

Postgraduate Diploma Equine Reproduction and Neonatology





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- » Course Modality: Online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » 18 ECTS Credits
- » Teaching Hours: 450 hours

Website: www.techtute.com/in/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-equine-reproduction-neonatology

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01

Introduction

This Postgraduate Diploma will be dedicated to the study of the urinary system in parallel to the reproductive system, given that, on many occasions, due to their topographic proximity and the fact that they share anatomical structures, their study is considered jointly. A study that will be completed with the most updated learning in sedation and anesthesia in the field, intensive care and toxicology.

A high-quality program that will drive you to the highest levels of competence in the industry.





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A complete and total update in Equine Reproduction and Neonatology with the most complete and effective training program in the online educational market”

This Postgraduate Diploma aims to cover as much as possible all the responsibilities of the clinical veterinarian referred to the natural and routine procedures in healthy individuals (delivery and peripartum care, field surgeries such as castrations, etc.) as well as to the possible pathologies, diseases and disorders of the reproductive system of the male and female that may arise. The medical pathologies of the male and female will be presented first, followed by surgical pathologies. All these issues will be presented in the necessary breadth, increasing the student's skills in traditional practices as well as in novel procedures and the latest researched techniques. This program will also address the main alterations that can affect the urinary system; these can compromise the physical condition of the animal to the point of reducing its performance or even limiting the patient's life. Possible diagnostic tests will be reviewed and treatment alternatives will be extensively established.

This Postgraduate Diploma, especially dedicated to foals, will present the possible medical and surgical pathologies likely to appear during the neonatal and pediatric period of the equine, always presenting updated exploration and diagnostic techniques and modernized treatment protocols representative of the latest advances in this field of veterinary medicine.

The specialist in traumatology and orthopedic surgery has the capacity, due to his training and experience, to guide equine breeders to minimize the incidence of these pathologies in their farms. It can also apply medical and surgical treatments aimed at resolving or limiting the negative consequences that these injuries have on patients, both in health and economic terms. Some of the topics in this module define in a practical and precise manner the relevant points that will allow effective treatment of the pathologies addressed. Therefore, emphasis will be placed on the relevant etiopathogenesis and applied anatomy; the advances available for medical and surgical treatment of angular and flexural deformities will be discussed; and finally, the localization, diagnosis, treatment and prognosis of osteochondral lesions and subchondral cysts will be presented, as well as measures to limit their possible incidence and future consequences.

This **Postgraduate Diploma in Equine Reproduction and Neonatology** offers you the advantages of a high-level scientific, teaching, and technological Progression. These are some of its most notable features:

- ◆ Latest technology in online teaching software.
- ◆ 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.
- ◆ Self-regulating learning: full compatibility with other occupations.
- ◆ Practical exercises for self-evaluation 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.
- ◆ Banks of complementary documentation permanently available, even after the end of the training.



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

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A complete training program that will allow you to acquire the most advanced knowledge in all the areas of intervention of the equine veterinarian"

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 training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but, above all, will put at your service the practical knowledge derived from their own experience: one of the differential qualities of this training.

The efficiency of the methodological design of this Postgraduate Diploma, enhances the student's understanding of the subject. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: 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 working professionals and the analysis of real cases of success, in a high-impact training 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

Our objective is to train 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 training.





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If your objective is to redirect your capacity towards new paths of success and development, this is your Expert: a training that aspires to excellence"



General Objectives

- ♦ 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 broodmare, 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.



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



Specific Objectives

Module 1. Reproductive and Urinary System

- ♦ Broaden the knowledge of pathologies affecting the urinary system.
- ♦ Recognize and establish protocols for the management of patients with acute renal failure and chronic renal failure.
- ♦ Establish work protocols for patients with post-renal urinary pathology.
- ♦ Develop the predisposing factors that may condition the appearance of this type of pathologies, as well as to broaden the knowledge on the relevance of prevention.
- ♦ Develop treatment alternatives available to the ambulatory veterinary clinician.
- ♦ Deepen in testicular, adnexal gland and penile pathology, as well as in their respective treatments.
- ♦ Improve the productive management of the subfertile stallion and mare.
- ♦ Identify and evaluate possible anomalies in the horse's ejaculate, applying the necessary procedures to guarantee its quality.
- ♦ Identify, treat and prevent parasitic and infectious pathologies of the equine reproductive system.
- ♦ Develop the pathologies of the female during the mating period and their possible treatments.
- ♦ Develop the pathologies that affect the female during the gestation period and their possible treatments.
- ♦ Develop the pathologies that affect the female during the pre- and post-partum period and their possible treatments.

- ♦ Attend to the needs and demands of euthyroid delivery and placental assessment.
- ♦ Develop the procedures involved in the care of dystocic labor and the performance of fetotomy.
- ♦ Develop procedures that include the resolution of possible injuries associated with labor and delivery, such as correction of rectovestibular fistulas, reconstruction of external lacerations and repair of the perineal body.

Module 2. 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 patent 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 the techniques of examination, diagnosis and parenteral and local treatment by joint lavage of septic arthritis in the neonate.
- ♦ Deploy techniques that could 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 their different treatments and establish the specificities of their treatment according to the age of the patient 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.

Module 3. Advanced Therapeutic Protocol and Toxicology

- ♦ Analyze the new alternatives in terms of drugs used in sedation and anesthesia for outpatient use, as well as to deepen in the most established protocols in order to optimize this type of procedures.
- ♦ Train the clinician in effective and dynamic decision making when dealing with a patient with a serious systemic condition, in order to ensure diagnoses and treatments that ensure patient stabilization despite non-hospital conditions.
- ♦ Train the clinician in the correction of hydro-electrolyte and acid-base imbalances to ensure the reversal of hemodynamic alterations.
- ♦ Ensure advanced knowledge of equine pain management with the latest medications.
- ♦ Examine the characteristics and special considerations to be taken into account when applying pharmacological treatments in the sport horse, with special emphasis on avoiding problems in case of possible positive results in control tests for biological substances in competitions.
- ♦ Generate advanced knowledge on equine toxicology, ensuring training for the recognition of toxic symptoms as well as the identification of plants and agents harmful to equines.
- ♦ Analyze euthanasia procedures in depth. The clinician must be able to act correctly with patients in these last moments of their life trajectory, applying euthanasia in the most humane way possible in case of last necessity.



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 team of teachers, with expertise in Equine Reproduction and Neonatology, will help you achieve success in your profession"

International Guest Director

As one of the foremost veterinary surgeons in equine patient 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. Thus, 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 evaluation 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

- 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 Society for the Protection of Animals Abroad. Morocco
- Graduate of 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 in Equine Medicine, Surgery and Sports Medicine.
- ♦ Head of the Large Animals Area of the Complutense Veterinary Clinic Hospital of Madrid (UCM)..
- ♦ Associate Professor, Department of Animal Medicine and Surgery, Complutense University of Madrid (UCM).
- ♦ Head of Large Animal Unit at Complutense Clinical Veterinary Hospital of Madrid
- ♦ Assistant Professor in the Department of Animal Medicine and Surgery at UCM in 2007, she has been an Associate Professor in that Department from 2015 to the present..
- ♦ She teaches in different undergraduate and graduate courses, university specialization programs and Professional Master's Degrees..
- ♦ She actively participates as director of final projects in the Veterinary Degree and as a member of the tribunal of different doctoral theses.

Dña. De la Cuesta Torrado, María

- ♦ Veterinarian with clinical specialty in Equine Internal Medicine.
- ♦ Associate Professor, Department of Equine Medicine and Surgery, Cardenal Herrera Ceu University of Valencia since 2012..
- ♦ Member of the Organizing Committee of the "12th European College of Equine Internal Medicine Congress 2019 (ECEIM)"
- ♦ Member of the Board of Directors of Spanish Society of Ozone Therapy.

Dr. Aguirre Pascasio, Carla

- ♦ Degree in Veterinary Medicine from the University of Santiago de Compostela (1995-2000).
- ♦ Doctor in Veterinary Medicine from the University of Murcia (2009). After obtaining the Certificate of Advanced Studies (2005), he concluded his doctorate at the same university with the thesis "Doppler in digital ultrasonography in horses with laminitis", obtaining a grade of Outstanding Cum Laude..
- ♦ Certified in Internal Medicine by the Royal Veterinary College of London, University of Liverpool, 2012 (CertAVP EM - Equine Medicine)..

Dña. Domínguez, Mónica

- ♦ Clinical equine veterinarian specializing in internal medicine and reproduction.
- ♦ Clinical Veterinary of the Reproduction Service of the Complutense Clinical Veterinary Hospital (HCVC)..
- ♦ Currently pursuing a PhD at the Department of Animal Medicine and Surgery (UCM).
- ♦ Degree in Veterinary Medicine from the Complutense University of Madrid, 2008.
- ♦ Official Professional Master's Degree in Veterinary Sciences (UCM) (2010)
- ♦ In 2019 he obtained the Spanish Certificate in Clinical Equine (CertEspCEq)..

D. Iglesias García, Manuel

- ♦ Clinical veterinarian and surgeon at the Veterinary Hospital of the Extremadura Hospital (University of Extremadura).
- ♦ Degree in Veterinary Medicine from the Alfonso X el Sabio University (UAX)..
- ♦ Professional Master's Degree in Equine Surgery and obtained the title of "General Practitioner in Equine Surgery" from the "European School of Veterinary Postgraduate Studies" (2013)..
- ♦ Professional Master's Degree in Equine Surgery at the Veterinary Hospital of Alfonso X el Sabio University (2013-2016).
- ♦ Doctorate Degree from Alfonso X el Sabio University (2017)..
- ♦ In 2019 he obtained the Spanish Certificate in Clinical Equine (CertEspCEq)..

D. López Sanromán, Javier

- ♦ Clinical veterinarian member of the Equine Surgery Service of the Complutense Clinical Veterinary Hospital (UCM)
- ♦ Professor of the Department of Animal Medicine and Surgery of the Complutense University of Madrid (UCM) and deputy director of the Department..

D. Muñoz Morán, Juan Alberto

- ♦ Degree in Veterinary from the Complutense University Madrid.
- ♦ PhD in Veterinary Science.
- ♦ Graduate of the European College of Veterinary Surgeons..
- ♦ Graduated in experimental animals, category C, University of Lyon (France)..
- ♦ Master in Veterinary Medicine Sciences from the Alfonso X El Sabio University, Madrid.
- ♦ Residency in large animal surgery at the Veterinary University of Lyon..

D. Manso Díaz, Gabriel

- ♦ Clinical veterinarian member of the Diagnostic Imaging Service of the Complutense Clinical Veterinary Hospital (HCVC).
- ♦ Degree in Veterinary Medicine from the Complutense University of Madrid (UCM), obtaining the Extraordinary National Award.
- ♦ D. from the UCM in 2015 with which he obtained the European Mention and the Extraordinary Doctorate Award.
- ♦ Master's Degree in Veterinary Science Research 2011.

Dña. Rodríguez Hurtado, Isabel

- ♦ Specialist in Internal Medicine of Horses.
- ♦ Veterinary Degree - Madrid Complutense University.
- ♦ Doctorate in Veterinary Medicine in 2012.
- ♦ Diplomate by the American College of Veterinary Internal Medicine (ACVIM) in 2007.
- ♦ Internship and Residency in Equine Internal Medicine at Auburn University (USA).
- ♦ Master's Degree in Biomedical Sciences..
- ♦ Master's Degree in Research Methodology in Health Sciences.

Dña. Santiago Llorente, Isabel

- ♦ Her professional career is focused on equine clinical practice and research.
- ♦ Head of the Equine Internal Medicine Service at the Complutense Veterinary Clinical Hospital (HCVC UCM).
- ♦ PhD in Veterinary Medicine by UCM (2016), obtaining the specialty CertEspCEq.
- ♦ Degree in Veterinary Medicine from the Complutense University of Madrid, 1999.
- ♦ Rotating Internship at UCM.



04

Structure and Content

The contents have been developed by different experts, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become true experts 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. Reproductive and Urinary System

- 1.1. Urinary System Assessment
 - 1.1.1. Hematological and Biochemical Parameters Related to the Renal System
 - 1.1.2. Urinalysis
 - 1.1.3. Diagnostic Methods in the Urinary System
 - 1.1.3.1. Ultrasound of the urinary system
 - 1.1.3.2. Endoscopy of the Urinary System
 - 1.1.3.3. Renal Biopsy
 - 1.1.3.4. Water Deprivation Test
- 1.2. Urinary System Pathologies
 - 1.2.1. Acute Renal Failure
 - 1.2.1.1. Causes of Acute Renal Insufficiency
 - 1.2.1.2. Treatment of Acute Renal Insufficiency
 - 1.2.2. Chronic Renal Failure
 - 1.2.2.1. Causes of Chronic Renal Insufficiency
 - 1.2.2.2. Treatment of Chronic Renal Insufficiency
 - 1.2.3. Urinary Tract Infections
 - 1.2.3.1. Urethritis, Cystitis and Pyelonephritis and their Treatment
 - 1.2.3.2. Treatment of Urinary Tract Infections
 - 1.2.4. Obstructive Pathology of the Urinary Tract
 - 1.2.4.1. Types of Obstructive Pathologies
 - 1.2.4.2. Treatment
 - 1.2.5. Polyuria and polydipsia
 - 1.2.6. Urinary Incontinence and Bladder Dysfunction
 - 1.2.7. Tumours of the Urinary Tract
- 1.3. Medical Pathologies of the Male Genitalia
 - 1.3.1. Introduction to Medical Pathology of the Stallion
 - 1.3.2. Testicular Pathology in the Stallion
 - 1.3.2.1. Management and Treatment of the Cryptorchid Stallion
 - 1.3.2.2. Testicular Inflammatory Disorders
 - 1.3.2.3. Management of Testicular Degeneration in the Stallion
 - 1.3.2.4. Hydrocele Management
 - 1.3.2.5. Testicular Neoplasms in the Stallion
 - 1.3.2.6. Testicular Torsion in the Stallion
 - 1.3.3. Penile Pathologies
 - 1.3.3.1. Penile Trauma Management
 - 1.3.3.2. Penile Tumor Developments
 - 1.3.3.3. Paraphimosis
 - 1.3.3.4. Priapism
 - 1.3.4. Pathology of Adnexal Glands
 - 1.3.4.1. Ultrasound and Assessment of Adjoining Glands
 - 1.3.4.2. Vesiculitis, Management and Treatment
 - 1.3.4.3. Obstruction of Adnexal Glands
 - 1.3.5. Ejaculate Alterations
 - 1.3.5.1. Seminal Assessment
 - 1.3.5.2. Factors Affecting Fertility
 - 1.3.5.3. Sub-fertile Semen Management
 - 1.3.5.3.1. Semen Centrifugation for Quality Improvement
 - 1.3.5.3.2. Seminal Plasma Substitution
 - 1.3.5.3.3. Semen Filtration to Improve Quality
 - 1.3.5.3.4. Low-Quality Semen Cooling Protocols
 - 1.3.6. Alterations in Stallion Behavior and Mating Management
 - 1.3.7. Advances in Assisted Reproduction in Stallions
 - 1.3.7.1. Seminal Freezing
 - 1.3.7.2. Epididymal Sperm Retrieval after Death or Castration
- 1.4. Male Field Surgical Procedures
 - 1.4.1. Castration
 - 1.4.1.1. Introduction and Considerations of Castration in Males
 - 1.4.1.1.1. Patient Selection
 - 1.4.1.2. Castration Surgical Techniques
 - 1.4.1.2.1. Open Castration
 - 1.4.1.2.2. Closed Castration
 - 1.4.1.2.3. Semi-Closed or Semi-Open Castration
 - 1.4.1.3. Variations in Surgical Technique
 - 1.4.1.3.1. Different Hemostasis Options
 - 1.4.1.3.2. Primary Skin Closure



- 1.4.1.4. On-Station Castration Considerations
 - 1.4.1.4.1. Sedation
- 1.4.1.5. Considerations for Castration under General Anesthetic
- 1.4.1.6. Inguinal Cryptorchidism
 - 1.4.1.6.1. Presurgical Diagnosis
 - 1.4.1.6.2. Surgical Technique
- 1.4.2. Penile Amputation
 - 1.4.2.1. Indications
 - 1.4.2.2. Procedure and Post-surgical Considerations
- 1.5. Medical and Surgical Pathologies of the Female Genitalia I
 - 1.5.1. Medical Pathologies I
 - 1.5.1.1. Ovarian Pathology
 - 1.5.1.1.1. Ovulation Disorders
 - 1.5.1.1.2. Ovarian Tumors
 - 1.5.1.2. Fallopian Tubes Disorders
 - 1.5.1.3. Medical Uterine Pathology
 - 1.5.1.3.1. Preparation and Procedure for Sample Collection
 - 1.5.1.3.1.1. Cytology
 - 1.5.1.3.1.2. Biopsy
 - 1.5.1.3.2. Types of Endometritis
 - 1.5.1.3.3. Management of the Mare with Uterine Fluid
 - 1.5.1.3.4. Management of Mares with Uterine Cysts
- 1.6. Medical and Surgical Genital Pathologies of the Mare II
 - 1.6.1. Medical Pathologies II
 - 1.6.1.1. Cervix Pathology
 - 1.6.1.1.1. Cervical Lacerations
 - 1.6.1.1.2. Cervical Adherences
 - 1.6.1.2. Medical Pathology of the Vagina
 - 1.6.1.3. Reproductive Management of the Geriatric Mare
 - 1.6.1.4. Update on Assisted Reproduction in the Mare

- 1.6.2. Surgical Pathologies of the Mare
 - 1.6.2.1. Normal Vulvar Conformation of the Mare
 - 1.6.2.1.1. Vulvar Examination of the Mare
 - 1.6.2.1.2. Caslick Index
 - 8.6.2.2. Vulvoplasty
 - 8.6.2.2.1. Caslick Surgery Procedure
- 1.7. Pregnant Mare and Care at Foaling
 - 1.7.1. Mare Gestation
 - 1.7.1.1. Diagnosis of Pregnancy in the Mare
 - 1.7.1.2. Management of Early and Late Multiple Gestation New Techniques
 - 1.7.1.3. Embryo Sexing
 - 1.7.2. Complications During Gestation in the Mare
 - 1.7.2.1. Abortion
 - 1.7.2.1.1. Early Abortion
 - 1.7.2.1.2. Late Abortion
 - 1.7.2.2. Uterine Torsion
 - 1.7.2.3. Management and Treatment of Placentitis
 - 1.7.2.4. Management of Placental Abruption
 - 1.7.3. Nutritional Needs of the Pregnant Mare
 - 1.7.4. Ultrasound Evaluation of the Fetus
 - 1.7.4.1. Ultrasound Evaluation at Different Stages of Gestation
 - 1.7.4.2. Fetal Biometry
 - 1.7.5. Methods for Predicting Foaling in the Full-Term Mare
 - 1.7.6. Euthyroid Labor and Delivery
 - 1.7.6.1. Phases of Euthyroid Labor and Delivery
- 1.8. Complications of Labor and Delivery and Postpartum Care
 - 1.8.1. Dystocic Labor and Delivery
 - 1.8.1.1. Material Necessary for the Resolution of Dystocia
 - 1.8.1.2. Types of Dystocia and Management of Different Fetal Presentations
 - 1.8.2. Peripartum Surgical Emergencies
 - 1.8.2.1. Fetotomy
 - 1.8.2.1.1. Fetotome
 - 1.8.2.1.2. Preparation of the Mare for the Procedure
 - 1.8.2.1.3. Fetotomy in the Field vs. in the Hospital
 - 1.8.2.2. Cesarean Section
 - 1.8.2.3. Hemorrhage of the Ankle Ligament
 - 1.8.2.4. Uterine Laceration
 - 1.8.2.5. Prepubic Tendon Rupture
 - 1.8.2.6. Rectovaginal Fistula
 - 1.8.3. Postpartum Care
 - 1.8.3.1. Control of Uterine Involution and Establishment of the Postpartum Cycle
 - 1.8.4. Postpartum Complications
 - 1.8.4.1. Placenta Retention
 - 1.8.4.2. Vaginal Lacerations
 - 1.8.4.3. Uterine Bleeding
 - 1.8.4.4. Uterine Prolapse
 - 1.8.4.5. Rectal Prolapse
 - 1.8.4.6. Vulvar Hematoma
 - 1.8.4.7. Uterine Horn Invagination
- 1.9. Repair of Tears and Lacerations during Labor and Delivery
 - 1.9.1. Management of Vulvar Tears and Lacerations during Labor and Delivery
 - 1.9.2. Classification of Perineal Lacerations
 - 1.9.3. Reconstruction of the Perineal Body
 - 1.9.3.1. Surgical Preparation of the Mare
 - 1.9.3.2. Vaginal Vestibule Sphincter Insufficiency
 - 1.9.3.2.1. Perineal Body Reconstruction, Vestibuloplasty
 - 1.9.3.2.2. Cross Section of the Perineal Body, Perineoplasty
 - 1.9.3.2.2.1. Pouret's Surgery
 - 1.9.3.3. Postoperative Care
 - 1.9.3.4. Complications of Perineal Surgery

- 1.9.4. Surgical Management of Third-Degree Rectovaginal Tearing
- 1.9.5. Surgical Management of Rectovaginal Fistulas
- 1.10. Infectious and Parasitic Diseases of the Reproductive System in Equines
 - 1.10.1. Introduction to Infectious and Parasitic Diseases of the Reproductive System in Equines
 - 1.10.2. Economic and Productive Significance of Infectious and Parasitic Diseases
 - 1.10.3. Infectious Diseases of the Reproductive System
 - 1.10.3.1. Mycoplasmas
 - 1.10.3.2. Contagious Equine Metritis Procedure of Sample Collection for the Determination of Contagious Equine Metritis
 - 1.10.3.3. Equine Viral Arteritis
 - 1.10.3.4. Equine Rhinopneumonitis
 - 1.10.3.5. Leptospirosis
 - 1.10.3.6. Brucellosis
 - 1.10.4. Parasitic Diseases of the Reproductive System
 - 1.10.4.1. Habronemiasis
 - 1.10.4.2. Dourine

Module 2. Foal Medicine and Surgery

- 2.1. Neonatal Screening
 - 2.1.1. Normal Clinical Parameters in the Foal during the First Days of Life
 - 2.1.2. Onset of Organ Systems Functioning at Birth and During the First Months of Life
 - 2.1.2.1. Gastric System
 - 2.1.2.2. Respiratory System
 - 2.1.2.3. Endocrine System
 - 2.1.2.4. Muscular and Neurological System
 - 2.1.2.5. Ophthalmic System
- 2.2. Immature Foal Failure in the Passive Transfer of Immunity Isoerythrolysis Septicemia
 - 2.2.1. The Premature, Immature and Stunted Foal
 - 2.2.2. Cardiopulmonary Resuscitation
 - 2.2.3. Failure of Passive Transfer of Immunity

- 2.2.4. Isoerythrolysis
- 2.2.5. Neonatal Sepsis
- 2.3. Neonatal Respiratory, Cardiac, Neurological and Musculoskeletal Pathologies
 - 2.3.1. Neonatal Respiratory Pathologies
 - 2.3.1.1. Respiratory Bacterial Pathologies
 - 2.3.1.2. Viral Respiratory Pathologies
 - 2.3.1.3. Rib Fractures
 - 2.3.2. Neonatal Cardiac Pathologies
 - 2.3.2.1. Patent Ductus Arteriosus
 - 2.3.2.2. Foramen Ovale
 - 2.3.2.3. Tetralogy of Fallot
 - 2.3.3. Neonatal Neurological Pathologies
 - 2.3.3.1. Hypoxic Ischemic Encephalopathy
 - 2.3.3.2. Septic Encephalitis, Meningitis and Metabolic Encephalopathies
 - 2.3.3.3. Congenital Neurological Pathologies
 - 2.3.4. Neonatal Musculoskeletal Pathologies
 - 2.3.4.1. Vitamin E and Selenium Deficiency
- 2.4. Neonatal Gastrointestinal, Genitourinary and Endocrine Pathologies
 - 2.4.1. Neonatal Gastrointestinal Pathologies
 - 2.4.1.1. Bacterial and Viral Diarrhea
 - 2.4.1.2. Meconium Impaction
 - 2.4.1.3. Congenital Gastrointestinal Pathologies
 - 2.4.1.4. Gastric and Duodenal Ulcers
 - 2.4.2. Neonatal Genitourinary Pathologies
 - 2.4.2.1. Omphalophlebitis and Omphaloarteritis
 - 2.4.2.2. Patent Urachus
 - 2.4.2.3. Bladder Rupture
 - 2.4.3. Neonatal Endocrine Pathologies
 - 2.4.3.1. Thyroid Alterations
 - 2.4.3.2. Hypoglycemia, Hyperglycemia and Lack of Maturation of the Endocrine System
- 2.5. Identification and Stabilization of the Patient with Ruptured Bladder or Persistent Urachus
 - 2.5.1. Omphalophlebitis, Omphaloarteritis and Patent Urachus

- 2.5.2. Bladder Rupture
- 2.5.3. Diagnostic Assessment and Stabilization Treatments
- 2.5.4. Medical Treatment and Surgical Options
- 2.6. Diagnostic Imaging of the Chest and Abdominal Cavity of the Foal
 - 2.6.1. Diagnostic Imaging the Chest
 - 2.6.1.1. Technical Basis
 - 2.6.1.2.1. Radiology
 - 2.6.1.2.2. Ultrasound
 - 9.6.1.2.3. Computerized Tomography
 - 2.6.1.2. Thoracic Pathology
 - 2.6.2. Diagnostic Imaging of the Abdomen
 - 2.6.2.1. Technical Basis
 - 2.6.2.1.1. Radiology
 - 2.6.2.1.2. Ultrasound
 - 9.6.2.2. Abdominal Pathology
- 2.7. Treatment of Septic Arthritis Umbilical Herniorrhaphy
 - 2.7.1. Pathophysiology and Diagnosis of Synovial Infections in the Foal
 - 2.7.2. Treatment of Septic Arthritis in the Foal
 - 2.7.3. Etiopathogenesis and Diagnosis of Umbilical Hernias
 - 2.7.4. Umbilical Herniorrhaphy Surgical Defects
- 2.8. Angular Deformities Treatment
 - 2.8.1. Aetiopathogenesis
 - 2.8.2. Diagnosis
 - 2.8.3. Conservative Treatment
 - 2.8.4. Surgical Treatment
- 2.9. Flexural Deformities Treatment
 - 2.9.1. Aetiopathogenesis
 - 2.9.2. Diagnosis
 - 9.9.3. Conservative Treatment
 - 9.9.4. Surgical Management
- 2.10. Diagnosis of Developmental Diseases in the Foal Treatment of Physitis, Epiphysitis and Hoof Management Guidelines for Healthy Foals

- 2.10.1. Etiopathogenesis, Diagnosis and Treatment of different forms of Physitis, Epiphysitis, Osteochondrosis and Subchondral Cysts
- 2.10.2. Evaluation of Poise in the Healthy Foal
- 2.10.3. Hoof Trimming Guideline in the Healthy Foal

Module 3. Advanced Therapeutic Protocols and Toxicology

- 3.1. Sedation and Total Intravenous Anesthesia
 - 3.1.1. Total Intravenous Anesthesia
 - 3.1.1.1. General Considerations
 - 3.1.1.2. Patient and Procedure Preparation
 - 3.1.1.3. Pharmacology
 - 3.1.1.4. Total Intravenous Anesthesia in Short-Term Procedures
 - 3.1.1.5. Total Intravenous Anesthesia in Procedures of Medium Duration
 - 3.1.1.6. Total Intravenous Anesthesia in Long-Term Procedures
 - 3.1.2. Sedation for On-Station Procedures
 - 3.1.2.1. General Considerations
 - 3.1.2.2. Patient Preparation/Procedure
 - 3.1.2.3. Technique: Bolus and Continuous Intravenous Infusions
 - 3.1.2.4. Pharmacology
 - 3.1.2.5. Drug Combinations
- 3.2. Pain Relief in Horses
 - 3.2.1. Detection of Pain in Hospitalized Patients and Multimodal Analgesia
 - 3.2.2. Types of NSAIDs
 - 3.2.3. Alpha-2-Agonists and Opioids
 - 3.2.4. Local anesthetics
 - 3.2.5. Other Drugs Used for Pain Control in Equines
 - 3.2.6. Complementary Therapies: Acupuncture, Shockwaves, Chiropractic, Laser
- 3.3. Correction of the Hydro-Electrolytic Balance
 - 3.3.1. General Considerations on Fluid Therapy
 - 3.3.1.1. Objective and Key Concepts
 - 3.3.1.2. Organic Fluid Distribution
 - 3.3.1.3. Assessment of Patient Needs

- 3.3.2. Types of Fluid
 - 3.3.2.1. Crystalloids
 - 3.3.2.2. Colloids
 - 3.3.2.3. Supplements
- 3.3.3. Routes of Administration
 - 3.3.3.1. Intravenous
 - 3.3.3.2. Oral
- 3.3.4. Practical Principles of Fluid Therapy Calculation
- 3.3.5. Associated Complications
- 3.4. Specific Considerations of Acid-Base Equilibrium in Horses
 - 3.4.1. Specific Considerations of Acid-Base Equilibrium in Horses
 - 3.4.1.1. Assessment of the Patient's Acid-Base Status
 - 3.4.1.2. Role of Bicarbonate, Chloride and Anion Gap
 - 3.4.2. Metabolic Acidosis and Alkalosis
 - 3.4.3. Respiratory Acidosis and Alkalosis
 - 3.4.4. Compensatory Mechanisms
 - 3.4.5. Base Excess
- 3.5. Pharmacological Considerations in the Sport Horse
 - 3.5.1. Equestrian Sports Regulation
 - 3.5.2. Doping
 - 3.5.2.1. Definition
 - 3.5.2.2. Medication Control Objectives
 - 3.5.2.3. Sampling and Accredited Laboratories
 - 3.5.2.4. Classification of Substances
 - 3.5.3. Types of Doping
 - 3.5.4. Withdrawal Time
 - 3.5.4.1. Factors Affecting Withdrawal Time
 - 3.5.4.1.1. Detection Time
 - 3.5.4.1.2. Regulatory Policies
 - 3.5.4.1.3. Animal Disposal Rate
 - 3.5.4.2. Factors to Consider in Determining Withdrawal Time
 - 3.5.4.2.1. Dose Administered
 - 3.5.4.2.2. Formulation
 - 3.5.4.2.3. Route of Administration
 - 3.5.4.2.4. Individual Pharmacokinetics
 - 3.5.4.2.5. Sensitivity of Analytical Procedures
 - 3.5.4.2.6. Sample Behavior Matrix
 - 3.5.4.2.7. Environmental persistence of substances and environmental pollution
- 3.6. Intensive Care of the Neonatal Foal
 - 3.6.1. Types of Catheters, Infusion Sets, Nasogastric and Urinary Probes for the Maintenance of Intensive Care in the Foal
 - 3.6.2. Types of Fluids, Colloids, Plasmotherapy and Hemotherapy
 - 3.6.3. Total and Partial Parenteral Feeding
 - 3.6.4. Antibiotic Therapy, Analgesia and Other Important Medications
 - 3.6.5. Cardiopulmonary Resuscitation
- 3.7. Adult Intensive Care
 - 3.7.1. General Intensive Care Considerations
 - 3.7.2. Intensive Care Procedures and Techniques
 - 3.7.2.1. Vascular Access: Maintenance and Care
 - 3.7.2.2. Arterial and Venous Pressure Monitoring

- 3.7.3. Cardiovascular Support
 - 3.7.3.1. Shock
 - 3.7.3.2. Supportive Drugs: Inotropes and Vasopressors
 - 3.7.3.3. Support Strategies
- 3.7.4. Respiratory Support
 - 3.7.4.1. Management of Respiratory Distress
- 3.7.5. Critically Ill Patient Nutrition
- 3.7.6. Neurological Patient Care
 - 3.7.6.1. Medical and Supportive Management of the Neurological Horse
 - 3.7.6.1.1. Trauma
 - 3.7.6.1.2. Encephalopathies and Myeloencephalopathies
 - 3.7.6.2. Specific Management of the Recumbent Horse
- 3.8. Toxicology I
 - 10.8.1. Digestive System Toxicology
 - 10.8.2. Liver Toxicology
 - 10.8.3. Toxicology Affecting the Central Nervous System
- 3.9. Toxicology II
 - 3.9.1. Toxicology Producing Clinical Signs Related to the Cardiovascular and Hemolymphatic Systems
 - 3.9.2. Toxicology Producing Clinical Signs related to the Skin, Musculoskeletal System and General Condition
 - 3.9.3. Toxicology Producing Clinical Signs Related to the Urinary System
 - 3.9.4. Toxicological Problems Causing Sudden Death
- 3.10. Euthanasia Procedures
 - 3.10.1. General Considerations
 - 3.10.1.1. Geriatric Horse
 - 3.10.2. Mechanisms of action for Hypothermia
 - 3.10.3. Chemical Euthanasia Methods
 - 3.10.4. Physical Euthanasia Methods
 - 3.10.5. Euthanasia Protocol
 - 3.10.6. Confirmation of Death



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*This training will allow you to advance
in your career comfortably”*

05 Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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 Re-learning, 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

In a given clinical situation, what would you do? 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 abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential or because of its uniqueness or rarity. It is essential that the case be based on current professional life, trying to recreate the real conditions in the 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 achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. The learning process has a clear focus on 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.



Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our 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, which represent a real revolution with respect to simply studying and analyzing 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 65,000 veterinarians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning 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 to success.

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you 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.

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.



Educational Techniques and Procedures on Video

We bring you closer to the latest techniques, we offer you the latest educational advances, we take you to the forefront of current affairs. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

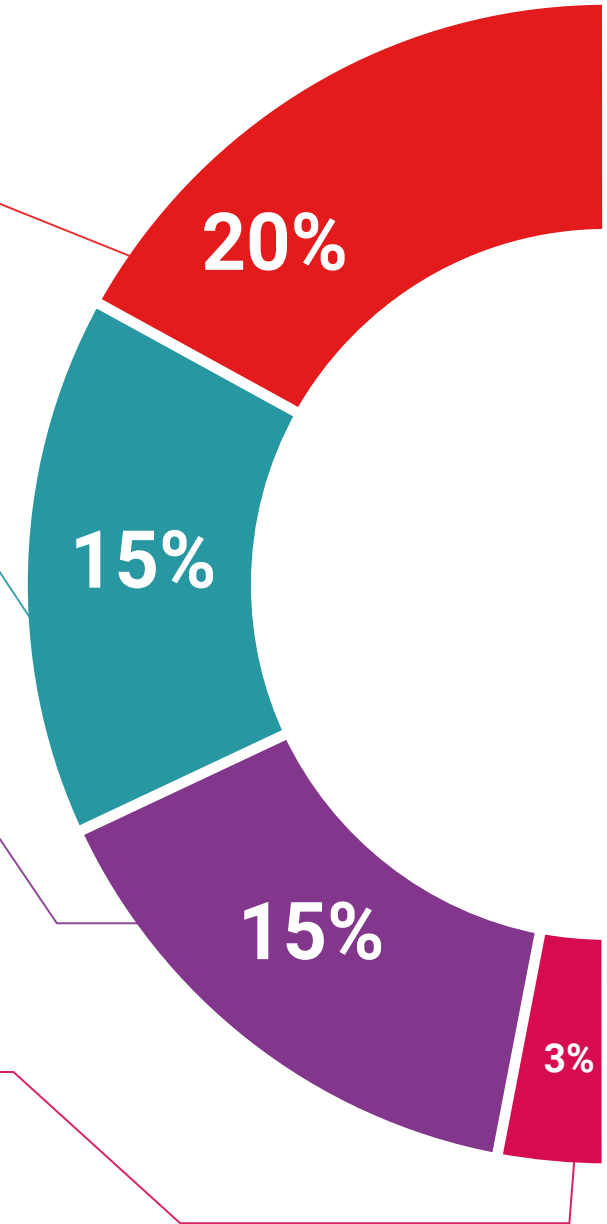
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge. This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story"

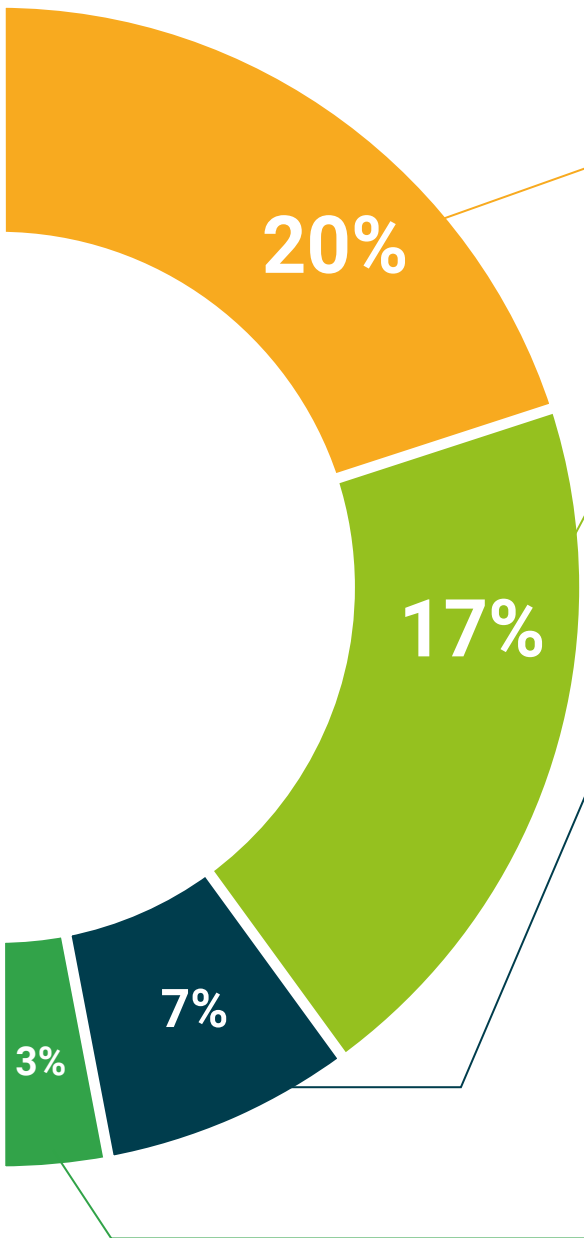


Additional Reading

By participating in this course you will have access to a virtual library where you will be able to complement and keep your training up-to-date with the latest articles on the subject, consensus documents, international guidelines...

An invaluable resource that you will be able to use even when you finish your course with us.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



Testing & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout the program through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



Learning from an expert

Observing an expert performing a task is the most effective way of learning. It is called *Learning from an expert*: a proven way to reinforce knowledge and recall what has been learned. For this reason, we include this type of learning in our course classes.

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

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06 Certificate

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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Include in your training a Postgraduate Diploma in Equine Reproduction and Neonatology: a highly qualified added value for any professional in this area"

This **Postgraduate Diploma in Equine Reproduction and Neonatology** contains the most complete and up-to-date scientific program on the market.

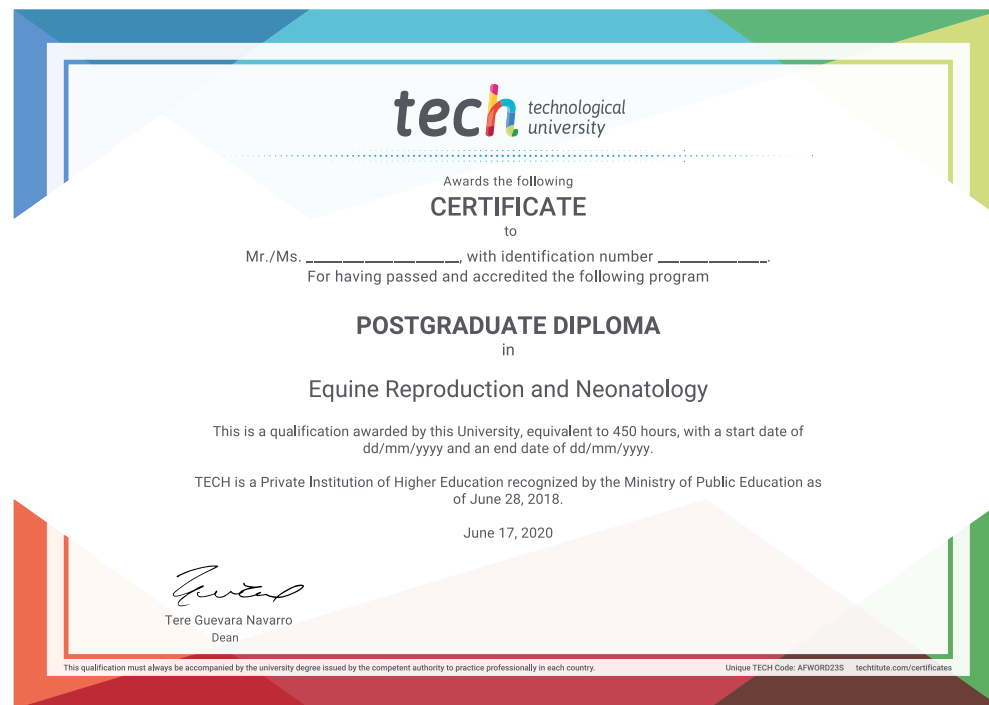
After the student has passed the assessments, they will receive their Postgraduate Diploma issued by **TECH Technological University** delivery.

The certificate 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 Equine Reproduction and Neonatology**

ECTS: **18**

Official N° of Hours: **450 h.**



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

future

health

confidence people

education

information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service

innovation

knowledge

present

online training

development

language

virtual classroom

tech technological
university

Postgraduate Diploma
Equine Reproduction
and Neonatology

- » Course Modality: Online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » 18 ECTS Credits
- » Teaching Hours: 450 hours

Postgraduate Diploma Equine Reproduction and Neonatology

