



Pathology and Oncology. Hospitalization and

Critical Care

• Modality: online

• Duration: 6 months

Certificate: TECH Technological University

• Dedication: 16h/week

• Schedule: at your own pace

• Exams: online

Website: www.techtitute.com/in/veterinary-medicine/postgraduate-diploma/postgraduate-diploma-feline-urinary-system-pathology-oncology-hospitalization-critical-care

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# tech 06 | Introduction

A thorough update in the management of the hospitalized cat can be a key differential factor to address more accurately both urinary and oncologic pathologies. The more frequent appearance of feline patients with these ailments makes it more urgent than ever to incorporate advances in diagnosis and monitoring as well as in the various treatments, including the necessary surgical interventions.

Thus, the teaching team in charge of this Postgraduate Diploma brings together a series of up-to-date skills and competencies for the veterinary specialist, based both on the most recent scientific postulates and on their own practical experience. The union of these two visions makes it a more enriching academic experience from the very beginning, allowing the incorporation into practice of the developments taught throughout the program.

A Postgraduate Diploma with TECH's characteristic 100% online format, in which it is the specialist who decides how to distribute the entire course load. For this purpose, all the study material is provided from the first day and can be downloaded from any device with an internet connection. There are no fixed classes or schedules, having total flexibility to combine both academic and professional and personal facets in a program that comprehensively promotes the update in urinary pathologies, oncology and critical care of the feline patient.

This Postgraduate Diploma in Feline Urinary System Pathology and Oncology.

Hospitalization and Critical Care contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Feline Medicine and Surgery
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions for experts and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection



You will have the quality endorsement of a teaching team with extensive experience in the area and care of feline patients with all kinds of pathologies"

# Introduction | 07 tech



Incorporate into your daily practice the most recent protocols for chronic renal damage, resuscitation of felines in cardiorespiratory arrest, and pain control caused by neoplasms"

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and 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.

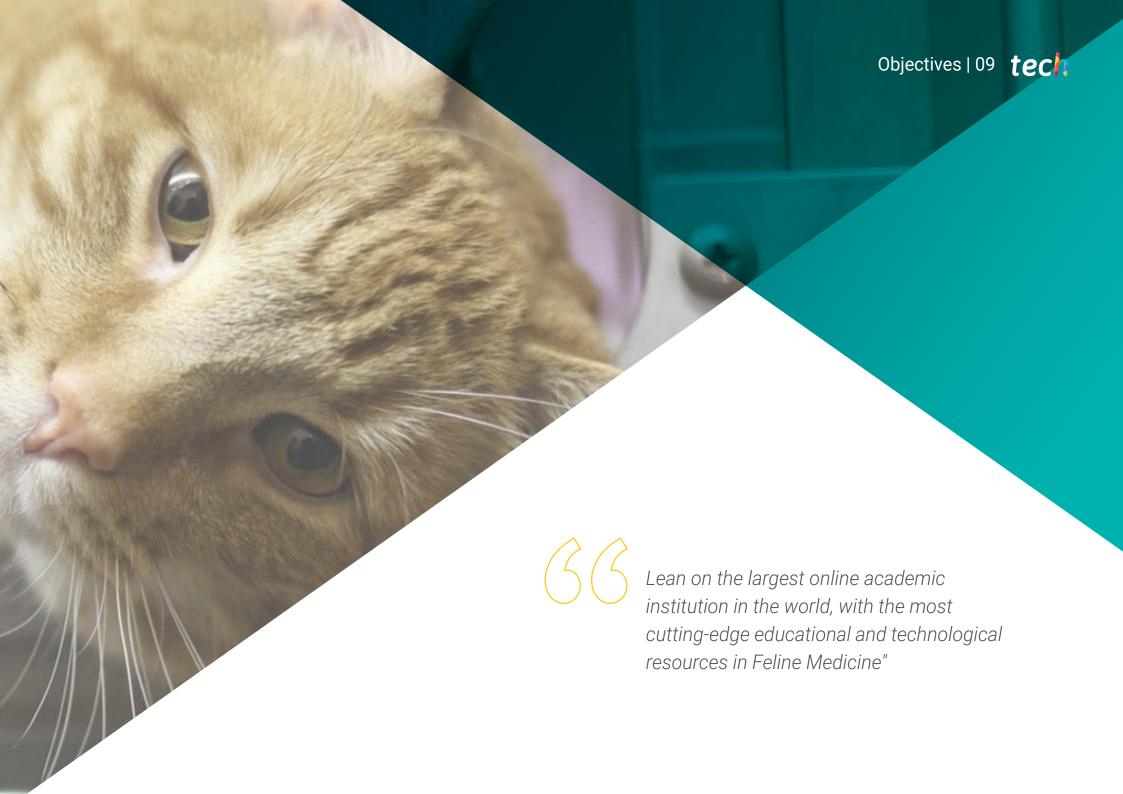
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will have access to top-quality didactic material, made up of audiovisual and complementary resources compiled by the teachers themselves.

You decide how to distribute the entire academic program, without having to sacrifice professional or personal aspects.







# tech 10 | Objectives

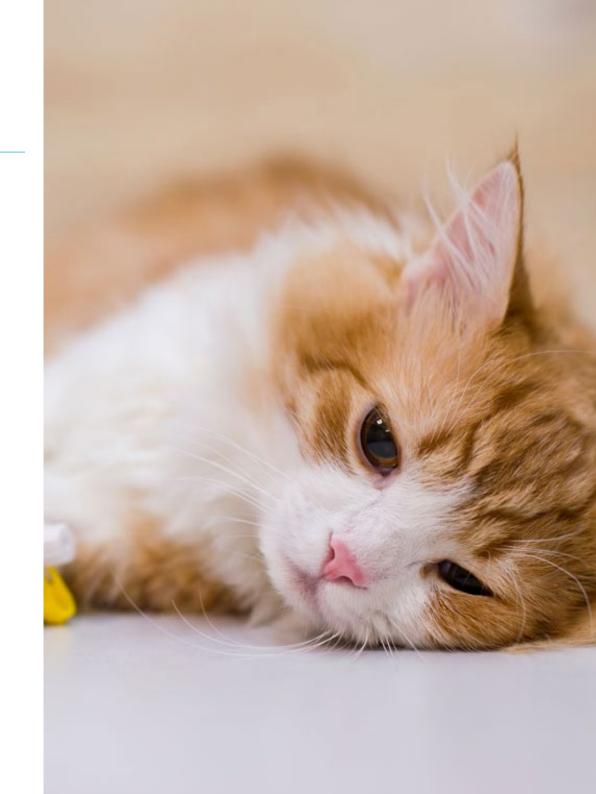


# **General Objectives**

- Adequately stabilize the patient in shock
- Outline an adequate fluid therapy plan for each case
- Identify the patient with urinary tract pathology
- Determine the diagnostic techniques for the assessment of these patients and when to use each of them
- Enumerate the most frequent neoplasms in the feline species
- Examine the particularities of the cat in the presentation of neoplasms



You will achieve your objectives of professional updating and improvement even sooner than you expect, supported by TECH's pedagogical methodology"





### Module 1. Hospitalization and Intensive Care in Felines

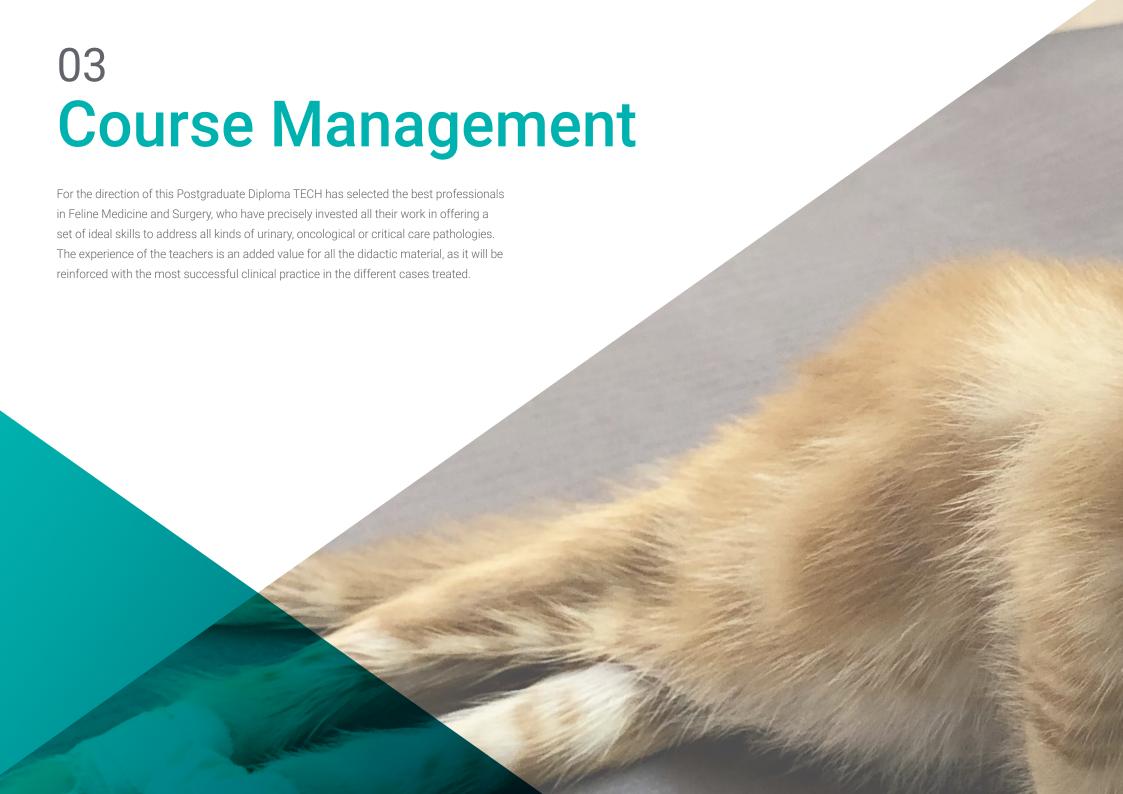
- Adequately stabilize the patient in shock
- Outline an adequate fluid therapy plan for each case
- Know the blood products, when and how to use them
- Recognize pathologic findings on blood tests, AFAST and TFAST
- Determine and manage signs of pain in the hospitalized feline patient
- Master the development of a nutritional plan for the hospitalized feline patient
- Recognize and prevent signs of refeeding syndrome
- Become familiar with the procedures to be performed in the hospitalization area
- Protocolize the resuscitation of the patient in cardiorespiratory arrest

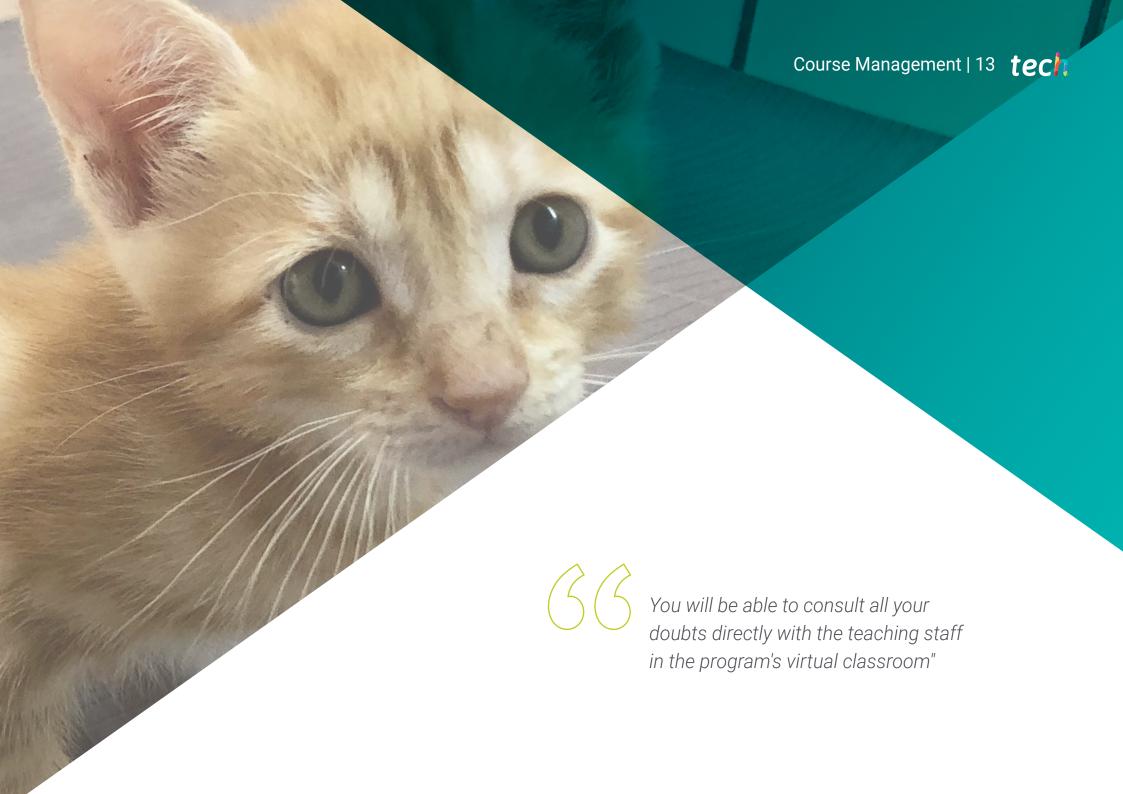
# Module 2. Nephrology and Urology in the Feline Species

- Know all the diagnostic techniques for the urinary system
- Know how to interpret the results of blood biochemistry and urinalysis
- Establish a diagnostic approach for the patient with acute renal failure
- · Staging of acute renal failure according to IRIS guidelines
- Develop an action protocol for acute renal injury
- · Clarify the diagnostic approach to the patient with chronic renal damage
- Propose the appropriate management of the specific pathologies responsible for CKD, as well as its non-specific management
- Understand the importance of proteinuria and hypertension in the management of CKD
- Stage CKD according to the IRIS guidelines
- Manage the patient presenting with idiopathic cystitis, both obstructive and non-obstructive
- Know the recommendations for the management of the different types of uroliths
- Recognize the patient with ureteral obstruction
- Establish the different techniques that exist to treat ureteral obstructions with their advantages, disadvantages and indications

# Module 3. Oncology in the Feline Patient

- Rationally perform the clinical approach to the cat with a mass
- Perform and process cytology appropriately
- Choose the most appropriate type of biopsy
- · Carry out the staging of a tumor
- Be able to prepare and administer chemotherapy to a cat
- Properly manage the adverse effects of chemotherapy
- Be familiar with the most commonly used chemotherapy agents in the feline patient
- Be familiar with the use of electrochemotherapy in cats and in which neoplasms it is recommended
- Know the differences in diagnosis and treatment of the different types of digestive lymphoma
- Be familiar with other types of lymphoma presentations in the cat
- Appropriate management of a cat with mammary tumors
- · Optimally approach the treatment of injection site associated sarcomas
- Recognize other types of cancers in the cat and their peculiarities in the species
- Know the different types of surgical resection and the importance of excision margins
- Properly interpret the biopsy report in relation to surgical margins
- Master the techniques of pain control in the feline patient with neoplasia





### **International Guest Director**

Dr. Karen Perry has become one of the most prominent professionals in the world of veterinary medicine. Specialized in small animal orthopedics, her prestige lies in her constant work in this area, where she has passionately devoted herself to finding the most effective treatments to reduce the complication rates associated with common orthopedic procedures.

Her work has focused especially on Feline Orthopedics and Minimally Invasive Osteosynthesis, areas that have allowed her to occupy positions of high responsibility. In this way, she has successfully served as Head of the Small Animal Surgery Department and as an associate professor at Michigan State University. In this sense, throughout her long professional career, Perry has perfectly combined the clinical facet with teaching at higher academic institutions.

Thanks to her communication skills, she not only brings the content to the students in an attractive way, but also disseminates scientific advances in her field at national and international congresses in her specialty. She is also the author of numerous publications in veterinary literature and is positioned as a leading voice in her field, which has led her to participate in interviews where she encourages constant updating by professionals and the active participation of women in Veterinary Orthopedics. At the same time, she brings scientific and clinical progress closer to the general public through different digital communication channels.



# Dr. Perry, Karen

- Head of the Small Animal Surgery Department at the Michigan State University
- Veterinary Medical Center.
- Professor at Michigan State University
- Professor of Veterinary Medicine at Royal Veterinary College
- Veterinarian at The Royal (Dick) Veterinary Studies
- Member of: : European College of Veterinary Surgeons



# Management



# Dr. Mayo Robles, Pedro Pablo

- ullet Co-owner and head of the Internal Medicine Service of the Veterinary Hospital Nacho Menes, in Gijón.
- Veterinarian at the Reference Center San Vicente del Raspeig, in Alicante.
- Clinical veterinarian at the Quirurgical Veterinary Center Alfonso Chico in La Coruña
- Responsible for the accreditation of Nacho Menes Veterinary Hospital as "Cat friendly clinic gold level by the ISFM".
- Bachelor and graduate in Veterinary Medicine, specializing in Animal Medicine and Health, from the Faculty of Veterinary Medicine of the University of León.

# **Professors**

# Dr. Álvarez Martín, Ramón

- Co-responsible veterinarian of the Soft Tissue Surgery Service and head of the Dentistry Service at the Nacho Menes Veterinary Hospital in Gijón
- Veterinarian in the Emergency Department of the Veterinary Hospital Indautxu, in Bilbao
- Degree in Veterinary Medicine from the University of León
- Postgraduate degree in Anesthesia and Soft Tissue Surgery from the Autonomous University of Barcelona

# Dr. Cabañas Manteca, Inés

- Veterinarian in charge of the Hospitalization and Intensive Care Service at Nacho Menes Veterinary Hospital, Asturias
- Veterinarian at Locum Veterinary Hospital, Alfreton Park Veterinary Hospital, The Vet Nottingham and Clarendon Street Veterinary Surgery in the United Kingdom
- \* Degree in Veterinary Medicine from the University of Santiago de Compostela



# Course Management | 17 tech

# Dr. López Pérez-Pellón, Margarita

- Veterinarian at Nacho Menes Veterinary Hospital, Los Madrazo La Vaguada Veterinary Rehabilitation and Physiotherapy Center, Los Madrazo Veterinary Hospital and Sierra de Madrid Veterinary Hospital
- Author of numerous papers and regular speaker at various congresses in the specialties of Feline Medicine and Veterinary Rehabilitation and Physiotherapy
- Degree in Veterinary Medicine from the University of Leon
- Postgraduate degree in Feline Medicine at IFEVET, Institute of Veterinary Specialties.
- Accredited by AVEPA in Veterinary Physical Rehabilitation
- Secretary of the Veterinary Physical Rehabilitation group of AVEPA
- Member of the expert committee on Feline Chronic Pain of Zoetis

### Dr. Galán López, Amaia

- Veterinarian in Internal Medicine and co-responsible for the Oncology and Electrochemotherapy Service at Ariznabarra Veterinary Clinic
- Graduated in Veterinary Medicine at the University of Extremadura
- ESVPS Diploma as General Practitioner Certificate in Oncology
- Course of Electrochemotherapy in Veterinary Medicine by VetOncologia, UBA

# **Structure and Content**

The investment of hours required to acquire the knowledge and competencies of this Postgraduate Diploma is usually high. For this reason, TECH also makes an effort to alleviate the teaching load and make the academic experience less frustrating. The large amount of audiovisual material, including detailed videos, summaries and real clinical cases, helps to acquire a better understanding of all the topics covered. In this way, the veterinarian not only delves into the theory of the urinary system, oncology and feline hospitalization, but also in the necessary contextualization of the same for a much more progressive and natural understanding.



# tech 20 | Structure and Content

# Module 1. Hospitalization and Intensive Care in Felines

- 1.1. Initial Assessment of Emergencies
  - 1.1.1. Essential Material in the Emergency Department
  - 1.1.2. Primary Assessment: ABC
  - 1.1.3. Assessment of the Neurological Patient
  - 1.1.4. Secondary Assessment: Crash Plan
  - 1.1.5. Acute Pain Management
- 1.2. Basic Parameters for the Assessment of the Critical Patient
  - 1.2.1. PCV/PT/Frotis
  - 1.2.2. Glucose
  - 1.2.3. Lactate
  - 1.2.4. lons
  - 1.2.5. Acid-base Equilibrium
  - 1.2.6. Gasometry
  - 1.2.7. AFAST/TFAST
- 1.3. Fluid Therapy.
  - 1.3.1. Physiology of Body Fluids
  - 1.3.2. Fluid Therapy Solutions
  - 1.3.3. Design of a Fluid Therapy Plan
  - 1.3.4. Fluid to be Used
  - 1.3.5. Administration of Fluid Therapy
- 1.4. Transfusion Medicine
  - 141 Blood Products
  - 1.4.2. Indications for Transfusion
  - 1.4.3. Blood Groups and Compatibility Tests
  - 1.4.4. Blood Collection and Handling
  - 1.4.5. How to Transfuse
  - 1.4.6. Transfusion Reactions. How to Treat Them
- 1.5. Stabilization of the Critical Patient: Shock and Cardiovascular System.
  - 1.5.1. Types of Shock
  - 1.5.2. Signs of Shock in the Feline Patient
  - 1.5.3. Treatment of Shock
  - 1.5.4. Hypovolemic Shock.

- 1.6. SIRS and Septic Shock
  - 1.6.1. Pathophysiology
  - 1.6.2. Criteria for Diagnosis
  - 1.6.3. Treatment
  - 1.6.4. Others Points to Consider
- 1.7. Monitoring of Critical Patients
  - 1.7.1. Kirby's 20 Rules
  - 1.7.2. Basic Monitoring
  - 1.7.3. Advanced Monitoring
- 1.8. Dietary Management of the Hospitalized Feline Patient
  - 1.8.1. Assisted Feeding
  - 1.8.2. Design of a Feeding Plan
  - 1.8.3. Routes of Administration
  - 1.8.4. Refeeding Syndrome
- 1.9. ICU Procedures
  - 1.9.1. Placement of Peripheral and Central Catheters.
  - 1.9.2. Blood Pressure Measurement
  - 1.9.3. Oxygen Therapy
  - 1.9.4. Measurement of Urine Output
  - 1.9.5. Placement of Feeding Tubes
- 1.10. Cardiopulmonary Resuscitation
  - 1.10.1. Preparedness and Prevention
  - 1.10.2. Basic Vital Support
  - 1.10.3. Monitoring
  - 1.10.4. Advanced Vital Support
  - 1.10.5. Post-Arrest Care

# Module 2. Nephrology and Urology in the Feline Species

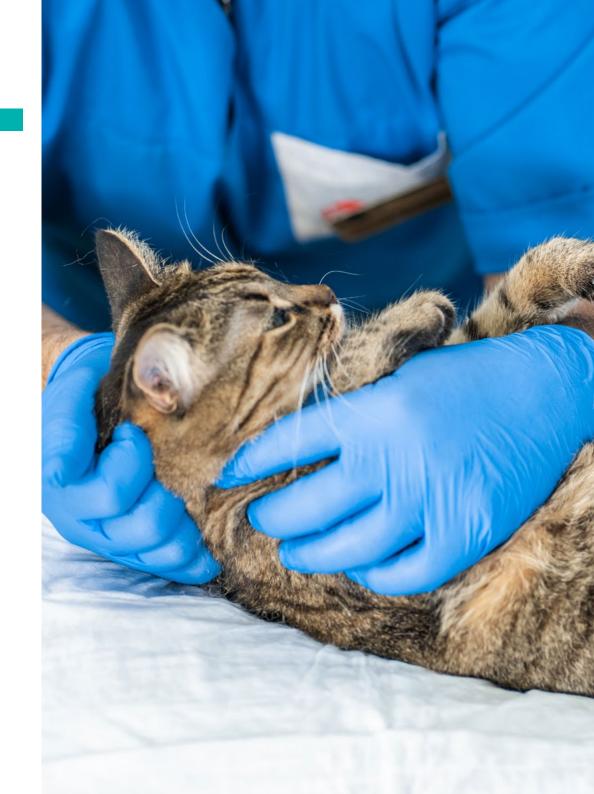
- 2.1. Diagnostic Methods I. Assessment
  - 2.1.1. Assessment of Renal Size
  - 2.1.2. Blood Biochemistry
  - 2.1.3. Diagnostic Imaging Techniques in the Urinary Tract
  - 2.1.4. Renal Biopsy.
- 2.2. Diagnostic Methods II. Urinalysis
  - 2.2.1. Urinalysis
  - 2.2.2. Timing, Collection Technique and Handling
  - 2.2.3. Interpretation
  - 2.2.4. Urine Culture
  - 2.2.5. UPC
- 2.3. Acute Renal Disease
  - 2.3.1. Causes
  - 2.3.2. Pathophysiology
  - 2.3.3. Staging and Management According to IRIS Guidelines
  - 2.3.4. Dialysis
  - 2.3.5. Renal Transplant
- 2.4. Chronic Renal Insufficiency I. Causes and Diagnosis
  - 2.4.1. Causes
  - 2.4.2. Clinical Findings
  - 2.4.3. IRIS Guides: What's New
  - 2.4.4. Importance, Diagnosis, and Treatment of Proteinuria: ACVIM Consensus
  - 2.4.5. Systemic Arterial Hypertension: Diagnosis and Treatment
- 2.5. Chronic Renal Insufficiency II. Specific and Non-Specific Diseases
  - 2.5.1. Management of Specific Diseases
  - 2.5.2. Non-specific Therapeutic Strategies
  - 2.5.3. Importance of Nutrition

- 2.6. Feline Idiopathic Cystitis
  - 2.6.1. Importance, History and Risk Factors
  - 2.6.2. Pathophysiology
  - 2.6.3. Clinical Signs
  - 2.6.4. Diagnosis
  - 2.6.5. Treatment
- 2.7. Urolithiasis
  - 2.7.1. Prevalence
  - 2.7.2. Methods of Extraction
  - 2.7.3. Struvite Urolithiasis
  - 2.7.4. Urolithiasis by Oxalate
  - 2.7.5. Recommendations According to the ACVIM Consensus
- 2.8. Urethral Obstruction
  - 2.8.1. Urethral Obstruction
  - 2.8.2. Stabilization
  - 2.8.3. Decompression
  - 2.8.4. Medical Treatment
  - 2.8.5. Surgical Treatment: Perineal Urethrostomy
- 2.9. Ureteral Obstruction.
  - 2.9.1. Ureteral Obstruction.
  - 2.9.2. Causes
  - 2.9.3. Clinical Presentation
  - 2.9.4. Diagnosis
  - 2.9.5. Medical Treatment
  - 2.9.6. Surgical Treatment: SUB vs. Stent vs. Ureterotomy.
- 2.10. Others Urinary System Pathologies
  - 2.10.1. Neoplasms
  - 2.10.2. Trauma Lesions
  - 2.10.3. Urinary Incontinence.

# tech 22 | Structure and Content

# Module 3. Oncology in the Feline Patient

- 3.1. Approach to the Feline Patient with a Mass
  - 3.1.1. First Evaluation
  - 3.1.2. Cytology: Methods of Collection, Preparation, Staining and Dispatch
  - 3.1.3. Choosing the Type of Biopsy
  - 3.1.4. Peculiarities of Biopsy Collection According to Specific Locations
  - 3.1.5. Staging
- 3.2. Particularities of Chemotherapy in Cats
  - 3.2.1. Usage Scenarios
  - 3.2.2. Preparation
  - 3.2.3. Administration.
  - 3.2.4. Adverse Effects of the Chemotherapy and its Management
- 3.3. Drugs and Electrochemotherapy
  - 3.3.1. Alkylating Agents
  - 3.3.2. Anthracyclines
  - 3.3.3. Antimetabolites
  - 3.3.4. Antitubulin Agents
  - 3.3.5. Platinum-Derived Drugs
  - 3.3.6. Tyrosine Kinase Inhibitors
  - 3.3.7. Other Drugs
  - 3.3.8. Electrochemotherapy
- 3.4. Digestive Lymphoma
  - 3.4.1. Types
  - 3.4.2. Clinical Signs
  - 3.4.3. Diagnosis and Staging
  - 3.4.4. Treatment and Prognosis
- 3.5. Other Types of Lymphoma
  - 3.5.1. Peripheral Lymph Node Lymphoma
  - 3.5.2. Mediastinal Lymphoma
  - 3.5.3. Nasal Lymphoma
  - 3.5.4. Renal Lymphoma





# Structure and Content | 23 tech

	3.	5.5	. Central	Nervous 3	System I	Lymphoma
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- 3.5.6. Uterine and Subcutaneous Lymphoma
- 3.5.7. Pharyngeal, Laryngeal and Tracheal Lymphoma
- 3.5.8. Ocular Lymphoma
- 3.6. Breast Tumors
  - 3.6.1. Clinical Presentation
  - 3.6.2. Diagnosis
  - 3.6.3. Treatment
  - 3.6.4. Prognosis
- 3.7. Injection Site-Associated Sarcoma
  - 3.7.1. Pathogenesis.
  - 3.7.2. Epidemiology
  - 3.7.3. Clinical Management
  - 3.7.4. Treatment
  - 3.7.5. Prevention
- 3.8. Other Frequent Types of Tumors in the Feline Species
  - 3.8.1. Squamous Cell Carcinoma
  - 3.8.2. Respiratory Carcinoma (Nasal and Pulmonary)
  - 3.8.3. Mastocytoma
  - 3.8.4. Squamous Cell Oral Carcinoma
  - 3.8.5. Osteosarcoma
- 3.9. Oncologic Surgery: Excision Margins
  - 3.9.1. Tumor Margins
  - 3.9.2. Types of Resection
  - 3.9.3. Assessment of Margins
  - 3.9.4. Communication with the Pathologist
  - 3.9.5. Interpretation of Margins in the Biopsy Report
- 3.10. Pain Management in the Cat with Cancer
  - 3.10.1. Pain Management in the Cat with Cancer
  - 3.10.2. Evaluation
  - 3.10.3. Treatment



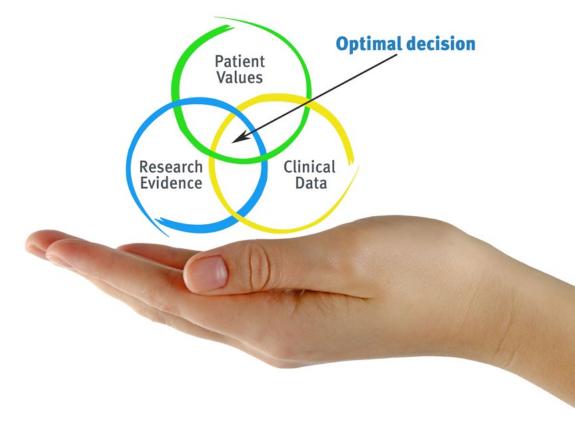


# tech 26 | Methodology

### 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 | 29 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**

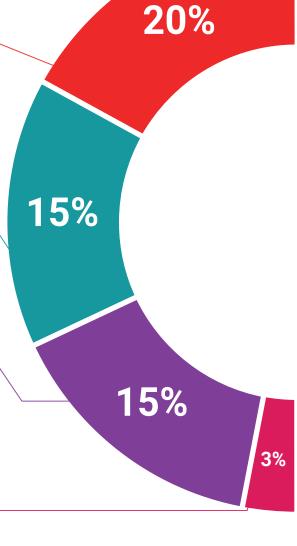
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current and procedures of veterinary techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch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



# **Testing & Retesting**

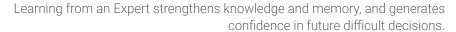
We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

and direct way to achieve the highest degree of understanding.



### Classes

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

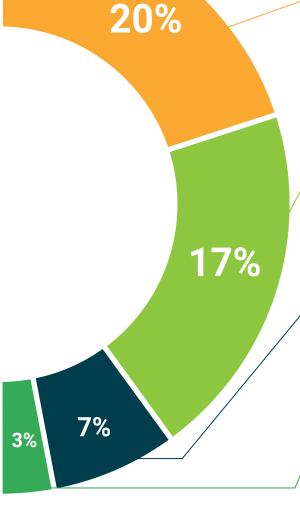




### **Quick Action Guides**

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 34 | Certificate

This Postgraduate Diploma in Feline Urinary System Pathology and Oncology. Hospitalization and Critical Care contains the most complete and up-to-date scientific program on the market.

After passing the assessments, the student will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked 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 Feline Urinary System Pathology and Oncology. Hospitalization and Critical Care

Official No of Hours: 450 h.



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university

# Postgraduate Diploma

Feline Urinary System
Pathology and Oncology.
Hospitalization and
Critical Care

- Modality: online
- Duration: 6 months
- Certificate: TECH Technological University
- Dedication: 16h/week
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