



## Neurological Diseases in Small Animals

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Credits: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/neurological-diseases-small-animals

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## tech 06 | Introduction

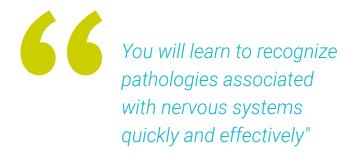
It is essential that the veterinary professional be able to determine which area of the animal's nervous system is affected. This is called neurolocalization. The location of the lesion, together with the corresponding history and anamnesis, will help us to establish our list of differential diagnoses. Lastly, the most useful diagnostic tests will be chosen based on this list.

The topics covered in this program have been selected to offer complete, up-to-date and quality specialization in internal medicine, thereby providing students with knowledge that will allow them to safely deal with cases and carry out adequate follow-up, monitoring and therapeutic procedures.

The teaching staff of them is made up of specialists from within different areas of internal medicine with extensive clinical experience. These faculty members have received accreditation as specialists in different fields such as cardiology, ophthalmology, diagnostic imaging, dermatology and oncology, and have often collaborated together in veterinary specialty centers. In addition to providing quality clinical work, some of these experts actively participate in various research projects parallel to their teaching and clinical activities.

This **Postgraduate Certificate in Neurological Diseases in Small Animals** contains the most complete and up-to-date educational program on the market. Its most important features include:

- Case studies presented by experts in Neurological Diseases in Small Animals
- Graphic, schematic and practical contents created to provide scientific and practical information on those disciplines that are essential for professional development
- New developments in Neurological Diseases in Small Animals
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in Neurological Diseases in Small Animals
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection



## Introduction | 07 tech



Our multimedia methodology allows students to perform interactive activities and learn in a more practical way"

Its teaching staff includes professionals from the veterinary field, who bring the experience of their work to this training, as well as recognised specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive learning programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the specialist must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Neurological Diseases in Small Animals for this Postgraduate Certificate.

We give you the opportunity to organize your study time thanks to the freedom of access to the campus that you will have once you have enrolled.

Upon completion of the program, students will have obtained knowledge that is essential for professional practice, whether they choose to exercise in a clinical, academic or research capacity.







## tech 10 | Objectives

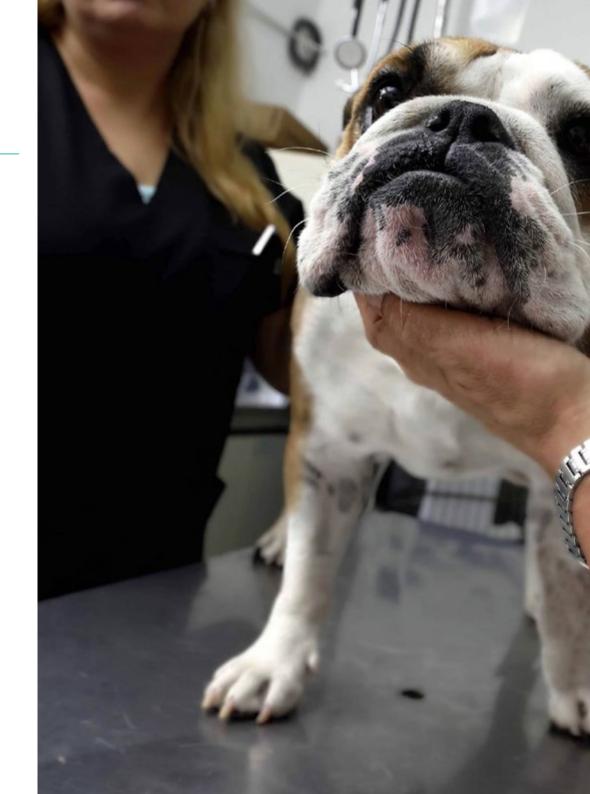


## **General Objectives**

- Consolidate basic concepts related to neuroanatomy
- Be able to perform a complete neurological examination and localize a lesion, based on findings
- Elaborate differential diagnosis according to history, anamnesis and neurological examination
- Establish diagnostic protocol, taking into account findings from neurological examination



This Postgraduate Postgraduate Certificate is unique in its category, which will allow students to acquire specialized knowledge in order to offer high-quality internal medicine services to clients and patients"





## Objectives | 11 tech



## **Specific Objectives**

- Determine whether lesion is intracranial or extracranial, based on neurological examination
- Examine main differences between central and peripheral SNs
- Establish a diagnostic protocol for seizure disorders
- Recognize a status epilepticus and know how to proceed with treatment
- Identify typical signs of upper and lower motor neuron syndrome
- Follow correct treatment guidelines for head injuries and establish prognosis
- Know basics of neuro-ophthalmology and know how to apply clinically





## Management



## Ms. Pérez Aranda Redondo, María

- Head of the Dermatology Service at Simbiosis Center for Veterinary Specialties Veterinarian at Aljarafe Norte Veterinary Center
- In charge of the Dermatology and Diagnostic Cytology service August 2017 October 2019
- Veterinary clinic at the veterinary center Canitas in Sevilla Este Responsible for the Dermatology and Cytological Diagnostic Service of all Canitas Veterinary Centers April 2015 July 2017
- Residency at the Dermatology Department of Veterinary Clinic Hospital Autonomous University of Barcelona
- March 16 March 27, 2015 Veterinarian at "Centro Veterinario Villarrubia" November 2014 April 2015
- Official internship at the small animal unit of the Clinical Veterinary Hospital of the University of Cordoba, October 2013 October 2014
- Honorary collaborator of the Department of Animal Medicine and Dermatological Surgery with Dr. Pedro Ginel Pérez. Student collaborator of the Department of Animal Medicine and Dermatological Surgery with Professor Dr. Pedro Ginel Pérez during the academic periods: 2010-2011, 2011-2012 and 2012-2013
- Student intern at the Veterinary Clinic Hospital of the University of Cordoba during the 2011-2012 and 2012-2013 academic periods



## Mr. Usabiaga Alfaro, Javier

- Bachelor's Degree in Veterinary Medicine from the University Alfonso X El Sabio (UAX); collaborating student at the University Veterinary Hospital UAX; rotated through all services of the center (Internal Medicine, Surgery, Anesthesia, Diagnostic Imaging Emergency and Hospitalization)
- Master's Degree in Small Animal Medicine and Emergency Medicine from AEVA in 2013
- Master's Degree in Small Animal Medicine and Master's Degree in Small Animal Clinical Ultrasound, from Improve International, where he learned from veterinarians of great impact and world reputation who were also members of the American College and/ or European College of Veterinary Studies in 2016 and 2017
- In 2018 he obtained the Certificate of General Practitioner in Small Animal Medicine (GPCert SAM), awarded by the International School of Veterinary Postgraduate Studies (ISVPS)
- Received his GPCert in Ultrasound from the ISVPS in 2020
- Obtained the title of the XXXIII National and XXX International Endoscopy Course from the Jesús Usón Minimally Invasive Surgery Center, Cáceres
- Postgraduate course in Diagnostic Imaging, Improve International Postgraduate Diploma in Surgery and Anaesthesia of Small Animals from the Autonomous University of Barcelona (UAB)
- Postgraduate course in Small Animal Surgery offered by the Instituto Veterinario I-Vet

## tech 16 | Course Management

#### **Professors**

#### Mr. Sergio Pérez Palacios

- Co-responsibility for Oncology and Cytology Service at Simbiosis Centro de Especialidades Veterinarias (2021 - Present)
- Active member of the Emergency, Hospitalization and Intensive Care Department at Simbiosis Veterinary Specialties Center (2021- Present)
- Bachelor's Degree in Veterinary Medicine from the University of Zaragoza, 2018
- Master's Degree in Small Animal Clinic I, University of Zaragoza Veterinary Hospital, 2019
- Master's Degree in Small Animal Clinic II, University of Zaragoza Veterinary Hospital, 2020
- International Postgraduate Diploma in Oncology in Canine and Feline Patients, 2020
- Online Postgraduate Diploma in Oncology in Canine and Feline Patients, 2020
- Online Postgraduate Diploma in Neurology in Canine and Feline Patients, 2020
- Poster with the title "Complete Remission and Prolonged Survival in a Case of Canine Atrial Hemangiosarcoma" at the SEVC AVEPA 2020

#### Mr. Recio Monescillo, Julián

- Veterinarian at Simbiosis Specialty Center
- Ophthalmologic ambulatory specialty service June 2019 Present
- Collaborations in minimally invasive surgery with Ciruvet ambulatory service 2018-Present
- Bachelor's Degree in Veterinary Medicine from the Alfonso X El Sabio University Madrid, 2014
- Member of the Spanish Society of Veterinary Ophthalmology (SEOVET)
- Master's Degree in Clinical Practice and Small Animal Emergencies of the Spanish Association of Applied Veterinary Medicine. AEVA. 2015
- Master's Degree in Soft Tissue Surgery UAB, Basic Surgery Module, Anesthesia Module
- Diploma in Ophthalmology in Veterinary Medicine, Complutense University Madrid. 2018– 2019
- SEOVET online round table SOS when phaco surgery is non-optimal May 2020
- SEOVET online webseminar Calves, for publication of a scientific article June 2020
- Residencies at Hospital Veterinario Puchol and Centro Oftalmológico Veterinario Goya (Madrid) December 2019 Ophthalmology internship
- El Trébol Veterinary Clinic (Illescas), July 2020 September 2020



## Course Management | 17 tech

#### Ms. Sánchez Gárriza, María

- Founding partner and Director of Simbiosis Center of Veterinary Specialties; founding partner
  of the Association of Veterinary Specialists (ASESVET & HEALTH); person in charge of
  Internal Medicine and Oncology Services
- Graduated in Veterinary Medicine from the University of Zaragoza in 2014 and collaborated at the large animal pathology service during the last years of her career
- Postgraduate Degree in Small Animal Medicine from Improve International, where she
  obtained the title of General Practitioner in Small Animal Medicine (GPcert SAM), awarded by
  the ISVPS (International School of Veterinary Postgraduate Studies) in 2018
- Master's Degree in Clinical Veterinary Oncology from AEVA, a program created by that institution and recognized by the European University Miguel de Cervantes (UCME) in 2020
- Postgraduate course in Small Animal Medicine at the Autonomous University of Barcelona (UAB) EN 2020-2021
- Attending and finishing the course of Electrochemotherapy in Veterinary Medicine given by Vetoncology (Veterinary Oncology Sersvice) The only course of its kind in Latin America to be endorsed by both the University of Buenos Aires (UBA) in Argentina and the International Society for Electroporation-Based Technologies and Treatments (ISEBTT). Organized and directed by Drs. Guillermo Marshall, Matías Tellado and Felipe Maglietti
- Residencies with leading professionals in Veterinary Oncology in Spain: several weeks during 2020
- In charge of internal medicine and diagnostic imaging services at several centers in Pamplona during the years 2014-2017





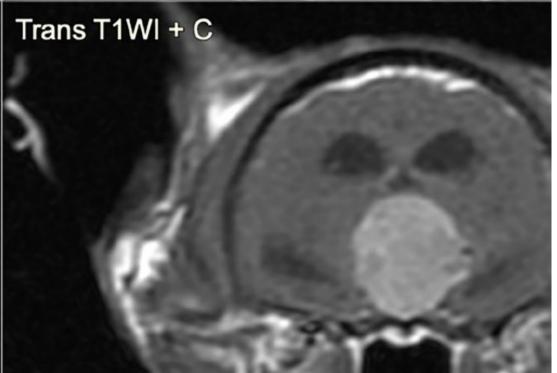
## tech 20 | Structure and Content

### Module 1. Neurology

- 1.1. Neuroanatomy
  - 1.1.1. CNS
  - 1.1.2. SNP
- 1.2. Neurological Examination I
  - 1.2.1. Mental State
  - 1.2.2. Posture and Gait
  - 1.2.3. Cranial Nerves
  - 1.2.4. Postural Reactions
  - 1.2.5. Spinal Reflexes
- 1.3. Neurological Examination II
  - 1.3.1. Lower and Upper Motor Neurons
  - 1.3.2. Paresis and Ataxia
  - 1.3.3. Reflex vs. Reaction
  - 1.3.4. Neuro-Ophthalmology I
  - 1.3.5. Neuro-Ophthalmology II
- 1.4. Localization of Lesion (Neurolocalization)
  - 141 Where is the Lesion?
  - 1.4.2. Intracranial vs. Extracranial
  - 1.4.3. Intracranial: Anterior Encephalon, Brainstem, Vestibular System and Cerebellum
  - 1.4.4. Extracranial: Spinal Cord, PNS and Muscle
- 1.5. Differential Diagnosis (Vitamin D)
  - 1.5.1. Vascular
  - 1.5.2. Inflammatory/Infectious
  - 1.5.3. Traumatological/Toxic
  - 1.5.4. Congenital Abnormalities
  - 1.5.5. Metabolic
  - 1.5.6. Idiopathic
  - 1.5.7. Neoplasic
  - 1.5.8. Degenerative

- 1.6. Diagnostic Techniques
  - 1.6.1. Blood and Urine Tests
  - 1.6.2. Serum Titrations
  - 1.6.3. LCR
  - 1.6.4. Imaging Tests: Rx, Tc and Rm
  - 1.6.5. Electrodiagnostic Testing
- 1.7. Epilepsy and Seizures
  - 1.7.1. Introduction and Pathophysiology
  - 1.7.2. Clinical Signs and Classification
  - 1.7.3. Diagnostic Protocol
  - 1.7.4. Crisis Treatment
  - 1.7.5. Status Epilepticus
- 1.8. Cranioencephalic Trauma
  - 1.8.1. Pathophysiology
  - 1.8.2. Clinical Symptoms
  - 1.8.3. Diagnostic Protocol
  - 1.8.4. Treatment
  - 1.8.5. Prognosis
- .9. Neuromuscular Debility
  - 1.9.1. Botulism
  - 1.9.2. Myasthenia Gravis
  - 1.9.3. Polyradiculoneuritis
- 1.10. Vestibular Syndrome
  - 1.10.1. Anatomy
  - 1.10.2. Clinical Signs (Central vs. Peripheral)
  - 1.10.3. Vestibular System Pathologies
  - 1.10.4. Diagnosis
  - 1.10.5. Treatment







This program allows you to combine your professional and work activities so that you can advance your career in a comfortable and practical way"





## tech 24 | Methodology

#### At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the actual conditions in a veterinarian's professional practice.



Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

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

- 1. Veterinarians who follow this method not only manage to assimilate concepts, but also develop their mental capacity through exercises to evaluate real situations and knowledge application
- 2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- **4.** The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the time dedicated to working on the course.





## **Relearning Methodology**

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

Veterinarians will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.





## Methodology | 27 tech

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

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

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

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

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

This program offers the best educational material, prepared with professionals in mind:



#### **Study Material**

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### **Latest Techniques and Procedures on Video**

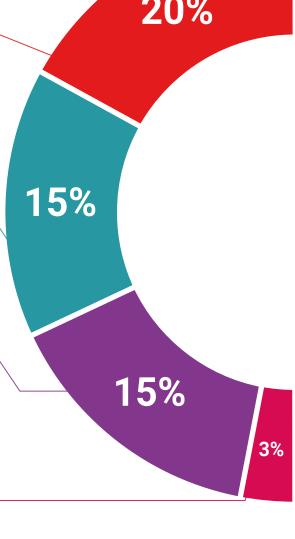
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch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



#### **Interactive Summaries**

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.

# Expert-Led Case Studies and Case Analysis Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear

## **Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

and direct way to achieve the highest degree of understanding.



#### Classes

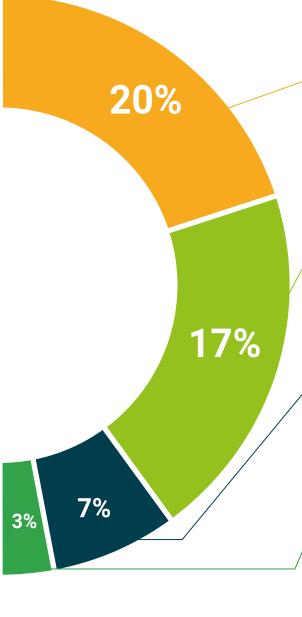
There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### **Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.







## tech 32 | Certificate

This program will allow you to obtain your **Postgraduate Certificate in Neurological Diseases** in **Small Animals** 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 **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: Postgraduate Certificate in Neurological Diseases in Small Animals

Modality: online

Duration: 6 weeks

Accreditation: 6 ECTS



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

#### Postgraduate Certificate in Neurological Diseases in Small Animals

This is a program of 180 hours of duration equivalent to 6 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



<sup>\*</sup>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.

health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning



# Postgraduate Certificate Neurological Diseases in Small Animals

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

