

Postgraduate Certificate

Cancer Diagnosis in Small Animals.
Diagnostic Techniques



Postgraduate Certificate Cancer Diagnosis in Small Animals. Diagnostic Techniques

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

Website: www.techtute.com/us/veterinary-medicine/postgraduate-certificate/cancer-diagnosis-small-animals-diagnostic-techniques

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01

Introduction

In this high-level program, students will learn the main diagnostic techniques for cancer patients and the main treatment modalities in small animals.

They will have the latest didactic resources and the most advanced knowledge in the field in a training that stands out for the quality of its contents and its excellent teaching staff.





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Become one of the most demanded professionals today: Specialize in Cancer Diagnosis in Small Animals with this complete online Postgraduate Certificate”

The first part of this intensive program will cover the imaging techniques used to diagnose and stage cancer patients. Conventional techniques such as radiology and ultrasound, and more advanced techniques such as computed tomography and magnetic resonance imaging will be discussed. Students will explore the advantages and limitations of each technique, as well as the most appropriate technique for each type of tumor.

New diagnostic techniques, such as molecular diagnostics, will also be discussed. The different molecular techniques and how they can help the diagnosis, establish a prognosis and guide the treatment will be developed, as well.

This course will delve into one of the basic pillars of oncological therapy such as oncological surgery and peri-surgical aspects. Surgical Oncology is the basis of most oncologic treatments in companion animals. Most of the treatments in oncology are based on containing or reducing tumor cells to minimize their expansion; however, in most cases, a correct surgery is the only technique capable of curing the neoplasm.

This program will define the concepts of surgical margins, palliative and cytoreductive surgery, and will describe the different methods for taking biopsies. Perioperative considerations in the oncologic patient will be analyzed.

Moreover, it is important to understand that successfully treating neoplasms is not exclusively based on surgical treatment, in many cases post and/or preoperative oncologic treatment will be necessary in the context of multidisciplinary teams of clinical oncologists, radiologists and oncologic surgeons. Therefore, treatments using chemotherapy and molecular/targeted cancer therapy, as well as newer techniques such as electrochemotherapy, will also be imparted. Their advantages and limitations will be assessed, as well as the possible side effects for each therapy.

As it is an online Postgraduate Certificate, students are not conditioned by fixed schedules, nor do they need to commute to another location. All of the content can be accessed at any time of the day, so you can balance your working or personal life with your academic life.

This **Postgraduate Certificate in Cancer Diagnosis in Small Animals. Diagnosis Techniques** contains the most complete and up-to-date educational program on the market. The most important features include:

- ◆ 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 course



Achieve comprehensive and relevant training in Cancer Diagnosis in Small Animals with this highly effective Postgraduate Certificate and open new pathways for your professional progress”

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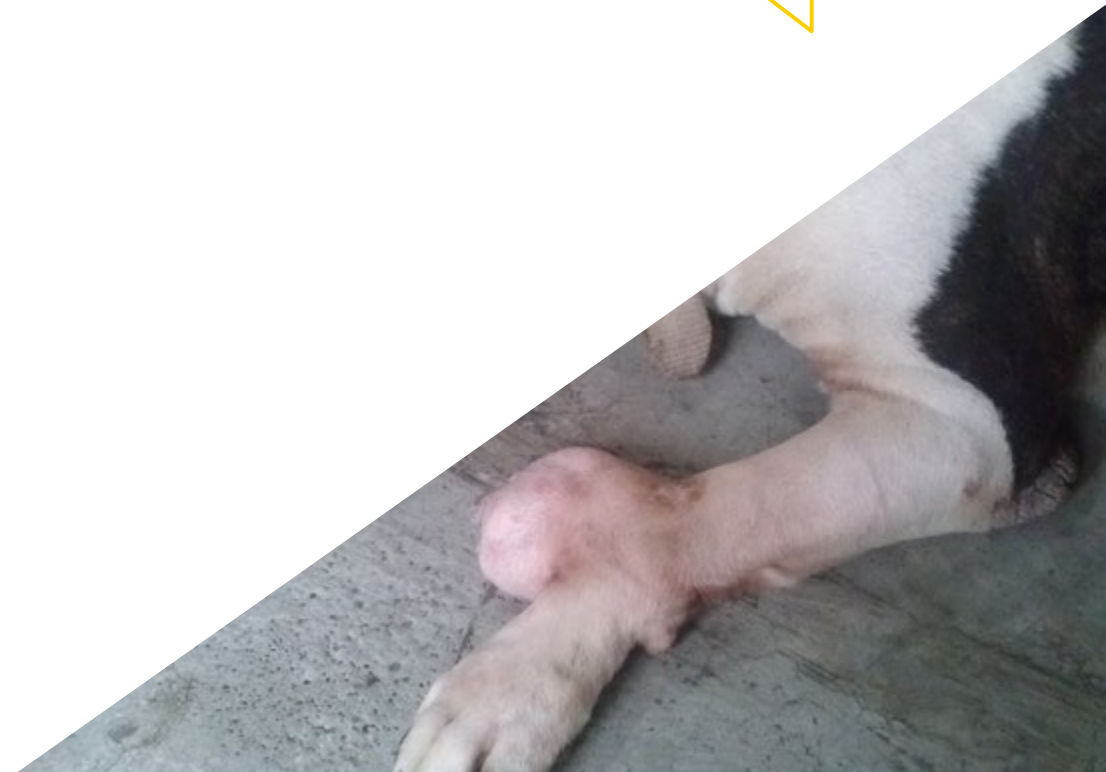
You will have the experience of expert professionals who will contribute their experience in this area to the programme, making this program a unique opportunity for professional growth”

Our teaching staff is made up of professionals from different fields related to this specialty. That way, TECH ensures to offer the updating objective it intends to provide. A multidisciplinary team of professionals trained and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will bring the practical knowledge from their own experience to the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodology used in the design of this Postgraduate Certificate in Cancer Diagnosis in Small Animals. Diagnostic Techniques. Developed by a multidisciplinary team of *e-learning* experts, it integrates the latest advances in educational technology. That way, students will study with a range of easy-to-use and versatile multimedia tools that will give them the necessary skills needed during training.

The design of this program is based on Problem-Based Learning: an approach that views learning as a highly practical process. To achieve this remotely, TECH 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 they are learning at that moment. A concept that will allow students to integrate and memorize what they have learnt in a more realistic and permanent way.

*Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents:
Learning from an Expert.*



02 Objectives

The objective is to train highly qualified professionals for work experience. An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is focused on helping medical professionals reach a much higher level of expertise and control. A goal that, in just a few months, you will be able to achieve with a highly intensive and precise course.



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If your objective is to broaden your skills set to include new paths of success and development: this is the Postgraduate Certificate for you: a program that aspires to excellence"



General Objectives

- Examine the different modalities in imaging techniques used to diagnose cancer patients
- Present the molecular diagnostic techniques available in oncology
- Evaluate the therapeutic modalities of cancer treatment such as surgery and chemotherapy
- Define new treatment options for cancer patients such as electrochemotherapy and molecular/targeted therapy

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





Specific Objectives

- ◆ Develop radiology as an imaging technique in cancer patient staging
- ◆ Analyze ultrasound as an imaging technique in the diagnosis of cancer patients
- ◆ Evaluate computed tomography and magnetic resonance imaging as advanced imaging techniques in the diagnosis of oncologic patients
- ◆ Specify the advantages and limitations of diagnostic imaging techniques to define their scope of application
- ◆ Evaluate surgery as one of the first cancer treatment modalities
- ◆ Define the concepts of surgical margins and types of surgery in oncology, as well as the advantages and limitations of this therapeutic modality in cancer treatment
- ◆ Develop new therapeutic modalities in the treatment of oncology patients such as electrochemotherapy and molecular/targeted therapy
- ◆ Establish the side effects, advantages and limitations of chemotherapy, electrochemotherapy and molecular/targeted therapy in the treatment of oncology patients

03

Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. 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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A unique opportunity to learn from internationally renowned professors, with teaching, clinical and research experience”

Management



Dr. Ortiz Díez, Gustavo

- Head of Small Animal Department, Complutense Clinical Veterinary Hospital.
- Associate Professor, Department of Animal Medicine and Surgery, Faculty of Veterinary Medicine, Complutense University of Madrid
- PhD and Undergraduate Degree in Veterinary Medicine from the UCM.
- Graduate in Psychology, UNED (2020)
- AVEPA Accredited Soft Tissue Surgery
- Member of the scientific committee and current president of GECIRA (AVEPA's Soft Tissue Surgery Specialty Group).
- Master's Degree in Research Methodology in Health Sciences from the UAB.
- Specialist in Traumatology and Orthopedic Surgery in Companion Animals by the UCM. Degree in Small Animal Cardiology from the UCM.
- Courses of laparoscopic and thoracoscopic surgery at the Minimally Invasive Center Jesús Usón. Accredited in functions B, C, D and E of Experimentation Animals, Community of Madrid
- Degree in Emotional Intelligence, UR Completed training in Gestalt psychology
- ICT Competencies Course for Teachers, UNED.

Professors

Dr. Lorenzo Toja, María

- ♦ Veterinarian in the Diagnostic Imaging Service, 4 de Octubre Veterinary Hospital
- ♦ Degree in Veterinary Medicine, University of Santiago de Compostela, 2007
- ♦ Pursuing Avepa's Accreditation in Diagnostic Imaging
- ♦ GpCert: Ultrasound & Echocardiography, 2017
- ♦ Official Master's Degree in Basic and Applied Research in Veterinary Sciences
- ♦ TIT: Mouse Brain Relaxation Times in 11.7 T MRI 2009/2010
- ♦ Veterinarian at Can Cat Veterinary Clinic, Santiago de Compostela, 2013/2018 (Internal Medicine, Feline Medicine, Ultrasound and Echocardiography)
- ♦ Veterinarian in the Continuous Care Service, Rof Codina Veterinary University Hospital 2012/2013
- ♦ MRI Head Veterinarian, USC Magnetic Resonance Unit 2010/2012
- ♦ Small Animal Boarding, Rof Codina Veterinary University Hospital 2008/2009
- ♦ Student Intern, Veterinary Hospital

Dr. Hernández Bonilla, Milagros

- ♦ Veterinarian in charge of the Internal Medicine and Oncology Service, La Salle Veterinary Center, 2017 - Present
- ♦ Graduated in Veterinary Medicine, 2011 University of León
- ♦ Master's Degree in Veterinary Research and Food Science and Technology University of León, 2011 - 2012
- ♦ General Practitioner Certificate Program in Oncology 2017 - 2018 Improve International, Madrid
- ♦ In the process of accreditation in Veterinary Oncology, AVEPA (GEVONC)
- ♦ Member of AVEPA (Association of Veterinary from Specialists in Small Animals)
- ♦ Member of GEVONC (Group of specialists in Veterinary Oncology)
- ♦ Member of the Official College of Veterinarians Asturias (331930)
- ♦ Royal College of Veterinary Surgeons N° 7369353
- ♦ 2012 - 2014 internship in Emergency and Intensive Care, Veterinary Hospital of the University of Murcia
- ♦ 2014-2017 Veterinarian in different private centers in Asturias. Spain



An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed"

04

Structure and Content

The contents for this Postgraduate Certificate have been developed by the different experts on the program, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.

A complete and well-structured program will take you to the highest standards of quality and success.





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A comprehensive and well-structured program that will take you to the highest standards of quality and success”

Module 1. Cancer Diagnosis, Imaging and Molecular Diagnostic Techniques, Chemotherapy, Electrochemotherapy and Molecular/Targeted Therapy

- 1.1. Diagnostic Imaging in Cancer Patients (I)
 - 1.1.1. Introduction to Imaging Techniques in Oncology
 - 1.1.1.1. Radiology
 - 1.1.1.2. Ultrasound
 - 1.1.1.3. Computerized Tomography
 - 1.1.1.4. Magnetic Resonance
- 1.2. Diagnostic Imaging in Cancer Patients (II)
 - 1.2.1. Diagnostic Imaging Techniques in Digestive Tract Neoplasms
 - 1.2.2. Imaging Techniques in Respiratory System Neoplasms
 - 1.2.3. Diagnostic Imaging Techniques in Urinary System Neoplasms
 - 1.2.4. Diagnostic Imaging Techniques in Hepatopoietic Neoplasms
- 1.3. Diagnostic Imaging in Cancer Patients (III)
 - 1.3.1. Diagnostic Imaging Techniques in Cutaneous Neoplasms
 - 1.3.2. Diagnostic Imaging Techniques in Nervous System Neoplasms
 - 1.3.3. Diagnostic Imaging Techniques in Musculoskeletal Neoplasms
- 1.4. Molecular Diagnoses
 - 1.4.1. Molecular Diagnostic Techniques
 - 1.4.2. Quantification and Gene Expression
 - 1.4.3. Personalized Therapy in Cancer
- 1.5. Principles of Surgical Oncology (I)
 - 1.5.1. Pre-operative Considerations
 - 1.5.2. Preoperative Approach
 - 1.5.3. Biopsies and Sample Collecting
- 1.6. Principles of Surgical Oncology (II)
 - 1.6.1. Surgical Considerations
 - 1.6.2. Definition of Surgical Margins
 - 1.6.3. Cytoreductive and Palliative Surgeries
 - 1.6.4. Post-operative Considerations



- 1.7. Chemotherapy (I)
 - 1.7.1. What Is Chemotherapy?
 - 1.7.2. Dosage
 - 1.7.3. Species Characteristics
- 1.8. Chemotherapy (II)
 - 1.8.1. Antitumor Antibiotics
 - 1.8.2. Alkylating Agents
 - 1.8.3. Usage Inhibitors
- 1.9. Electrochemotherapy
 - 1.9.1. Basis of Electrochemotherapy
 - 1.9.2. Neuroeducation Applications
 - 1.9.3. New Horizons
- 1.10. Molecular/Targeted Therapy
 - 1.10.1. Genetic Therapy
 - 1.10.2. Tyrosine Kinase Inhibitors
 - 1.10.3. Angiogenic Therapy
 - 1.10.4. Metronomic Therapy
 - 1.10.5. Emerging Therapeutic Agents



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

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.





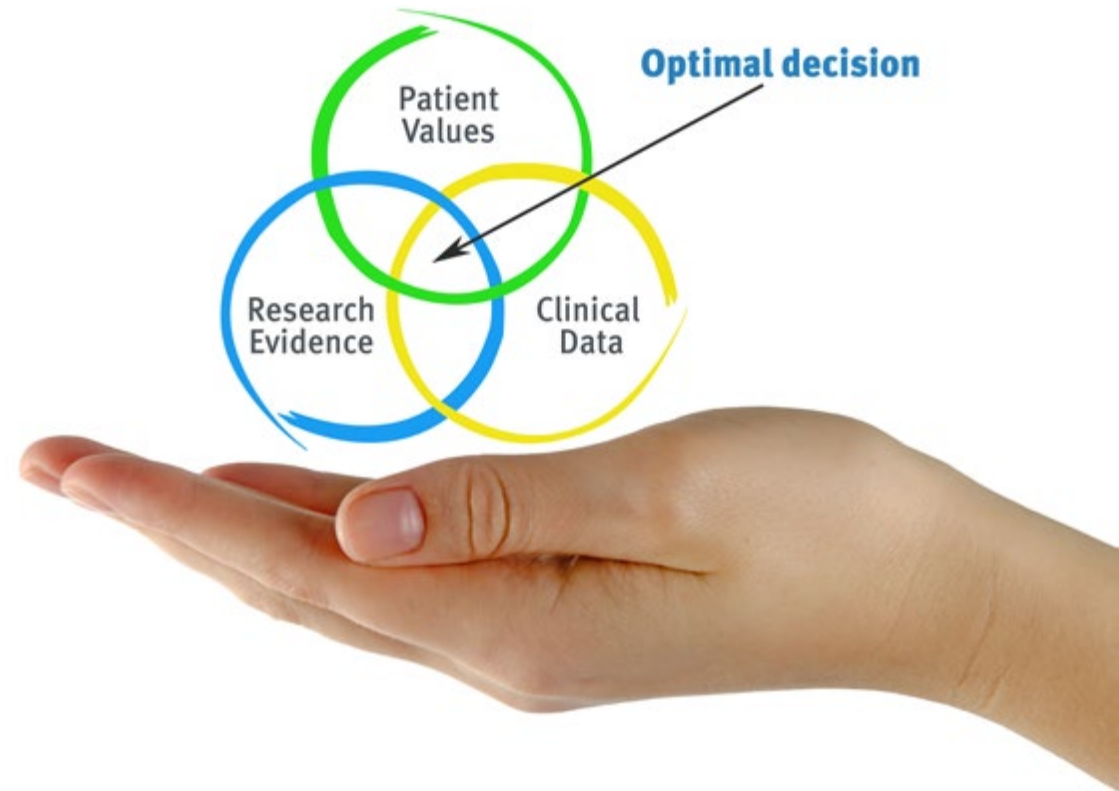
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Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

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

This Postgraduate Certificate in Cancer Diagnosis in Small Animals. Diagnostic Techniques guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Cancer Diagnosis in Small Animals. Diagnostic Techniques** 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 Cancer Diagnosis in Small Animals. Diagnostic Techniques**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





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