

# Postgraduate Certificate

## Diagnostic Tests in Veterinary Neurology





## Postgraduate Certificate Diagnostic Tests in Veterinary Neurology

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

Website: [www.techtitute.com/in/veterinary-medicine/postgraduate-certificate/diagnostic-tests-veterinary-neurology](http://www.techtitute.com/in/veterinary-medicine/postgraduate-certificate/diagnostic-tests-veterinary-neurology)

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# 01

# Introduction

Pet owners are increasingly demanding more qualified and specialized professionals to distribute correct advice regarding the different pathologies that may occur in the veterinary clinic. In the field of Small Animal Neurology, it is possible to intervene with the support of scientific and technological advances that have led to remarkable progression in the care capacity in this complex field. In this exceptional Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology, we provide the student with the most up-to-date and relevant knowledge, in an intensive study led by specialists in Neurology and Veterinary Imaging, which will allow you to acquire the skills of a leading expert.



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*This exceptional Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology has been configured as the most complete compilation of knowledge, techniques and current technologies developed in this field, to offer the professional a leap towards maximum competence"*

Assessing the diagnostic tests to be performed for each case is as important as a correct neurological examination and a detailed outline of the list of possible problems for each case, most of which are complementary, since on rare occasions we will reach a final diagnosis by performing only one of them.

Diagnostic tests will give not only an almost certain diagnosis, but also a structuring and an approach to the therapy used in each case, as well as the prognosis that each pathological entity has in order to advise the owner in the best possible way.

This module deals with the most common laboratory tests for the diagnosis of neurological diseases, with special emphasis on the performance of cerebrospinal fluid (CSF) extraction and its interpretation.

Another unit of the module to be covered will be the different types of genetic testing in the dog and cat.

Advanced imaging tests (CT, MRI), as well as electrophysiology and muscle/nerve biopsies will be of great importance in the final diagnosis of the different pathologies, emphasizing the most important points of each one of them.

*“ Acquire the skills required to perform an accurate neurological examination of your patients, learning how to develop the differential diagnosis and to prescribe the most appropriate tests in each case”*



*With the real-life experience of specialists in small animal neurology who bring to this master's degree their realistic and practical vision of veterinary intervention in this field”*

This Postgraduate Certificate offers you the characteristics of a high-level scientific, teaching and technological program. These are some of its most notable features:

- ◆ The latest technology in online teaching software
- ◆ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ◆ Practical cases presented by practising experts
- ◆ State-of-the-art interactive video systems.
- ◆ Teaching supported by telepractice
- ◆ Continuous updating and recycling systems
- ◆ Autonomous learning: full compatibility with other occupations
- ◆ Practical exercises for self-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
- ◆ Supplementary documentation databases are permanently available, even after the program

The topics and clinical cases proposed, as well as their resolution, are based on both the teachers' practical experience and on the latest advances in research and development that contribute to this field of work.

All information is presented through high-quality multimedia content, analysis of clinical cases prepared by teachers, master classes and video techniques that allow the exchange of knowledge and experience, maintain and update the skill level of its members, create protocols for action and disseminate the most important developments in the emergencies within medicine of small animals.

Our teaching staff at TECH is made up of professionals from different fields related to this specialty. As such, TECH makes sure to offer the student the training update objective intended. A multidisciplinary team of professionals trained and experienced in different environments, who will develop the theoretical knowledge in an efficient manner, but, above all, will put at the service of the program the practical knowledge derived from their own experience: one of the differential qualities of this program.

This mastery of the subject is complemented by the effectiveness of the methodology used in the design of this program. Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. This way, the student will be able to study with a set of comfortable and versatile multimedia tools that will give them the operability he needs.

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*, the student will be able to acquire the knowledge as if they were facing the scenario being learned at that moment. A concept that will allow students to integrate and memorize what they have learnt in a more realistic and permanent way.

*A study that includes knowledge of the anatomy and physiology of the nervous system, brain or spinal cord"*

*With a methodological design based on proven teaching techniques, this highly qualified program is designed to allow you to learn in a dynamic and effective way.*



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# 02 Objectives

This program compiles the most current knowledge in terms of scientific research and technological development in diagnostic techniques and intervention in neurological pathologies in small animals. The objective is for students to generate specialized knowledge, creating a well-structured foundation to identify the clinical signs associated with each neurological location and to be able to establish a list of differential diagnoses, acting correctly to achieve the best possible prognosis in patients.





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*The ultimate goal is to boost your capacity for real intervention by incorporating the most up-to-date knowledge in this field, learning in a realistic and effective way in order to grow as a professional"*



## General Objectives

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- Identify the most common laboratory tests
- Compile the indications, performance and interpretation of advanced imaging tests.
- Develop the principles of electrophysiology, the different tests and their interpretation.
- Determine the correct performance of muscle and nerve biopsy.



*A skill that is increasingly in demand among veterinary professionals, which will propel you towards greater competitiveness in the job market"*





## Specific Objectives

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- ◆ Interpret the various parameters in blood and CSF tests that are of clinical significance
- ◆ Structuring the correct performance and interpretation of myelography, CT and MRI scans
- ◆ Justify the different electrophysiological tests and their interpretation
- ◆ Present the performance of muscle and nerve biopsy and its interpretation
- ◆ Identify the different genetic tests in dogs and cats



03

# 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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*TECH's objective?  
To ensure your professional growth"*

## Director Invitado Internacional

Dr. Steven de Decker's interest in the field of Veterinary Neurology has led him to be one of the most important figures in this area worldwide. He has participated in several international congresses, including the Singapore Vet Show, the largest veterinary conference in the Asian continent.

Such is his relevance that he has become president of the British Society of Veterinary Neurology. He is also a senior lecturer and head of the Neurology and Neurosurgery service at the Royal Veterinary College, considered one of the best veterinary institutions in the world.

His main area of research is spinal disorders and neurosurgery, having delved into the diagnosis and treatment of cervical disc-associated spondylomyelopathy or Wobbler's syndrome in dogs. His most cited studies deal with the prevalence of thoracic vertebral malformations, meningoencephalomyelitis of unknown origin and spinal arachnoid diverticula in dogs.



## Dr. De Decker, Steven

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- Head of Neurology and Neurosurgery Service, Royal Veterinary College - Hertfordshire, United Kingdom
- Head and Professor of the Neurology and Neurosurgery Service of the Royal Veterinary College - Hertfordshire, UK
- Past President of the British Veterinary Neurological Society.
- Doctor of Veterinary Neurology and Neurosurgery, University of Ghent, Belgium
- Graduate of the University of Ghent, Belgium

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*Gracias a TECH podrás aprender con los mejores profesionales del mundo”*

## Management



### Dr. Moya García, Sergio

- Doctoral candidate with the Chair of Surgery at the Faculty of Veterinary Medicine of Córdoba
- Miembro de Royal Collage Veterinary Surgeon (MRCVS)
- Member of the Endoscopy Group (GEA) of the Association of Veterinary Specialists in Small Animals (GEA-AVEPA) and of the Association of Veterinary Specialists in Minimally Invasive Medicine (AEVMI) and of the Neurology Group of AVEPA
- Vocal of Small Animals of the Official College of Veterinarians of Malaga since 2014
- Head of ATV training for AVEPA. Postgraduate in Neurology by the European School of Veterinary Studies Postgraduate (ESVP) Master's Degree in Clinical and Therapeutic Research from the University of Las Palmas de Gran Canaria
- Veterinary Specialist Degree in Endoscopy and Minimally Invasive Surgery by the University of Extremadura
- Assistance Director of the Vetsalud Dr. Moya Day Hospital and Head of the Neurology Department of the Bluecare Animal Hospital
- Currently pursuing neurology accreditation by AVEP





## Professors

### **Dr. Christian Mauricio Gómez Álvarez**

- ♦ Veterinarian Doctor Universidad de La Salle (ULS)
- ♦ More than 10 years of experience in Clinical Neurology.
- ♦ Master's Degree (MSc) in Physiology UNAL
- ♦ ACVIM-Neurology Course Neuroimaging, Neuropathology and Electrophysiology 2020
- ♦ Ohio State University Braincamp Course in Neurología y Neurociencias 2016
- ♦ Postgraduate Course in Advanced Clinical Neurology, UCASAL, Argentina
- ♦ Clinical Neurology Fellowship, University of Montreal, Canada

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*An impressive teaching staff, made up of European specialists in different areas of expertise, will be your teachers: a unique occasion not to be missed"*

# 04

## Structure and Content

The development of the syllabus has been carried out according to the training efficiency criteria offered by TECH. Through a comprehensive syllabus, the student will cover all the essential topics proposed, gradually acquiring the skills required to put the necessary knowledge into practice. A well-developed learning scheme that will allow you to learn in a continuous, efficient and customized way.





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

## Module 1.

- 1.1. Blood Laboratory Tests
  - 1.1.1. Cellular Count Disorders Responsible for Neurological Conditions
  - 1.1.2. Biochemical Disorders Responsible for Neurological Conditions
  - 1.1.3. Hormonal Disorders Responsible for Neurological Disorders
  - 1.1.4. Serology and Rapid Tests
- 1.2. Radiography
  - 1.2.1. Indications
  - 1.2.2. Patient Positioning to Assess Skull and Head Structural Anomalies.
- 1.3. Myelography
  - 1.3.1. Indications
  - 1.3.1. How to Perform a Correct Myelography
  - 1.3.1. Interpretation
- 1.4. Computerised Axial Tomography
  - 1.4.2. Brain CT Scan
  - 1.4.2. Spinal CT Scan
- 1.5. Nuclear Magnetic Resonance Imaging
  - 1.5.1. Sequences
  - 1.5.2. Brain MRI
  - 1.5.3. Spine MRI
- 1.6. Electrophysiology I
  - 1.6.1. Electromyography
  - 1.6.2. Motor Conduction Velocities
  - 1.6.3. Sensitive Conduction Velocities
- 1.7. Electrophysiology II
  - 1.7.1. F-Wave Analysis
  - 1.7.2. Cord Dorsum Potentials
- 1.8. Repetitive Stimulation



- 1.8.1. BAER
- 1.8.2. Muscle, Nerve and CNS biopsy
  - 1.8.2.1. Muscle Biopsy
  - 1.8.2.2. Nerve Biopsy
  - 1.8.2.3. CNS Biopsy
- 1.9. Genetic Testing
  - 1.9.1. Types of Genetic Tests in Dogs
  - 1.9.2. Types of Genetic Testing in Cats
- 1.10. CSF Analysis
  - 1.10.1. Extraction
  - 1.10.2. Counting Chamber
  - 1.10.3. Types of Pleocytosis, Cytology
  - 1.10.4. Protein Levels

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*The best contents on the university landscape condensed into a six-week program"*

# 05 Methodology

This academic program offers students a different way of learning. Our methodology follows a cyclical learning process: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





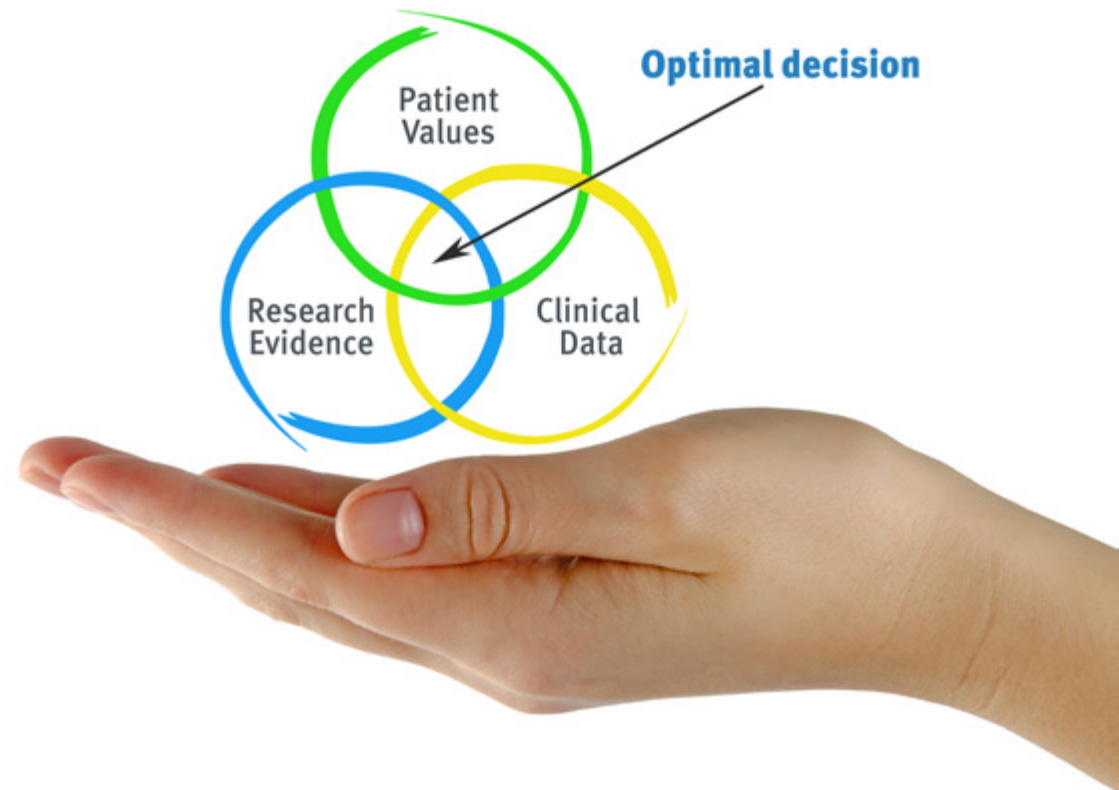
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given clinical situation, what should a professional 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 an abundance of 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 is based on current professional life, trying to recreate the real conditions of professional veterinary 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.



## Relearning Methodology

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

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 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 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.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, 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 the teaching materials are specifically created for the course by specialists who teach on 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.



### Latest Techniques and Procedures on Video

We bring you closer to the latest Techniques, to the latest Educational Advances, to the forefront of current Veterinary Techniques and Procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, students can watch them as many times as they 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 exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### Additional Reading

Recent articles, consensus documents, international guides... in our 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, we will present students with real case developments in which the expert will guide them through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



### Testing & Retesting

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



### Classes

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

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



### Quick Action Guides

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



06

# Certificate

The Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology, in addition to the most rigorous and up-to-date education, provides access to a Postgraduate Certificate issued by TECH Technological University.



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*Include a Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology in your studies: a high-quality added value for any professional in this field"*

This **Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology** contains the most complete and up-to-date scientific program on the market.

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

The Postgraduate Certificate issued by TECH Technological University will express the qualification

obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Diagnostic Tests in Veterinary Neurology**

Official N° of Hours: **150 hours**.



\*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.





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