

# Postgraduate Certificate

## Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals





**tech** technological  
university

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Website: [www.techtitude.com/in/veterinary-medicine/postgraduate-certificate/laboratorial-cytological-diagnosis-infectious-diseases-small-animals](http://www.techtitude.com/in/veterinary-medicine/postgraduate-certificate/laboratorial-cytological-diagnosis-infectious-diseases-small-animals)

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# 01

# Introduction

In daily practice, you will encounter patients with a multitude of clinical problems. Infectious diseases occupy a large part of the differentials and clinical success depends on their diagnosis and treatment.

For a correct diagnosis of Infectious Diseases, it is important to know the epidemiological environment in which patients are found and to know how to interpret diagnostic tests as a whole. Incorrect interpretation of a test could lead to loss of information or misdiagnosis.

This very complete program is the most intensive and up-to-date tour of the latest and most complete advances and developments in this area. With the quality of The World's Largest Online University.





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*Learn everything you need to get the most comprehensive laboratory information about infectious diseases in dogs and cats and increase your level of competence in this area"*

Knowing how to differentiate, at a technical level, the different tests available, their interpretation and the knowledge of their limitations, will bring us closer to our patients, our clients and to a correct diagnosis.

Cytological interpretation is a fundamental part in the diagnosis of infectious diseases, providing information quickly and minimally invasive.

Proper sampling, storage and transport will make our work much more useful and profitable.



*Each and every area of knowledge needed regarding viral diseases in cats, presented in a clear, comprehensive and effective manner"*

This **Postgraduate Certificate in Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The latest technology in online teaching software
- ◆ Intensely visual teaching system, supported by graphic and schematic contents, 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

“ *An educational program based on the best working methods of the online educational panorama, revolutionary in the veterinary field*”

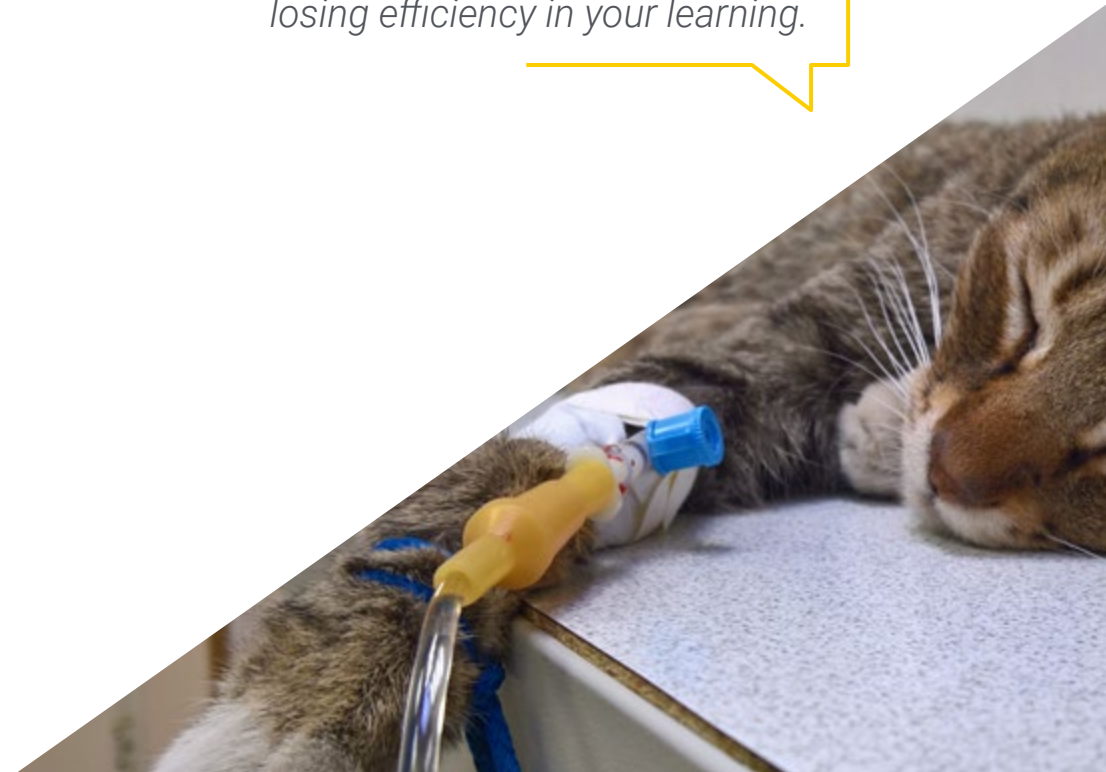
Its teaching staff includes professionals belonging to the field of Veterinary Medicine, who bring to this training the experience of their work, as well as renowned specialists from reference societies and prestigious universities.

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 education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional 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 psychology experts.

*A high-impact program that will give you the qualifications you need to act as an expert in this field of work.*

*Fully compatible with your daily life activities, it will allow you to learn in a constant and gradual way, at your own pace, without losing efficiency in your learning.*



02

# Objectives

The objective of this program is to provide veterinary medicine professionals with a high-quality resource that allows them to be fully up to date, integrating into their theoretical and practical knowledge the latest advances and developments in the treatment of small animals in the field of infectious diseases.







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*The objective of this program is to offer the medical professional the most complete up-to-date information on viral diseases in cats, their diagnosis and treatment, from your computer and with total quality"*



## General Objectives

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- Interpret diagnostic tests and their clinical relevance
- Improve collection, storage and transport of specimens
- Determine the advantages and limitations of the use of cytology



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





## Specific Objectives

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- ♦ Examine, at a Technical Level, the differences between the different diagnostic tests
- ♦ Generate specialized knowledge to get the most out of diagnostic tests
- ♦ Determine how to avoid false negatives and interpret false positives
- ♦ Analyze how to effectively perform cytology in clinical practice
- ♦ Establish how to diagnose the most common infectious processes by cytology
- ♦ Make the best clinical use of the available information

03

# Course Management

The quality of the educational process has one of its pillars in the excellence of the teaching staff. For this reason, we choose our teachers from among the best in the most advanced countries in this area of work. Thanks to this, you will have the opportunity to learn from the best qualified professionals. Experts, who will put their real experience at the service of the program and who, in addition, have proven to have the best teaching qualifications. For the sake of quality, which is the hallmark of our identity.



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*A teaching staff chosen from among the best in the industry, which will allow you to learn in a realistic way, with a complete, practical and current vision of the work in this field of veterinary medicine"*

## Management



### Ms. Pérez-Aranda Redondo, María

- Head of the Dermatology Service at Symbiosis Center of Veterinary Specialties. Veterinarian at North Aljarafe Veterinary Center
- Dermatology and Diagnostic Cytology Service Manager
- Veterinary clinic of the Canitas Veterinary Center in East Seville
- Responsible for the Dermatology and Cytological Diagnosis Service of all Canitas Veterinary Centers
- Honorary Collaborator of the Department of Animal Medicine and Surgery in Dermatology
- Collaborating Student of the Department of Animal Medicine and Surgery in Dermatology



## Professors

### Dr. Laura López Cubillo

- ◆ Degree in Veterinary Medicine, Complutense University Madrid
- ◆ Postgraduate course in Diagnostic Imaging in small animals by the CEU Cardenal Herrera University of Valencia
- ◆ Attendance to congresses, courses and conferences on Internal Medicine, Feline Medicine, Diagnostic Imaging and Emergency and Intensive Care at national level
- ◆ Currently, resident at the Diagnostic Imaging Service of the Complutense Veterinary Hospital of Madrid
- ◆ Responsible for the Emergency Department at Gattos Feline Clinical Center Hospital
- ◆ Resident in the Internal Medicine, Diagnostic Imaging and Emergency Department at Gattos Feline Clinical Center Hospital
- ◆ Rotating internship at Gattos Hospital Feline Clinical Center

# 04

## Structure and Content

This program has been designed with a specific teaching model that successfully combines the intensity of a comprehensive and complete study with a highly flexible way of learning. A knowledge journey that addresses each and every area of professional development that the veterinarian needs in the field of small animal infectious diseases.







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*A unique teaching model that reconciles distance education with practical learning, allowing the professional to progress in their healthcare capacity by studying with the best teaching program on the online market"*

## Module 1. Introduction and Laboratory Diagnosis

- 1.1. Prevalence and Epidemiology of Infectious Diseases in Small Animals
  - 1.1.1. Introduction to the Epidemiology of Infectious Diseases
  - 1.1.2. Epidemiological Characteristics of Infectious Diseases
  - 1.1.3. Prevalence and Clinical Epidemiology
- 1.2. Diagnosis of Viral Diseases
  - 1.2.1. The Role of Viruses in Veterinary Medicine
  - 1.2.2. Viral Isolation
  - 1.2.3. Antigen Detection Techniques by Immunological Techniques
  - 1.2.4. Molecular Techniques (Polymerase Chain Reaction, PCR)
    - 1.2.4.1. The Role of PCR Inhibitors
  - 1.2.5. Histopathology
  - 1.2.6. Serology Testing
  - 1.2.7. Interpretation of Tests in Clinical Diagnosis
- 1.3. Diagnosis of Parasitic Diseases
  - 1.3.1. The Role of Parasites in Veterinary Medicine
  - 1.3.2. The Importance of the Coprological Analysis in the Daily Clinic
    - 1.3.2.1. Coprological Techniques
  - 1.3.3. Hematic Parasites, the Usefulness of Blood Smears
  - 1.3.4. Serology in Parasitic Diseases
- 1.4. Diagnosis of Bacterial and Fungal Diseases
  - 1.4.1. Direct Visualization Under the Microscope
  - 1.4.2. Culture and Identification
    - 1.4.2.1. Urine Culture and CFU
    - 1.4.2.2. Anaerobic Bacteria
    - 1.4.2.3. Interpretation of Antibiograms
    - 1.4.2.4. Saprophyte, Opportunistic or Pathogenic
  - 1.4.3. Molecular Techniques (Polymerase Chain Reaction, PCR)
  - 1.4.4. Serology Testing
  - 1.4.5. Histopathology
- 1.5. Procedures in Clinical Practice
  - 1.5.1. Sampling for Bacterial Cultures
  - 1.5.2. Sampling for Fungal Cultures
  - 1.5.3. Blood Cultures
  - 1.5.4. Anaerobic Cultures
  - 1.5.5. Conservation of Microbiology Samples
  - 1.5.6. Serum or Plasma? Hysop With or Without Medium?
- 1.6. Cytology Applied to Diagnosis. Skin
  - 1.6.1. General Aspects
  - 1.6.2. Techniques for Obtaining Samples
  - 1.6.3. Staining Techniques
  - 1.6.4. Principles of Cytological Interpretation
    - 1.6.4.1. Interpretation of Cell Lines
    - 1.6.4.2. Bacterial Diseases
    - 1.6.4.3. Fungal Diseases
    - 1.6.4.4. Parasitic Diseases
- 1.7. Cytology Applied to Diagnosis. Lymph Nodes
  - 1.7.1. General Aspects
  - 1.7.2. Techniques for Obtaining Samples
  - 1.7.3. Staining Techniques
  - 1.7.4. Principles of Cytological Interpretation
    - 1.7.4.1. Interpretation of Cell Lines
    - 1.7.4.2. Bacterial Diseases
    - 1.7.4.3. Fungal Diseases
    - 1.7.4.4. Parasitic Diseases



- 1.8. Cytology Applied to Diagnosis. Blood and Bone Marrow
  - 1.8.1. General Aspects
  - 1.8.2. Techniques for Obtaining Samples
  - 1.8.3. Staining Techniques
  - 1.8.4. Principles of Cytological Interpretation
    - 1.8.4.1. Interpretation of Cell Lines
    - 1.8.4.2. Bacterial Diseases
    - 1.8.4.3. Fungal Diseases
    - 1.8.4.4. Parasitic Diseases
    - 1.8.4.5. Viral Diseases
- 1.9. Cytology Applied to Diagnosis. Respiratory and Digestive System
  - 1.9.1. General Aspects
  - 1.9.2. Techniques for Obtaining Samples
  - 1.9.3. Staining Techniques
  - 1.9.4. Principles of Cytological Interpretation
    - 1.9.4.1. Interpretation of Cell Lines
    - 1.9.4.2. Bacterial Diseases
    - 1.9.4.3. Fungal Diseases
    - 1.9.4.4. Parasitic Diseases
- 1.10. Cytology Applied to Diagnosis. Sensory Organs
  - 1.10.1. General Aspects
  - 1.10.2. Techniques for Obtaining Samples
  - 1.10.3. Staining Techniques
  - 1.10.4. Principles of Cytological Interpretation
    - 1.10.4.1. Interpretation of Cell Lines
    - 1.10.4.2. Bacterial Diseases
    - 1.10.4.3. Fungal Diseases
    - 1.10.4.4. Parasitic Diseases

# 05 Methodology

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

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





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

## At TECH we use the Case Method

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

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



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

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

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

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



## Relearning Methodology

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

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



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



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

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

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

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

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



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



### Study Material

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

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



### Latest Techniques and Procedures on Video

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



### Interactive Summaries

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

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



### Additional Reading

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





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

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



#### Classes

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

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



#### Quick Action Guides

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



# 06 Certificate

The Postgraduate Certificate in Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals** 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 certificate issued by **TECH Technological University** will reflect 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 Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals**

Official N° of Hours: **150 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.



## Postgraduate Certificate Laboratorial and Cytological Diagnosis of Infectious Diseases in Small Animals

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

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