4.6. Medial Compartment Syndrome
- 9.4.7. Other Pathologies and Indications for Elbow Arthroscopy
- 9.4.8. Contraindications and Complications in Elbow Arthroscopy

9.5. Shoulder Arthroscopy
- 9.5.1. Patient Preparation and Positioning
- 9.5.2. Joint Anatomy of the Shoulder
- 9.5.3. Lateral and Medial Shoulder Approach with the Limb Hanging
- 9.5.4. Osteochondrosis-Osteochondritis Dissecans of the Shoulder
- 9.5.5. Bicipital Tendinitis
- 9.5.6. Shoulder Instability
- 9.5.7. Other Pathologies and Indications for Shoulder Arthroscopy
- 9.5.8. Contraindications and Complications in Shoulder Arthroscopy

9.6. Knee Arthroscopy
- 9.6.1. Patient Preparation and Positioning
- 9.6.2. Joint Anatomy of the Knee
- 9.6.3. Arthroscopic Approach of the Knee
- 9.6.4. Cranial Cruciate Ligament Injury
- 9.6.5. Meniscopathies
- 9.6.6. Osteochondrosis-Osteochondritis Dissecans
- 9.6.7. Other Pathologies and Indications for Knee Arthroscopy
- 9.6.8. Contraindications and Complications in Knee Arthroscopy

9.7. Hip Arthroscopy
- 9.7.1. Patient Preparation and Positioning
- 9.7.2. Approach to the Hip
- 9.7.3. Pathologies and Indications for Hip Arthroscopy
- 9.7.4. Contraindications and Complications in Hip Arthroscopy

9.8. Tarsal Arthroscopy
- 9.8.1. Articular Anatomy of the Tarsus
- 9.8.2. Preparation and Positioning of the Patient
- 9.8.3. Arthroscopic Approach to the Tarsus
- 9.8.4. Pathologies and Indications for Tarsal Arthroscopy
- 9.8.5. Contraindications and Complications in Tarsal Arthroscopy

9.9. Carpal Arthroscopy
- 9.9.1. Anatomy of the Carpal Joint
- 9.9.2. Preparation and Positioning of the Patient
- 9.9.3. Arthroscopic Approach to the Carpus
- 9.9.4. Pathologies and Indications for Carpal Arthroscopy
- 9.9.5. Contraindications and Complications in Carpal Arthroscopy

9.10. Arthroscopy-Assisted Surgery
- 9.10.1. Bone Anchors and Other Implants for Joint Stabilization Surgery
- 9.10.2. Arthroscopically Assisted Shoulder Stabilization Surgery

Module 10. Orthopedic Diseases

10.1. Hip Dysplasia
- 10.1.1. Definition
- 10.1.2. Etiology
- 10.1.3. Pathogenesis
- 10.1.4. Clinical Signs
  - 10.1.4.1. Diagnosis
  - 10.1.4.2. Treatment
- 10.1.5. Traumatic Dislocation of the Hip

10.2. Anterior Cruciate Ligament or Cranial Ligament Rupture I
- 10.2.1. Definition
- 10.2.2. Etiology
- 10.2.3. Pathogenesis
- 10.2.4. Clinical Signs
- 10.2.5. Diagnosis
- 10.2.6. Therapy
- 10.2.7. Meniscal Pathology

10.3. Anterior Cruciate Ligament or Cranial Ligament Rupture II
- 10.3.1. Surgical Treatment Techniques

10.4. Patella Dislocation
- 10.4.1. Diagnosis
- 10.4.2. Grades of Patellar Dislocation
- 10.4.3. Surgical Procedures that Counteract Forces
- 10.4.4. Prognosis

10.5. Elbow Dysplasia
- 10.5.1. Definition
- 10.5.2. Etiology
- 10.5.3. Pathogenesis
- 10.5.4. Clinical Signs
- 10.5.5. Diagnosis
- 10.5.6. Treatment
- 10.5.7. Elbow Dislocation

10.6. Radial Curvature and other Bone Deformities
- 10.6.1. Definition
- 10.6.2. Etiology
- 10.6.3. Pathogenesis
- 10.6.4. Clinical Signs
- 10.6.5. Diagnosis
- 10.6.6. Treatment

10.7. Orthopedic Diseases of Exotic Animals
- 10.7.1. Reptile Diseases
- 10.7.2. Bird Diseases
- 10.7.3. Small Mammalian Diseases

10.8. Wobbler Syndrome
- 10.8.1. Definition
- 10.8.2. Etiology
- 10.8.3. Pathogenesis
- 10.8.4. Clinical Signs
- 10.8.5. Diagnosis
- 10.8.6. Treatment
- 10.8.7. Lumbosacral Instability
  - 10.8.7.1. Definition
  - 10.8.7.2. Etiology
  - 10.8.7.3. Pathogenesis
  - 10.8.7.4. Clinical Signs
  - 10.8.7.5. Diagnosis
  - 10.8.7.6. Treatment

10.9. Other Pathologies
- 10.9.1. Osteochondrosis - Osteochondritis Dissecans (OCD), Scapulohumeral Instability, Panosteitis, Hypertrophic Osteodystrophy, Craniomandibular Osteopathy
  - 10.9.1.1. Definition
  - 10.9.1.2. Etiology
  - 10.9.1.3. Pathogenesis
  - 10.9.1.4. Clinical Signs
  - 10.9.1.5. Diagnosis
  - 10.9.1.6. Treatment

10.9.2. LeggPerthes Disease
10.9.2.1. Definition
10.9.2.2. Etiology
10.9.2.3. Pathogenesis
10.9.2.4. Clinical Signs
10.9.2.5. Diagnosis
10.9.2.6. Treatment
10.9.3. Hypertrophic Osteodystrophy
10.9.4. Hypertrophic Osteoarthropathy.
10.9.5. Tendinopathies: Contracture of Supraspinatus, Quadriceps, Carpal Flexor Tendon
10.10. Bone Tumors
10.10.1. Definition
10.10.2. Etiology
10.10.3. Pathogenesis
10.10.4. Clinical Signs
10.10.5. Diagnosis
10.10.6. Treatment

The most comprehensive university program in Veterinary Traumatology, structured in 10 modules to master cutting-edge Surgical Techniques"

04

Teaching Objectives

This academic opportunity offered by TECH Global University is structured by prominent active Traumatologists and Veterinary Orthopedic Surgeons, providing elite training in the most advanced techniques in the field. Under the guidance of these experts, professionals will master key procedures such as state-of-the-art Osteosynthesis, complex Arthroplasties, and management of postoperative complications. With extensive clinical and academic experience, the faculty will impart not only technical knowledge but also surgical judgment through real case discussions, preoperative planning sessions, and interactive simulations. As a result, this specialized mentorship ensures that veterinarians acquire the necessary skills to lead surgical services with the highest quality standards.

Leading experts will guide you from theory to the virtual operating room, in a curriculum focused on surgical excellence"

General Objectives

- Establish the biomechanical principles applied to Veterinary Traumatology and their relationship with current Surgical Techniques
- Develop skills for precise diagnosis through interpretation of radiographs, CT scans, and MRI in musculoskeletal pathologies
- Apply advanced Osteosynthesis protocols (plates, intramedullary nails, and external fixators) in complex fractures
- Critically assess the advantages and limitations of minimally invasive techniques (Arthroscopy, Percutaneous Surgery) in different joints
- Design comprehensive perioperative management plans, including multimodal analgesia and Functional Rehabilitation
- Analyze the most frequent postoperative complications (infections, implant failures) and their prevention strategies
- Master Reconstructive Techniques in pelvic and long bone fractures (femur, humerus) with a focus on comparative anatomy
- Differentiate between Degenerative, Congenital, and Traumatic Orthopedic Pathologies through physical exams and advanced imaging studies
- Implement research methodologies for innovation in biomaterials and emerging Surgical Techniques
- Integrate ethical knowledge and Animal Welfare in clinical and surgical decision-making

Specific Objectives

Module 1. Osteogenesis

- Develop knowledge of bone cytology
- Determine the formation of the structures and the difference between immature bone and genuine bone
- Examine the hormonal influence on bone development
- Detail the resistance of the bone to trauma, differentiate between a stable fracture and an unstable fracture by the appearance of the callus in an X-ray

Module 2. Orthopedic Physical Examination

- Identify abnormalities in the patient by means of the medical history review
- Establish the management of a patient on arrival at the hospital for a static and dynamic orthopedic physical examination
- Determine the importance in the orthopedic physical examination of observation, inspection, palpation, tenderness and listening for joint crepitus, as well as measurement of joint range of motion
- Develop the necessary skills and ability to perform a good orthopaedic clinical examination in order to make a decisive diagnosis

Module 3. Skeletal External Fixators and Circular Fixators

- Analyze the behavior of different configurations of linear, hybrid and circular stakes
- Compile the use of external tutors in cases of non-unions
- Propose the use of external fixation as the first option for tibia and radius fractures
- Concretize the use of tutors as a first option for open or infected fractures

Module 4. Intramedullary Nailing

- Recognize the historical evolution of intramedullary nailing techniques, from the Küntscher nail to current applications of the Steinmann pin
- Apply the biomechanical principles of intramedullary nailing (3 points of support, nail/medullary canal ratio)
- Assess the need for complementary cerclages (Barrel principle) and tension bands (Pawel principle) based on the type of fracture line and anatomical location
- Compare the bone healing behavior post-nailing in different species (canines, felines, and exotic animals) through radiographic follow-up

Module 5. Bone Plates and Screws

- Identify the main advantages and disadvantages of each of the plate fixation methods
- Determine the instrumentation required for the application of each implant.
- Make the best decision for each of the most common fractures on the best plate fixation system
- Decide on the optimal system to be used for different developmental conditions that cause angulations or abnormalities of bones and joints

Module 6. Pelvis Fractures

- Analyze and identify the clinical features associated with a pelvic fracture
- Recognize and evaluate the different factors in patients with pelvic fractures that allow us to make an accurate prognosis
- Perform surgical approaches in the various anatomical regions where therapeutic procedures are carried out
- Apply the various conservative therapies in patients with pelvic fractures, both in the initial stages and in the subsequent weeks of recovery

Module 7. Pelvic Limb Fractures

- Establish the classification of proximal femoral fractures and develop expertise on the most recommended fixation methods for successful fracture repair
- Compile the different systems and combinations of osteosynthesis systems in the repair of mid-femoral weight-bearing fractures
- Analyze the different methods of fixation and specialize in those that offer the highest success rate of fixation of knee fractures
- Determine the different fractures involving the tibia and specialize in the most recommended fixation methods to solve their fractures

Module 8. Thoracic Limb Fractures

- Analyze the fractures of the scapula and how to fix each one of them
- Examine the classification of distal humerus fractures
- Study the different methods of fixation and refine knowledge in those methods that have the highest success rate among the different methods of elbow fracture fixation
- Determine forelimb growth abnormalities, origin and treatment by means of angular corrections through osteotomies and associated treatment methods

Module 9. Arthroscopy

- Assess arthroscopy equipment and instruments and their handling
- Examine the advantages of arthroscopy compared to conventional open surgery
- Analyze arthroscopy as a method of diagnosing intra-articular pathologies of each joint
- Provide a rationale for arthroscopy as a method of surgical treatment of intra-articular pathologies

Module 10. Orthopedic Diseases

- Examine and analyze each of the diseases Orthopedic
- Carry out a correct assessment process in order to reach a definitive diagnosis for each of the diseases Orthopedic
- Identify early symptoms of diseases Orthopedic for early treatment
- Methodically analyze the main developmental diseases taking into account differences of age, sex, size, forelimb and hind limb

Don't miss the opportunity to specialize in Veterinary Orthopedic Surgery with a flexible university program that adapts to your clinical practice"

05

Career Opportunities

The Master's Degree from TECH Global University offers a unique opportunity for veterinarians to achieve excellence in Traumatology and Orthopedic Surgery. First, it is developed by recognized specialists who, in addition to transmitting theoretical knowledge, guide the mastery of innovative techniques such as Arthroplasties, Minimally Invasive Osteosynthesis, and the management of complex fractures. Furthermore, professionals will develop key competencies to not only resolve challenging clinical cases but also optimize functional outcomes. Undoubtedly, this university program not only trains in surgical procedures but also prepares individuals to lead services with the highest standards.

You will develop advanced skills for the clinical and imaging diagnosis of multiple Orthopedic Disorders"

Graduate Profile

The graduate of this university degree will be a professional trained to perform complex surgical interventions in Veterinary Traumatology, ranging from advanced Osteosynthesis to Arthroplasty, based on scientific evidence. They will also master diagnostic imaging techniques, pain management, and Functional Rehabilitation, ensuring optimal results. Additionally, they will be prepared to resolve intraoperative complications, lead teams in specialized services, and contribute to research in Veterinary Orthopedics. With competencies to implement innovative protocols and make critical decisions, graduates will be able to perform in hospitals, reference clinics, and academic centers, raising the standards of Veterinary Surgical Practice.

You will be a Veterinary Orthopedic Surgery specialist capable of solving complex cases, leading surgical teams, and applying cutting-edge techniques with high standards of excellence.

- **Advanced Surgical Techniques:** master specialized procedures such as Osteosynthesis, Arthroplasties, and Reconstructive Surgery, applying the latest technological advances in the veterinary operating room.
- **Clinical Diagnosis and Evaluation:** interpret advanced imaging studies (radiographs, CT, MRI) and establish personalized therapeutic plans for each patient.
- **Management of Complications:** identify and efficiently resolve intraoperative and postoperative complications, ensuring the optimal recovery of the patient.
- **Multidisciplinary Teamwork:** collaborate with anesthesiologists, rehabilitators, and other specialists, optimizing results in the comprehensive treatment of trauma and bone pathologies.

After completing the university program, you will be able to apply your knowledge and skills in the following positions:

1. **Specialized Veterinary Orthopedic Surgeon:** responsible for performing complex interventions (Arthroplasties, advanced Osteosynthesis) in reference veterinary hospitals.
2. **Coordinator of Veterinary Traumatology Services:** in charge of managing surgical teams, care protocols, and workflows in specialized clinics.
3. **Specialist in Orthopedic Diagnostic Imaging:** expert in the advanced interpretation of radiographs, CT scans, and MRIs to plan surgical treatments.
4. **Consultant in Postoperative Rehabilitation:** designer of personalized recovery programs for patients with orthopedic interventions.
5. **Researcher in Veterinary Biomechanics and Prosthetics:** developer of new Surgical Techniques or biomaterials in university or private research centers.
6. **Traumatology Operating Room Supervisor:** overseer of surgical procedures, quality control, and management of intraoperative complications.
7. **Surgical Innovation Consultant for Veterinary Companies:** consultant for the development of surgical instruments, implants, or innovative surgical protocols.
8. **Specialist in Intramedullary Nailing Techniques:** responsible for the advanced clinical application of intramedullary nailing methods in different species, with mastery of biomechanical principles, the use of cerclages, and tension bands.

Develop an integrated vision in Veterinary Orthopedics: from precise diagnosis to revolutionary Surgical Techniques and management of complications"

06

Study Methodology

TECH is the first university in the world to combine case study methodology with Relearning, a 100% online learning system based on guided repetition.

This innovative pedagogical strategy has been conceived to offer professionals the opportunity to update knowledge and develop skills in an intensive and rigorous way. A learning model that places the student at the center of the academic process and gives them the leading role, adapting to their needs and leaving aside the more conventional methodologies.

TECH prepares you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the absolute protagonist.
The pedagogical tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is the student who chooses the time they spend studying, how they decide to establish their routines and all this from the comfort of the electronic device of their choice. The student will not have to attend live classes, which many times they cannot attend. The learning activities will be done when it is convenient for them. You will always be able to decide when and from where to study.

At TECH you will NOT have in person classes (which you might not be able to attend)"

The most comprehensive academic programs worldwide

TECH is distinguished by offering the most complete academic pathways within the higher education landscape. This level of comprehensiveness is achieved through the development of curricula that not only encompass essential knowledge but also integrate the latest innovations in each area of study.

By being constantly updated, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive preparation that provides them with a notable competitive advantage to advance in their careers.

And what's more, they will be able to do so from any device, PC, tablet or smartphone.

"TECH's model is asynchronous, so it allows you to study with your PC, tablet or smartphone wherever you want, whenever you want and for as long as you want"

Case Studies or Case Method

The case method has been the learning system most used by the best business schools in the world. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to solve them. In 1924 it was established as a standard teaching method at Harvard.

With this teaching model, it is the student who builds their professional competence through strategies such as Learning by Doing or Design Thinking, which are used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, argue and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning **Method**

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, they are able to review and reiterate the key concepts of each subject and learn to apply them in a real environment.

Along the same lines, and according to multiple scientific researches, repetition is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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

A 100% online Virtual Campus with the best teaching resources

To apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on reiteration, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neurosciences points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus for long-term retention. This is a model called Neurocognitive Context-Dependent E-Learning that is consciously applied in this university program.

Furthermore, in order to maximize tutor-student contact, a wide range of communication possibilities are provided, both in real time and deferred (internal messaging, discussion forums, telephone answering service, e-mail contact with the technical secretary, chat and videoconferencing).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, in accordance with their accelerated professional updating.

"The online mode of study of this program will allow you to organize your time and your learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology best rated by its students

The results of this innovative academic model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution has become the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is up to date with the technological and pedagogical vanguard.

You will be able to learn with the advantages of access to simulated learning environments and the learning by observation approach, that is, the "Learning from an Expert" approach.

Therefore, the best educational materials, thoroughly prepared, will be available in this program:

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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific skills and abilities in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the context of the globalization in which we live.

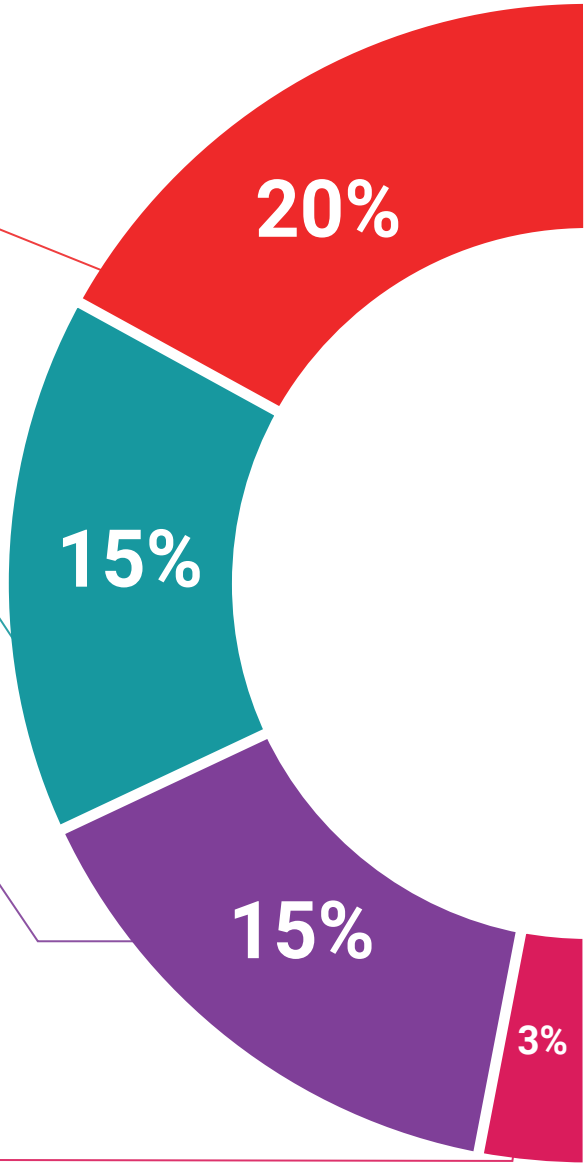
Interactive Summaries

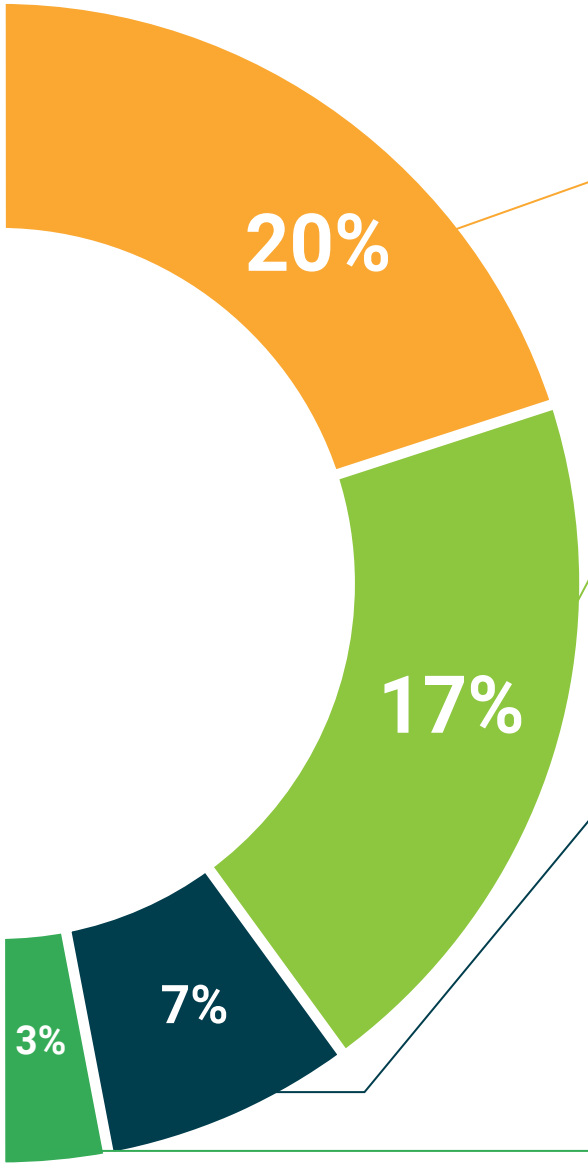
We present the contents in an attractive and dynamic way in multimedia pills that include audio, videos, images, diagrams and concept maps in order to reinforce knowledge.

This unique educational system for the presentation of multimedia content was awarded by Microsoft as "Successful Case in Europe."

Additional Reading

Recent articles, consensus documents, international guidelines... In our virtual library you will have access to everything you need to complete your course.





Case Studies

You will complete a selection of the best case studies in the field. Cases presented, analyzed and tutored by the best specialists in the world.

Testing & Retesting

We periodically evaluate and re-evaluate your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Masterclasses

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

Learning from an expert strengthens knowledge and recall, and generates confidence in our 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.

07

Teaching Staff

The specialized faculty of this Postgraduate Master's Degree combines clinical experience in Veterinary Centers with a solid academic background. These professionals have developed their careers in the field of Traumatology and Orthopedic Surgery, mastering both conventional techniques and the latest advancements in the treatment of musculoskeletal conditions. As such, their professional activity includes not only clinical practice but also participation in research projects and the constant updating of protocols, ensuring that the content of the university program reflects the best practices in the field.

The guarantee of learning from those who make decisions in operating rooms today: pure Orthopedic knowledge"

Management

Dr. Soutullo Esperón, Ángel

- Veterinary Specialist in Animal Traumatology
- Responsible for the Orthopedic Surgery Service in the Hospitals Fuente el Saz, Privet, Alcor, Velázquez, Valdemoro and Felino Gattos.
- Owner of the ITECA Veterinary Clinic.
- Degree in Veterinary Medicine from the Complutense University of Madrid
- Master's Degree in Surgery and Traumatology by the Complutense University of Madrid
- Diploma of Advanced Studies in Veterinary Medicine from the Complutense University of Madrid
- Member of: Scientific Committee of GEVO and AVEPA

Faculty

Dr. García Montero, Javier

- Surgeon of the Traumatology and Orthopedics Service at the Cruz Verde Vetsum Veterinary Hospital
- Veterinarian specialist at El Pinar Veterinary Clinic
- Degree in Veterinary Medicine from the University of Córdoba
- Surgeon of the Traumatology and Orthopedics Service at the Cruz Verde Vetsum Veterinary Hospital
- Postgraduate in Surgery and Anesthesia at the Autonomous University of Barcelona
- Member of: AO, VET Foundation

Dr. Borja Vega, Alfonso

- Founder of Vet 2.0 Veterinary Clinic
- Degree in Veterinary Medicine from the Alfonso X El Sabio University.
- Master's Degree in Veterinary Ophthalmology at the UAB
- Advanced General Practitioner Certificate (GPAdvCert) in Small Animal Orthopedic Surgery
- Practical course of initiation to osteosynthesis in SETOV

Dr. Monje Salvador, Carlos Alberto

- Head of Endoscopy and Minimally Invasive Surgery Service at ECCOA Veterinary Diagnostics
- Veterinary Surgeon at Dopplervert
- Responsible for Surgery and Diagnostic Imaging at Gattos Feline Clinic Center
- Veterinarian at Openvet Veterinary Hospital
- Veterinarian at Unzeta Veterinary Clinic
- Degree in Veterinary Medicine from the University of Santiago de Compostela
- Master's Degree in Endoscopy and Minimally Invasive Surgery in Small Animals by the University of Extremadura
- Postgraduate degree in Small Animal Surgery from the Autonomous University of Barcelona.
- Member of: Association of Veterinary Specialists in Small Animals (AVEPA), Group of Specialists in Feline Medicine of AVEPA (GEMFE), Group of Veterinary Specialists in Traumatology and Orthopedics (GEVO)

Dr. Flores Galán, José Antonio

- Head of the Traumatology, Orthopedics and Neurosurgery Service at the Prïvet Veterinary Hospital
- PhD from the Complutense University of Madrid.
- Degree in Veterinary Medicine from the Complutense University of Madrid
- Specialist in Traumatology and Orthopedic Surgery in Companion Animals by the Complutense University of Madrid

Dr. García Montero, Javier

- Director of Petiberia Veterinary Clinic
- Bird Veterinary in Puy du Fou Spain
- Veterinarian at the Oasis Wildlife Fuerteventura Zoo
- Animal Facility Technician at the Spanish National Cancer Research Center (CNIO)
- Volunteer in the Feline Colony Spay/Neuter Campaign at the ALBA Animal Protection Agency
- Co-author of clinical trials and scientific knowledge pills
- Degree in Veterinary Medicine from Alfonso X El Sabio University
- Master´s Degree in Soft Tissue Surgery and Anesthesia in Small Animals by the Autonomous University of Barcelona
- Master's Degree in Medicine and Surgery Exotic and Wild Animals from the Complutense University of Madrid
- Member of: AVEPA, GMCAE

08

Certificate

The Master's Degree in Veterinary Traumatology and Orthopedic Surgery guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Master's Degree issued by TECH Global University.

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

This private qualification will allow you to obtain a diploma for the **Master's Degree in Veterinary Traumatology and Orthopedic Surgery** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University, is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

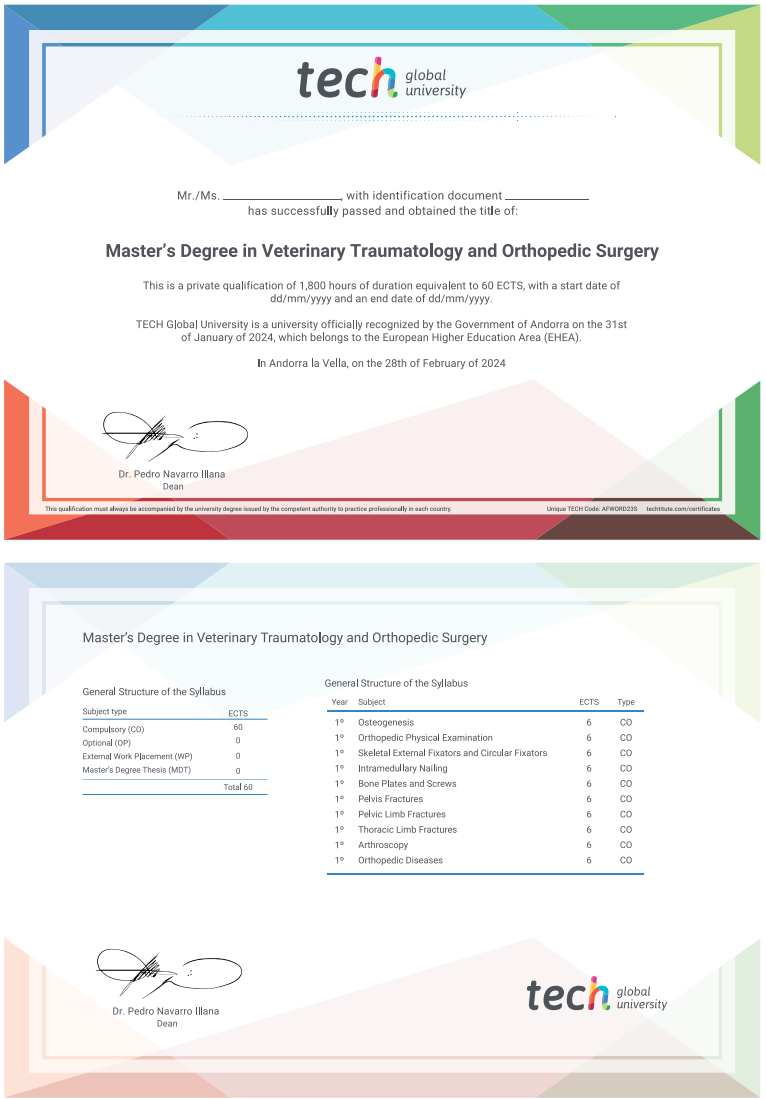
This private qualification from **TECH Global University** is a European continuing education and professional development program that guarantees the acquisition of competencies in its area of expertise, providing significant curricular value to the student who successfully completes the program.

Title: **Master's Degree in Veterinary Traumatology and Orthopedic Surgery**

Modality: **online**

Duration: **12 months.**

Accreditation: **60 ECTS**



tech global university

Mr./Ms. _____ with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Veterinary Traumatology and Orthopedic Surgery

This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWOR023S techtitute.com/certificates

Master's Degree in Veterinary Traumatology and Orthopedic Surgery

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1°	Osteogenesis	6	CO
1°	Orthopedic Physical Examination	6	CO
1°	Skeletal External Fixators and Circular Fixators	6	CO
1°	Intramedullary Nailing	6	CO
1°	Bone Plates and Screws	6	CO
1°	Pelvis Fractures	6	CO
1°	Pelvic Limb Fractures	6	CO
1°	Thoracic Limb Fractures	6	CO
1°	Arthroscopy	6	CO
1°	Orthopedic Diseases	6	CO

Dr. Pedro Navarro Illana
Dean

tech global university

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

tech global university

Master's Degree
Veterinary Traumatology and Orthopedic Surgery

- Modality: **online**
- Duration: **12 months.**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Master's Degree

Veterinary Traumatology and Orthopedic Surgery

tech global university