Hybrid Master's Degree
Small Animal Ultrasound

tech global university

Hybrid Master's Degree
Small Animal Ultrasound

Modality: **Hybrid (Online + Clinical Internship)**
Duration: **12 months**
Certificate: **TECH Global University**
60 + 5 créditos ECTS

website: **www.techtitute.com/us/veterinary-medicine/hybrid-master-degree/hybrid-master-degree-small-animal-ultrasound**

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01
Introduction

Veterinary diagnosis in the small animal clinic relies very frequently on the information that ultrasound can provide. This procedure has become one of the indispensable resources in any veterinary clinic, its non-invasive nature and rapid response make it an invaluable resource. Ultrasound examinations are gaining great importance in everyday practice and it is increasingly common among veterinary medicine professionals to include them in their diagnostic protocols. Therefore, this program is a high-impact tool for the veterinarian's professional development, as it has been established as a direct and very effective process of competence acquisition, in order to offer the veterinarian an immersive and high quality growth path.

A complete Hybrid Master's Degree that perfectly combines the most up-to-date theoretical knowledge with the practical application of the most up-to-date techniques and procedures during a stay in a first class veterinary clinic"

The applications of ultrasound in veterinary medicine are very broad and cover studies of almost all parts of the animal patient. Pet clinics and hospitals around the world have been incorporating these technologies into their care units because they facilitate imaging of soft tissue and affected bones. In this way, little by little, the services have been enriched. On the other hand, innovations have allowed all technologies to adjust to mobility, creating smaller equipment that is used by mobile companies. In view of the growing need for specialization in this area, TECH has created an innovative program composed of two distinct educational periods.

In the first stage, the Identify the advantages of ultrasound scanning over other diagnostic imaging tests in small mammals, birds and reptiles.. Likewise, you will master the physical principles that occur in an ultrasound scanner, as well as its basic operation in order to understand what is visualized in an ultrasound image and how to obtain it. At the same time, it will examine the correct exploration technique of each specific organ, based on an acute assimilation of the positioning of the viscera included in this module.

This Hybrid Master's Degree treats Ultrasound as a separate entity within clinical practice with the aim of obtaining highly qualified professionals, addressing, among many other aspects, the most advanced applications of the technique such as the performance of ultrasound-guided punctures and biopsies. All these skills will be complemented by a 3-week practical internship in a specialized first level health care center.

This **Hybrid Master' Degree in Small Animal Ultrasound** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of more than 100 clinical cases presented by veterinary surgeons and university professors with extensive experience in minimally invasive techniques
- Its graphic, schematic and practical contents provide scientific and assistance information on those medical disciplines that are essential for professional practice
- Veterinary patient assessment and monitoring, the latest international recommendations in minimally invasive surgery
- Comprehensive surgical approach plans for small animals
- Presentation of practical workshops on diagnostic, and therapeutic techniques for the veterinary patient
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- Practical clinical guides on approaching different pathologies
- With a special emphasis on evidence-based medicine and the most effective methodologies in Surgery Small Animal Veterinary Surgery
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is available from any fixed or portable device with an Internet connection
- Furthermore, you will be able to carry out a clinical internship in one of the best veterinary centers in the world

In this proposal for a Hybrid Master's Degree, of a professionalizing nature and hybrid

With the support of the best valued methodology of online teaching, this Hybrid Hybrid Master's Degree will allow you to learn in a comfortable way and with great impact for your professional practice.

"

Acquire the most up-to-date knowledge in the handling and interpretation of ultrasound tests in the veterinary clinic and make a leap in your competitiveness in the sector"

With this blended Master you will master the techniques of veterinary ultrasound to be able to diagnose different conditions in the soft tissues of animals through images.

learning modality, the program is aimed at updating veterinary professionals who perform their functions in surgical units, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge in veterinary practice, and the theoretical-practical elements will facilitate the updating of knowledge and allow decision making in the management of small animals.

Thanks to its multimedia content developed with the latest educational technology, they will allow the veterinary professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to train 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. This will be done with the help of an innovative interactive video system created by renowned veterinary experts.

02

Why Study this Hybrid Master's Degree?

Ultrasound for veterinary care has gained significant weight in the direct care of small animals. This is why the sector requires the most qualified professionals with an integrated handling of the most innovative diagnostic techniques and protocols. For this reason, TECH has created this Hybrid Master's Degree that offers veterinarians the opportunity to develop theoretical knowledge and reinforce it during a 3-week, exclusively practical, on-site stay.

With this Hybrid Master's Degree, you will be able to prepare yourself with professionals with extensive professional experience in the field of veterinary medicine and, therefore, master the most up-to-date technological tools"

1. Updating from the Latest Technology Available

Technologies and protocols for ultrasound intervention will be available to TECH students in this study program. Through its innovative syllabus and face-to-face practices, the graduate will achieve a holistic management of all the most complex work methodologies that support these tools.

2. Gaining In-depth Knowledge from the Experience of Top Specialists

During this program, students will be able to work and learn together with leading experts in the veterinary field. They will also be supported by an assistant tutor who will involve them in daily work dynamics and assign them specific tasks to strengthen their knowledge and skills.

3. Entering into first-class veterinary environments.

TECH has chosen veterinary institutions of the highest level for this Hybrid Master's Degree. The centers selected for these internships are equipped with the most up-to-date technology available. Likewise, all professionals in these instances are trained to offer the best scientific and technological advice to students.

4. Combining the Best Theory with State-of-the-Art Practice

This classroom-based program stands out from other educational programs in the market because of its emphasis on the assimilation of skills and the use of complex technologies from day one. Therefore, this 100% practical degree will provide each student with a specific vision of the complexities that they will face as a graduate specialized in Small Animal Ultrasound.

5. Expanding the Boundaries of Knowledge

TECH is the largest online educational institution in the educational market. Therefore, through its network of contacts and collaborations, it has forged alliances with institutions located in different latitudes. In this way, your students will be able to choose between different centers, from distant geographic locations, to complete this first-class practical experience.

You will have full practical immersion at the center of your choice"

03
Objectives

The objective of this program is to provide the professional with the theoretical and practical knowledge necessary to use the latest technological advances in the practice of veterinary ultrasound. A goal that the student will achieve thanks to this highly intensive and precise Hybrid Master's Degree. In this way, the student will study in a flexible way in the online part and, in the practical part, they will learn from the hand of specialized professionals.

" *A direct and complete learning process, learning from professionals of high competence and teaching ability"*

General Objective

- Introduce the physical principles of an ultrasound scanner, as well as its basic operation in order to understand what we visualize in an ultrasound image and how to obtain it. Study the different types of probe, their classification and purpose. All these skills will enable the student to complete a successful career in the veterinary field

You will learn in a direct and real way, with a high intensity impact, how to diagnose different pathologies in small animals by means of ultrasound techniques"
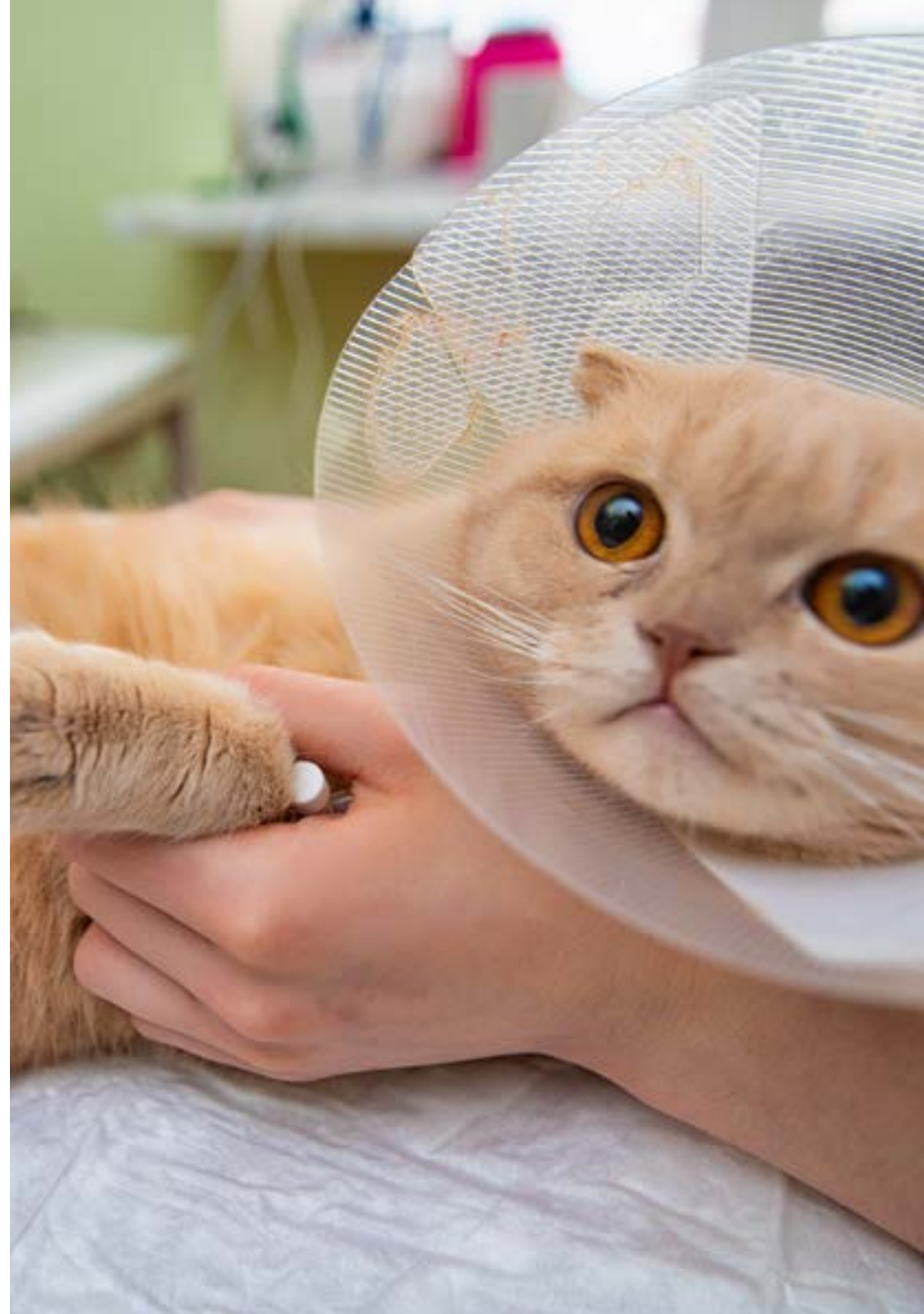
Specific Objectives

Module 1. Ultrasound Diagnosis

- Establish the fundamentals of ultrasound physics and how a scan is performed with image formation
- Determine the different ultrasound artifacts so as to avoid misinterpretation
- Identify the basic operation system of an ultrasound scanner in order to make the best use of it
- Establish the different types of probe and their function
- List the different uses for which an ultrasound scanner can be used
- Propose a system for preparing patients before an ultrasound examination

Module 2. Abdominal Ultrasound Scan I

- Master physiological image identification
- Establish a correlation between ultrasound findings and clinical signs
- Form the most frequent differential diagnoses
- Suggest appropriate complementary tests

Module 3. Abdominal Ultrasound Scan II

- Identify and recognize ultrasound findings
- Recognize the main pathologies affecting the previously mentioned organs
- Differentiate between incidental and relative findings
- Elaborate different types of differential diagnoses
- Exhibit appropriate complementary tests

Module 4. Doppler Ultrasound and its Abdominal Applications

- Study the physical principles of a Doppler
- Obtain a correct ultrasound beam for accurate flow study
- Differentiate between vein flow and artery flow
- Use vascular rates of vascular resistance and pulsatility
- Evaluate vascularization in organs and masses
- Identify structures by absence or presence of flow
- Detect vascular alterations
- Assess thrombo-embolisms and infarctions

Module 5. Other Ultrasound Applications

- Determine how to perform an organized and concise examination of the thoracic and cervical structures
- Perform serial and structured follow-up in emergency ultrasonography
- Establish a correct technique for administering anesthesia with the help of ultrasound
- Conduct a good screening and follow-up of pregnancy cases.
- Interpret findings that may show up in pediatric and geriatric animals

Module 6. Ultrasound in Feline Patients

- Recognize the signs of a healthy lung
- Differentiate between the different findings in pulmonary ultrasound and be familiar with the different pathologies that can be correlated with these findings
- Perform a FAST ultrasound scan on the emergency feline patient
- Using ultrasonography, determine the main pathologies in abdominal organs and their correlation
- Study the most common findings in the feline kidney and how to differentiate between acute and chronic kidney disease
- Reliably measure the different renal structures (pelvis, ureter) and consider their possible differential diagnoses when they are altered
- Differentiate between the different types of alteration in the gastrointestinal tract and their association with different feline diseases
- Use abdominal ultrasound scans to diagnose biliary tract pathologies
- Perform correct gestational diagnoses in cats
- Incorporate the use of Doppler ultrasound to diagnose vascular pathologies
- Incorporate the use of Doppler ultrasound to diagnose neoplastic pathologies
- Use ultrasound as a diagnostic tool in pathologies affecting the cervix
- Safely and effectively use ultrasound-guided punctures on a regular basis in organs, masses or cavities (gall bladder, cysts, etc.) in a safe and effective manner.
- Determine when it is advisable to use contrasts in abdominal ultrasound scans and what information they can provide

Module 7. Ultrasound in Exotic Animals
- Develop containment and positioning methods for the ultrasound study of small mammals, birds and reptiles
- Study existing ultrasound equipment and diagnostic options
- Determine the ultrasound protocol for small mammals: rabbits, ferrets, guinea pigs and small rodents
- Determine the ultrasound protocol for birds and reptiles
- Determine the anatomical references for New Companion Animals (NCA) in ultrasonography
- Identify ultrasound findings in the most common pathologies of New Companion Animals (NCA)
- Evaluate the different possibilities provided by ultrasound in daily clinical practice with New Companion Animals (NCA)

Module 8. Echocardiography I. Echocardiographic Examination. Examination Methods Application to Cardiology
- Determine ultrasound equipment requirements for echocardiographic studies
- Establish the different physical principles that generate echocardiographic images
- Work on the different types of images used in echocardiography
- Provide key criteria for implementing the Doppler mode in echocardiography
- Assess the size of the cardiac chambers using echocardiography
- Assess systolic and diastolic function using echocardiography

## Module 9. Echocardiography II Assessment of Main Cardiac Diseases
- Assess and study valvular heart disease
- Identify echocardiographic signs for detecting pulmonary hypertension
- Be able to differentiate between and diagnose canine and feline cardiomyopathies
- Evaluate the pericardial cavity, as well as the layers that form the pericardium
- Detect the different cardiac neoplasms
- Establish the theoretical bases for pericardiocentesis
- Study the different congenital conditions that can be found in small animals
- Assess for cardiac parasites
- Develop advanced echocardiography techniques

Module 10. Preparing an Ultrasound Report
- Correctly handle abdominal, cardiac, ophthalmic or other organ or system ultrasound reports
- Standardize the way in which reports are carried out
- Work on and interpret the most commonly used physiological and pathological measurements in ultrasound
- Train students to elaborate differential diagnoses and to issue a definitive diagnosis
- Know how to advise a clinician based on study results

04
Skills

After completing this Hybrid Master's Degree in Small Animal Ultrasound, the professional will achieve high competences in this area that will boost them professionally, as it is a specialty demanded by veterinary clinics and hospitals. Its intensive program will enable you to work in the cardiology , acquired the skills required for a quality and up-to-date practice based on the most innovative teaching methodology. All this with the security of having experts in the field throughout the course and with on-site practices in a veterinary center of reference.
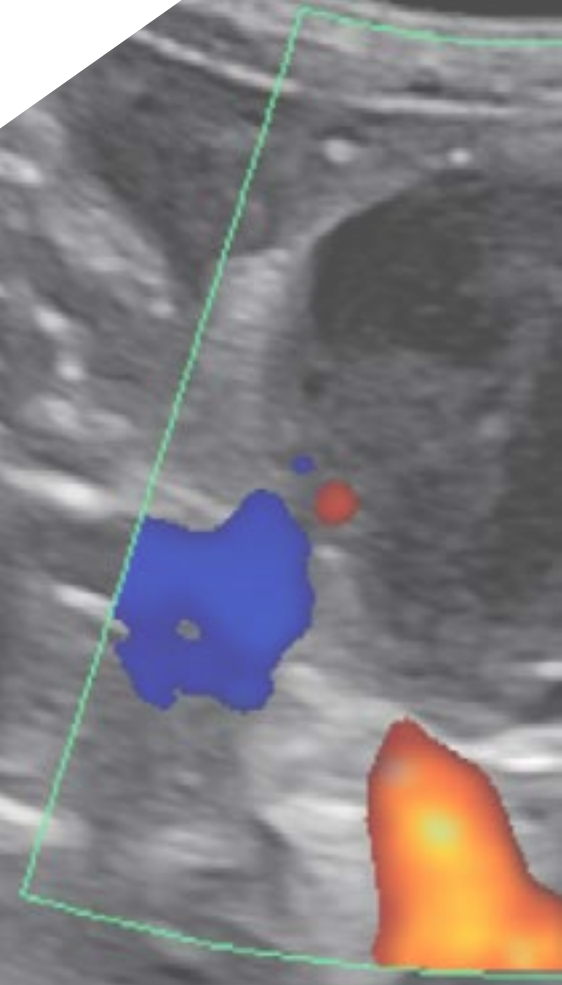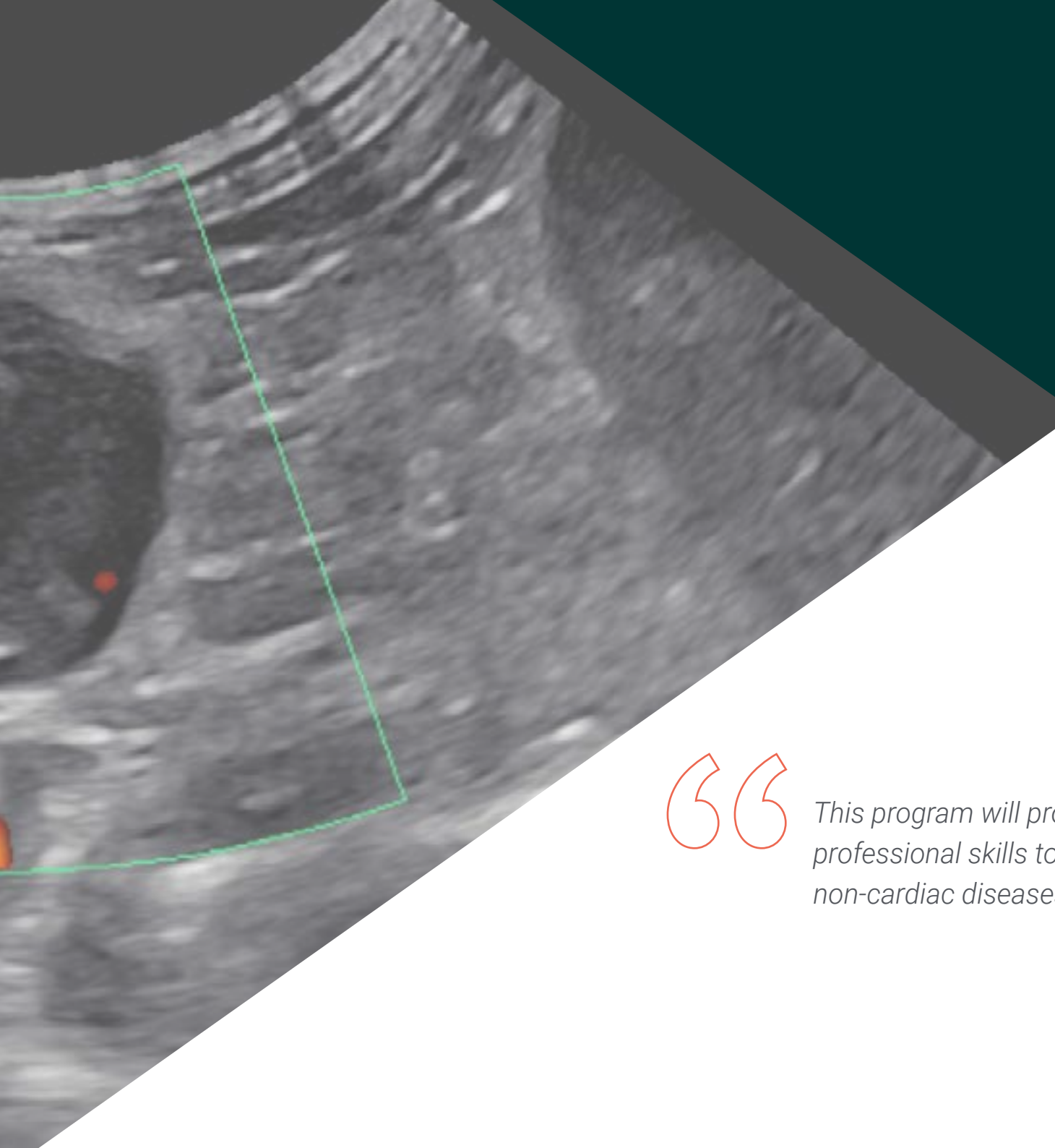
This program will provide you with the essential professional skills to analyze ultrasound signs in non-cardiac diseases affecting the thoracic cavity"

General Skills

- To know how to use the different ultrasound equipment in small animal veterinary medicine
- Differentiate the different techniques applicable in the different ultrasound regions
- Perform diagnosis based on ultrasound imaging in all the applications that can be performed. that can be performed
- Perform diagnostic ultrasound in the different species present in small animal clinics, including exotics
- Make diagnoses supported by ultrasound imaging both in clinical and emergency
- Develop comprehensive and high quality reports

It acts with the security of a specialist with the highest capacity in ultrasound diagnosis, increasing the diagnostic accuracy and speed and precision of the diagnosis"

Specific Skills

- Accurate handling of ultrasound scans in clinical diagnosis
- Perform a complete abdominal ultrasound
- Locate specific pathologies or problems in the abdominal cavity
- Applying the use of Doppler ultrasound to diagnose neoplastic lesions or pathologies
- Use ultrasound in cardiac, cerebral, ophthalmic and musculoskeletal diagnostics
- Perform ultrasound in geriatric patients
- Use of ultrasound diagnosis in pediatric animals
- Use of ultrasound in the emergency department
- Apply ultrasound diagnosis in felines
- To apply ultrasound diagnosis in exotic animals
- To know the echocardiographic evaluation of the main cardiac ailments
- Develop comprehensive and high quality reports

05
Course Management

The teaching staff of this Hybrid Master's Degree program has an extensive academic and professional experience, synonymous with TECH's Excellence. They are professionals from different areas and competencies of veterinary medicine, with special expertise in clinical ultrasound. A team of experts have poured their knowledge and professional experience in the development of this program for the student can develop full faculties of this delicate technique in his or her professional career. In addition, the program is completed with an internship in a prestigious national clinic.

"

Learn from the best and grow in your profession, until you reach excellence"

Management

Dr. Conde Torrente, María Isabel

- Veterinary Diagnostic Imaging Specialist
- Head of the Diagnostic Imaging and Cardiology Service at Alcor Veterinary Hospital
- Medical Director and head of the Advanced Diagnostic Imaging Service at Grupo Veterinarian Peñagrande
- Head of the Diagnostic Imaging Canary Islands Health at Mejorada Veterinary Center
- Responsible for diagnostic services at Hospital Veterinario Alberto Alcocer
- Collaborator with the Research Group of the Department of Animal Pathology of the University of Santiago de Compostela
- Degree in Veterinary Medicine from the University of Santiago de Compostela
- Advanced Postgraduate Course in Diagnostic Imaging (Computerized Axial Tomography). General Practitioner Advanced Certificate (GPcert)
- Postgraduate in General Practitioner Certificate in Diagnostic Imaging (GPCert- DI)

Professors

Dr. Monge Utrilla, Óscar

- Head of the Cardiology Service of the KITICAN Veterinary Group. Madrid, Spain
- Head of the Veterinary Cardiology Service of the Diagnostic Imaging and Anesthesia Services in several Veterinary Clinics
- Degree in Veterinary Medicine, Complutense University Madrid
- Expert Degree in Hospital Veterinary Clinic by the University of Leon
- Master's Degree "Veterinary Anesthesiology", TECH University TECH UCH. 2021
- Creator of the podcast on Veterinary Cardiology "Cardio Podvet", with more than 4,000 reproductions, in 40 different countries (source: Anchor podcast), mainly in Europe and America
- Member of the European Society of Veterinary Cardiology (ESVC), the Spanish Society of Cardiac Imaging (SEIC)

Dr. Pérez López, Luis Alejandro

- Veterinary Specialist in Diagnostic Imaging at Davies Veterinary Specialists United Kingdom
- Head of the Diagnostic Imaging Canary Islands Health Alhaurín El Grande VETSUM Veterinary At Hospital). Malaga, Spain
- General Veterinarian at the San Roque Veterinary Clinic. Jaén, Spain
- Degree in Veterinary Medicine from the University of Córdoba
- Master's Degree in Sustainable Address: Integrated Organic Livestock
- General Practitioner Certificate in Diagnostic Imaging()(ESVPS)
- Accredited by the AVEPA in Diagnostic Imaging

Dr. García Guerrero, Francisco

- Veterinary Diagnostic Imaging Specialist
- Veterinarian of the Ultrasound and Cardiology Service in Ecopet
- Veterinarian at Clínica Veterinaria García Vallejo. Sevilla, España
- Experience at the Diagnostic Imaging and Cardiology Service at the La University of Murcia
- Head of the Diagnostic Imaging and in Internal Medicine Service at UAB Clinical symptoms Veterinary Hospital
- Degree in Veterinary Medicine from the University of Córdoba

Dr. Martí Navarro, María Teresa

- Director and Founder of DXIA (Diagnostic Imaging Ambulant)
- Ultrasonographer at Clínica Veterinaria Malilla
- Associate Professor of the Department of Diagnostic Imaging at the CEU Cardenal Herrera University, Valencia Valencia, Spain
- Degree in Veterinary from the University of Zaragoza
- Degree in Biology from the University of Navarra
- Improve Postgraduate Course in Cardiology
- Member of the Diagnostic Imaging and Cardiology Group of the Association of Spanish Veterinariansof Spanish Veterinarians Specialists in Small Animals (AVEPA)

Dr. Millán Varela, Lorena
- Veterinary Clinical Symptoms at the Hospital of León Faculty of Veterinary Medicine
- Director in the Cardiology and Diagnostic Imaging Service at San Pedro Veterinary Clinic
- Specialized Technical Assistance in Internal Medicine and Diagnostic Imaging in Small Animals together in the Universidad de León
- Associate Professor at the University of León
- Doctor in Veterinary Medicine from the Universidad de León
- Degree in Veterinary Medicine from the University of Leon
- Master's Degree in Management adn Administration from the National University of Distance Education (UNED)
- Specialist in Diagnostic Imaging accredited by the Asociación de Veterinarios Españoles Especialistas en Pequeños Animales (AVEPA)

Dr. Bargueño Batres, Ángela
- Veterinarian Specialized in Diagnostic Imaging at Hospital Veterinario Puchol
- Veterinarian Specialized in Diagnostic Imaging in the Hospital Complutense Veterinary Clinic
- Veterinary in Vetclan Veterinarians
- Veterinarian at Clinica Veterinaria Habana Boston
- General Veterinarian at Parque Grand Veterinary Clinic
- Veterinarian at the Delicias Veterinary Medical Center
- Veterinarian at Los Sauces Veterinary Center
- Degree in Veterinary Medicine from the University of Leon

Dr. Huguet Pradell, Clàudia
- Veterinarian at Anicura Glòries Veterinary Hospital
- General Medicine, Internal Medicine and Diagnostic Imaging at the Hospital Balmes Veterinary
- Veterinary-medicine at Foundations UAB Veterinary Clinical Hospital
- Veterinary Surgery in AMS Veterinària Clinic
- Degree in Veterinary Medicin from the Autonomous University of Barcelona

Dr. Rojas, Francisco Javier
- Veterinarian at the Alcor Veterinary Hospital
- Veterinarian at Los dolphins Veterinary Center
- Doctor in Medicine and Surgery Animals. from the Universitat of Lleida
- Postgraduate course in Diagnostic Imaging by Improve International
- Postgraduate Specialist in Radiological Interpretation in Small Animals
- Veterinary degree from Complutense University of Madrid

Incorporate the latest techniques in Small Animal Ultrasound in your daily practice and improve diagnosis"

06
Educational Plan

The contents of this program have been developed by the different experts of this Hybrid Master's Degree with the objective that the student acquires each and every one of the necessary skills to become true experts in veterinary ultrasound. Its structure and internship plan make this degree the most complete on the market today, as it covers all the relevant knowledge for the veterinarian to develop successfully. It has ten modules that allow a study classified by different knowledge related to animal cardiopathy, cardiovascular exploration, or a complete study of the functioning of the electrocardiogram.or the complete study of the functioning of the electrocardiogram.
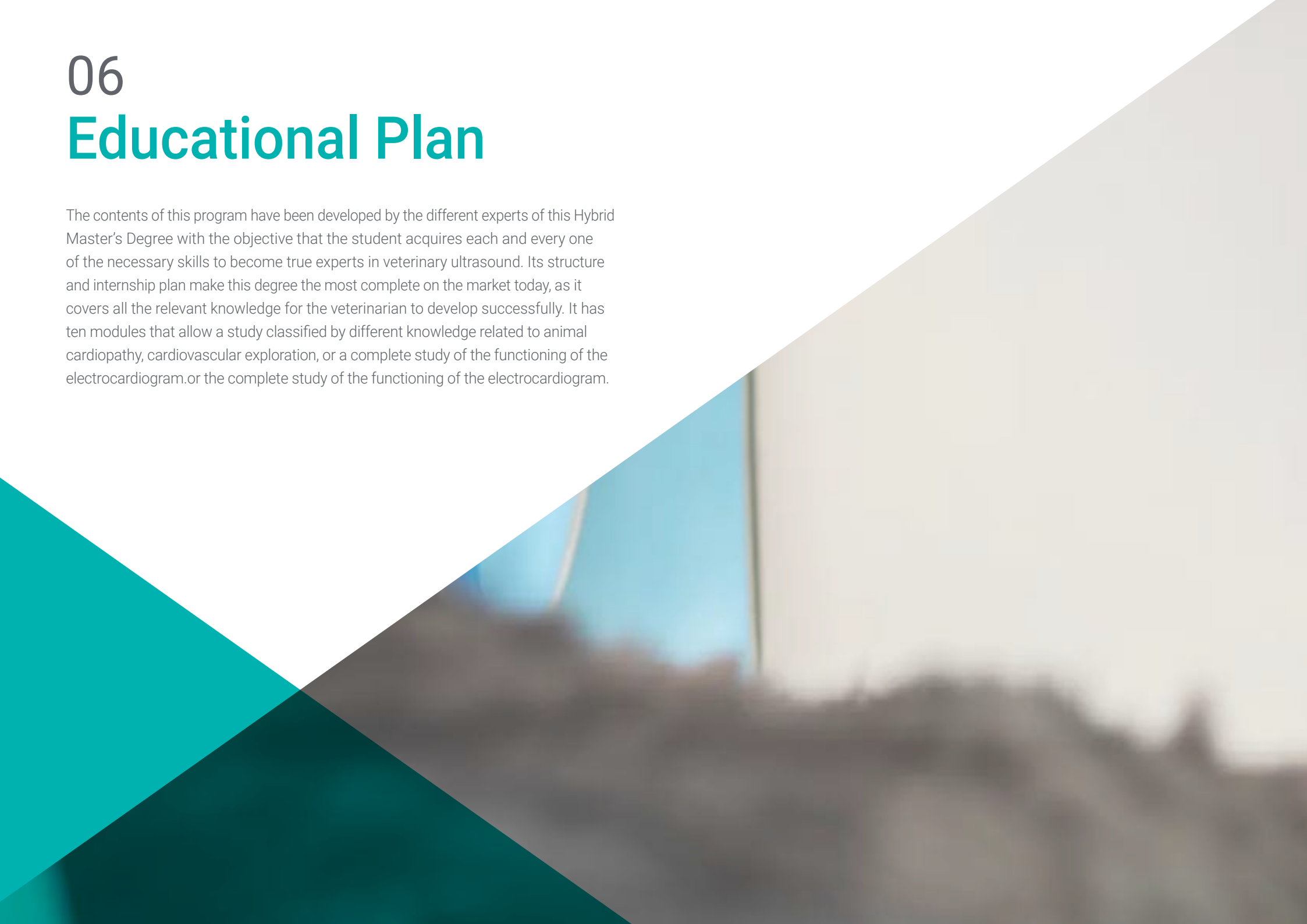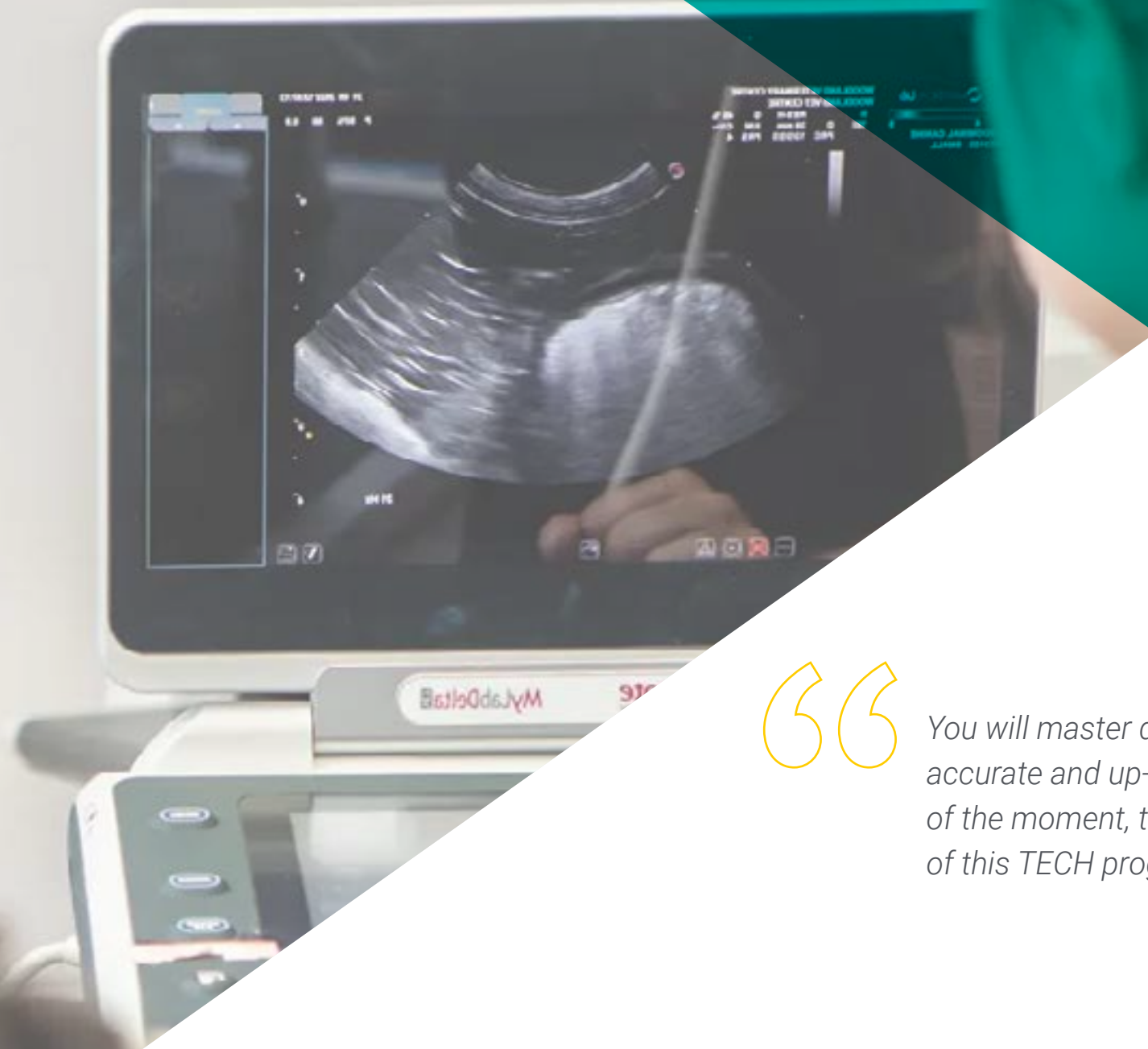
You will master diagnosis with the most accurate and up-to-date ultrasound systems of the moment, thanks to the quality content of this TECH program"

Module 1. Ultrasound Diagnosis

1.1.   The ultrasound scanner
    1.1.1.   Frequency (F)
    1.1.2.   Depth
    1.1.3.   Acoustic Impedance
    1.1.4.   Physical Phenomena
        1.1.4.1. Reflection
        1.1.4.2. Refraction:
        1.1.4.3. Absorption
        1.1.4.4. Dispersion
        1.1.4.5. Attenuation
    1.1.5.   Transduction and Transducer
1.2.   Operation of an ultrasound scanner
    1.2.1.   Patient Selection and Data Entry
    1.2.2.   Types of Exam (Preset)
    1.2.3.   Transducer Position
    1.2.4.   Freeze, Save, or Pause Image
    1.2.5.   Cineloop
    1.2.6.   Image Mode Selection
    1.2.7.   Depth
    1.2.8.   Zoom
    1.2.9.   Focus
    1.2.10.   Gain
    1.2.11.   Frequency (F)
    1.2.12.   Sector Size
1.3.   Types of Probe
    1.3.1.   Sectorial
    1.3.2.   Lineal
    1.3.3.   Microconvex
1.4.   Ultrasound Modes
    1.4.1.   M-Mode
    1.4.2.   Two-dimensional Mode
    1.4.3.   Transesophageal Echocardiogram

1.5.   Doppler Ultrasound
    1.5.1.   Physical Principles
    1.5.2.   Indications
    1.5.3.   Types
        1.5.3.1. Spectral Doppler
        1.5.3.2. Pulsed Doppler
        1.5.3.3. Continuous Doppler
1.6.   Harmonic and Contrast Ultrasound
    1.6.1.   Harmonic Ultrasound
    1.6.2.   Contrast Ultrasound
    1.6.3.   Utilities
1.7.   Patient Preparation
    1.7.1.   Prior Preparation
    1.7.2.   Positioning
    1.7.3.   Sedation?
1.8.   Ultrasounds on the Patient
    1.8.1.   How Do Ultrasound Waves Behave When Passing Through Tissue?
    1.8.2.   What Can We See in the Image?
    1.8.3.   Echogenicity
1.9.   Image Orientation and Expression
    1.9.1.   Orientation
    1.9.2.   Terminology
    1.9.3.   Examples:
1.10.   Artefacts
    1.10.1.   Reverberation
    1.10.2.   Acoustic Shadow
    1.10.3.   Lateral Shadow
    1.10.4.   Posterior Acoustic Enhancement
    1.10.5.   Margin Effect
    1.10.6.   Mirror or Specular Image
    1.10.7.   Scintillation Artefact
    1.10.8.   Aliasing

Module 2. Abdominal Ultrasound Scan I

2.1. Scanning Technique
    2.1.1. Introduction
    2.1.2. Methodology
    2.1.3. Systematization

2.2. Retroperitoneal Cavity
    2.2.1. Introduction
    2.2.2. Limits
    2.2.3. Ultrasound Approach
    2.2.4. Pathologies of the Retroperitoneal Cavity

2.3. Urinary Bladder
    2.3.1. Introduction
    2.3.2. Anatomy
    2.3.3. Ultrasound Approach
    2.3.4. Urinary Bladder Pathologies

2.4. Kidneys
    2.4.1. Introduction
    2.4.2. Anatomy
    2.4.3. Ultrasound Approach
    2.4.4. Kidney Pathology

2.5. Ureters
    2.5.1. Introduction
    2.5.2. Ultrasound Approach
    2.5.3. Ureter Pathology

2.6. Urethra
    2.6.1. Introduction
    2.6.2. Anatomy
    2.6.3. Ultrasound Approach
    2.6.4. Urethral Pathologies

2.7. Female Genital System
    2.7.1. Introduction
    2.7.2. Anatomy
    2.7.3. Ultrasound Approach
    2.7.4. Pathologies of the Female Reproductive System

2.8. Pregnancy and Post-partum
    2.8.1. Introduction
    2.8.2. Pregnancy Diagnosis and Estimation of Gestation Time
    2.8.3. Pathologies

2.9. Male Genital System
    2.9.1. Introduction
    2.9.2. Anatomy
    2.9.3. Ultrasound Approach
    2.9.4. Pathologies of the Female Reproductive System

2.10. Adrenal glands
    2.10.1. Introduction
    2.10.2. Anatomy
    2.10.3. Ultrasound Approach
    2.10.4. Pathologies of the Adrenal Gland

Module 3. Abdominal Ultrasound Scan II

3.1. Peritoneal Cavity
    3.1.1. Introduction
    3.1.2. Methodology
    3.1.3. Pathologies of the Peritoneal Cavity

3.2. Stomach
    3.2.1. Introduction
    3.2.2. Anatomy
    3.2.3. Ultrasound Approach
    3.2.4. Stomach Pathologies

3.3. Small Intestine
    3.3.1. Introduction
    3.3.2. Anatomy
    3.3.3. Ultrasound Approach
    3.3.4. Pathologies of the Small Intestine

3.4. Large Intestine
    3.4.1. Introduction
    3.4.2. Anatomy
    3.4.3. Ultrasound Approach
    3.4.4. Pathologies of the Large Intestine

3.5. Bladder

    3.5.1. Introduction

    3.5.2. Anatomy

    3.5.3. Ultrasound Approach

    3.5.4. Pathologies of the Spleen

3.6. Liver

    3.6.1. Introduction

    3.6.2. Anatomy

    3.6.3. Ultrasound Approach

    3.6.4. Pathologies of the Liver

3.7. Gallbladder

    3.7.1. Introduction

    3.7.2. Anatomy

    3.7.3. Ultrasound Approach

    3.7.4. Gallbladder Pathologies

3.8. Pancreas

    3.8.1. Introduction

    3.8.2. Anatomy

    3.8.3. Ultrasound Approach

    3.8.4. Pathologies of the Pancreas

3.9. Abdominal Lymph Nodes

    3.9.1. Introduction

    3.9.2. Anatomy

    3.9.3. Ultrasound Approach

    3.9.4. Pathologies of the Abdominal Lymph Nodes

3.10. Abdominal Masses

    3.10.1. Ultrasound Approach

    3.10.2. Localization

    3.10.3. Possible Causes/Origins of Abdominal Masses

Module 4. Doppler Ultrasound and its Abdominal Applications

4.1. Doppler Ultrasound

    4.1.1. Flow Characteristics

    4.1.2. The Doppler Effect

4.2. Types of Doppler

    4.2.1. Continuous Wave Doppler

    4.2.2. Pulsed Doppler

    4.2.3. Duplex Doppler

    4.2.4. Color Doppler

    4.2.5. Power Doppler (Power Doppler)

4.3. Abdominal Vascular System

    4.3.1. Single-vessel Doppler Study

    4.3.2. Types of Vascular Flow

    4.3.3. Abdominal Vascularization

4.4. Vascular System Applications

    4.4.1. Aortic Flow

    4.4.2. Vena Cava Flow Rate

    4.4.3. Hepatic Vessel Hypertension

4.5. Abdominal Cavity Applications

    4.5.1. Renal Vascularization

    4.5.2. Vascularization in Abdominal Masses

    4.5.3. Vascularization in Parenchymal Organs

4.6. Shunts

    4.6.1. Congenital Portosystemic Shunts

        4.6.1.1. Intrahepatic

        4.6.1.2. Extrahepatic

    4.6.2. Acquired Portosystemic Shunts

    4.6.3. Arteriovenous Fistulae

4.7. Heart Attacks

    4.7.1. Renal

    4.7.2. Intestinal

    4.7.3. Hepatic

    4.7.4. Others

4.8.   Thrombosis

    4.8.1.   Aortic Thromboembolism

    4.8.2.   Aortic Mineralization

    4.8.3.   Portal Vein Thrombosis

    4.8.4.   Vena Cava Thromboembolism

4.9.   Lymph Node Vascularization

    4.9.1.   Exploration

    4.9.2.   Pathological Abdominal Lymph Nodes

4.10.   Intestinal Vovulus

    4.10.1.   Intestinal Vascularization

Module 5. Other Ultrasound Applications

5.1.   Non-cardiac Thoracic Ultrasound

    5.1.1.   Thoracic Ultrasound Scan

    5.1.2.   Ultrasound Examination of the Thorax

    5.1.3.   Findings and Main Pathologies

    5.1.4.   TFAST

5.2.   Cervical Ultrasonography

    5.2.1.   Cervical Ultrasound Scan

    5.2.2.   Ultrasound Examination of the Cervical Region

    5.2.3.   Thyroid and Parathyroid Glands

    5.2.4.   Lymph Nodes and Salivary Glands

    5.2.5.   Trachea and Esophagus

5.3.   Ophthalmic Ultrasonography

    5.3.1.   Ophthalmologic Ultrasound Scan

    5.3.2.   Ultrasound Examination of the Eye and Surrounding Area

    5.3.3.   Findings and Main Pathologies

5.4.   Transcerebral Ultrasound and Gestational Ultrasonography

    5.4.1.   Ultrasound Scans in Pregnancy

    5.4.2.   Gestational Screening Protocol

    5.4.3.   Transcerebral Ultrasound Scan

5.5.   Interventional Ultrasonography

    5.5.1.   Basics of Interventional Ultrasonography

    5.5.2.   Equipment and Patient Preparation

    5.5.3.   Types of Punctures and Biopsy

    5.5.4.   Specific Technique for Each Case?

5.6.   Musculoskeletal Ultrasonography

    5.6.1.   Musculoskeletal Examination

    5.6.2.   Skeletal Muscle Scanning and Patterning

    5.6.3.   Musculoskeletal Pathologies

5.7.   Ultrasound of Surface Tissues

    5.7.1.   Basis for Examining Surface Structures

    5.7.2.   Surface Structure Recognition

    5.7.3.   Pathologies and Abnormalities in Superficial Tissues

5.8.   Echoguided Blocks

    5.8.1.   Equipment and Basics of Ultrasound-guided Anesthesia

    5.8.2.   Posterior Third Blocks

    5.8.3.   Anterior Third Blocks

    5.8.4.   Other Blocks

5.9.   Ultrasonography in Pediatric and Geriatric Animals

    5.9.1.   Features of Ultrasonography in Pediatrics and Geriatrics

    5.9.2.   Ultrasound Examination Protocol, Artifacts and Findings

    5.9.3.   Detectable Pediatric Pathologies and their Ultrasound Patterns

5.10.   Emergency Department Ultrasonography

    5.10.1.   Use of Ultrasound Scans in Emergencies

    5.10.2.   Emergency Abdominal Ultrasound Scan

    5.10.3.   Emergency Thoracic Ultrasound Scan

Module 6. Ultrasound in Feline Patients

Module 7. Ultrasound in Exotic Animals

7.5.   Ultrasonography in Turtles
  7.5.1.   Ultrasound Scan of the Urinary Tract
  7.5.2.   Ultrasound Scan of the Reproductive System
  7.5.3.   Ultrasound Scan of the Digestive System
  7.5.4.   Hepatic Ultrasound Scan
7.6.   Ultrasonography in Lizards
  7.6.1.   Diagnostic and Physiological Ultrasonography
  7.6.2.   Renal Ultrasound Scan
  7.6.3.   Ultrasound Scan of the Reproductive System
  7.6.4.   Hepatic Ultrasound Scan
7.7.   Ultrasonography in Snakes
  7.7.1.   Diagnostic and Physiological Ultrasonography
  7.7.2.   Renal Ultrasound Scan
  7.7.3.   Ultrasound Scan of the Reproductive System
  7.7.4.   Ultrasound Scan of the Digestive System
  7.7.5.   Hepatic Ultrasound Scan
7.8.   Ultrasonography in Birds
  7.8.1.   Diagnostic and Physiological Ultrasonography
  7.8.2.   Ultrasound Scan of the Reproductive System
  7.8.3.   Hepatic Ultrasound Scan
  7.8.4.   Echocardiography in Birds
7.9.   Thoracic Ultrasound Scan
  7.9.1.   Thoracic Ultrasonography in Rabbits
  7.9.2.   Thoracic Ultrasonography in Guinea Pigs
  7.9.3.   Thoracic Ultrasonography in Ferrets
7.10.   Echocardiography
  7.10.1.   Echocardiography in Rabbits
  7.10.2.   Echocardiography in Ferrets

Module 8. Echocardiography I. Echocardiographic Examination. Examination Methods Application to Cardiology

8.1.   Echocardiography
  8.1.1.   Equipment and Probes
  8.1.2.   Patient Positioning
  8.1.3.   Echocardiographic Examination Methods
8.2.   Keys to Carrying Out an Optimal Echocardiographic Study
  8.2.1.   How to Optimize the Performance of my Ultrasound Equipment
  8.2.2.   Factors affecting the quality of an Echocardiographic Study
  8.2.3.   Artifacts in Echocardiography
8.3.   Echocardiographic Slicing
  8.3.1.   Right Side Parasternal Cuts
  8.3.2.   Left Side Parasternal Cuts
  8.3.3.   Subcostal Cuts
8.4.   M Mode Echocardiographic Examination
  8.4.1.   How to Optimize the Image in M Mode
  8.4.2.   M Mode Applied to the Left Ventricle
  8.4.3.   M Mode Applied Mitral Valve
  8.4.4.   M Mode Applied Aortic Valve
8.5.   Color and Spectral Doppler Echocardiographic Examinations
  8.5.1.   Physical Principles of Color Dopplers
  8.5.2.   Physical Principles of Spectral Dopplers
  8.5.3.   Color Doppler Imaging
  8.5.4.   Pulsed Doppler Imaging Importance of Continuous Dopplers in Echocardiography
  8.5.5.   Tissue Doppler
8.6.   Echocardiographic Examination of the Aortic and Pulmonary Valves
  8.6.1.   Color Doppler Mode at Aortic Valve
  8.6.2.   Color Doppler Mode at Lung Valve
  8.6.3.   Spectral Doppler Mode at Aortic Valve
  8.6.4.   Spectral Doppler Mode at Lung Valve
8.7.   Echocardiographic Examination of Mitral/Tricuspid Valves and Pulmonary Veins
  8.7.1.   Color Doppler Mode at Mitral and Tricuspid Valves
  8.7.2.   Spectral Doppler Mode at Mitral and Tricuspid Valves
  8.7.3.   Spectral Doppler Mode at Pulmonary Veins

8.8. Assessment of Systolic and Diastolic Function Using Echocardiography
  8.8.1. Determination of Systolic Function in 2D Mode
  8.8.2. Determination of Systolic Function in M Mode
  8.8.3. Determination of Systolic Function in Spectral Doppler Mode
8.9. Assessment of Systolic and Diastolic Function Using Echocardiography
  8.9.1. Determination of diastolic Function in 2D Mode
  8.9.2. Determination of Diastolic Function in M Mode
  8.9.3. Determination of Diastolic Function in Spectral Doppler Mode
8.10. Echocardiographic Examination to Assess Hemodynamics Application in Cardiology
  8.10.1. Pressure Gradients
  8.10.2. Systolic Pressure
  8.10.2. Diastolic Pressure

Module 9. Echocardiography II Assessment of Main Cardiac Diseases

9.1. Valvular Diseases
  9.1.1. Chronic Mitral Valve Degeneration
  9.1.2. Chronic Tricuspid Valve Degeneration
  9.1.3. Atrioventricular valve stenosis
  9.1.4. Semilunar Valve Abnormalities
9.2. Pulmonary Hypertension
  9.2.1. Echocardiographic Signs of Pulmonary Hypertension: B Mode
  9.2.2. Echocardiographic Signs of Pulmonary Hypertension: M Mode
  9.2.3. Echocardiographic Signs of Pulmonary Hypertension: Doppler
  9.2.4. Causes and Differentiation of Types of Pulmonary Hypertension
9.3. Myocardial Diseases
  9.3.1. Canine Dilated Cardiomyopathy
  9.3.2. Arrhythmogenic Right Ventricular Cardiomyopathy
  9.3.3. Myocarditis
9.4. Feline Cardiomyopathies
  9.4.1. Hypertrophic Cardiomyopathy
  9.4.2. Restrictive Cardiomyopathy
  9.4.3. Feline Dilated Cardiomyopathy
  9.4.4. Arrhythmogenic Cardiomyopathy
  9.4.5. Unclassified Cardiomyopathies

9.5. Pericardium and Pericardiocentesis
  9.5.1. Idiopathic Pericarditis
  9.5.2. Constrictive Pricarditis
  9.5.3. Other Pericardial Diseases
  9.5.4. Pericardiocentesis
  9.5.5. Pericardiectomy
9.6. Cardiac Neoplasms
  9.6.1. Hemangiosarcoma
  9.6.2. Cardiac-based Tumors
  9.6.3. Lymphoma
  9.6.4. Mesothelioma
  9.6.5. Others
9.7. Congenital Heart Diseases I
  9.7.1. Patent Ductus Arteriosus
  9.7.2. Pulmonary Stenosis
  9.7.3. Subaortic Stenosis
  9.7.4. Interventricular and Interatrial Defects
  9.7.5. Valvular Dysplasia
9.8. Congenital Heart Diseases II
  9.8.1. Interventricular and Interatrial Defects
  9.8.2. Valvular Dysplasia
  9.8.3. Tetralogy of Fallot
  9.8.4. Others
9.9. Dirofilariasis and Other Cardiopulmonary Worms
  9.9.1. Canine and Feline Dirofilariasis
  9.9.2. Canine Angiostrongylosis
  9.9.3. Complementary Tests
9.10. Transesophageal Echocardiography and 3D Echocardiography
  9.10.1. Transesophageal Echocardiogram: Basics
  9.10.2. Transesophageal Echocardiogram: Indications
  9.10.3. 3D Echocardiogram: Basics
  9.10.4. 3D Echocardiogram: Indications

Module 10. Preparing an Ultrasound Report

10.1. Ultrasound Jargon I

    10.1.1. Nomenclature, Description and the Diagnostic Uses of Different Artifacts

    10.1.2. Relative Echogenicity

    10.1.3. Comparative Echogenicity

10.2. Ultrasound Jargon II

    10.2.1. Structural Description of Selected Organs

    10.2.2. Using the Movement of Structures and Organs for Assessing the Latter

    10.2.3. Location of Each Organ in Space and Its Relation to Anatomical Landmarks

10.3. Registering a Study

    10.3.1. How Should an Image Study be Recorded and Stored

    10.3.2. Study Validity Period

    10.3.3. Which Images and How Should I Attach Them to the Report?

10.4. Report Templates

    10.4.1. What is the Purpose of an Ultrasound Report

    10.4.2. Basic Outline of a Professional Ultrasound Report

    10.4.3. Specific Outline of Selected Ultrasound Reports

10.5. Indices

    10.5.1. Distances

    10.5.2. Volumes

    10.5.3. Ratios or Indices

    10.5.4. Speeds

10.6. Description of Lesions Observed

    10.6.1. Mnemonic Rule FOR TA CON E ES U V

    10.6.2. Subjective Assessments

    10.6.3. Objective Assessments

10.7. Diagnoses

    10.7.1. Differential Diagnoses

    10.7.2. Presumptive Diagnosis

    10.7.3. Firm Diagnosis

A learning process so complete and exciting that it will become a unique occasion of professional and personal Difficulties"

07
Clinical Internship

After passing the online education period, the program includes a period of Practical in a reference veterinary clinic. The student will will have at their disposal the support of a tutor who will accompany them during the whole process, both in the preparation and in the development of the clinical practice.

"

Apply everything you have learned during the Master's program by immersing yourself in the reality of this field during your stay in an up-to-date clinic with a high level of intervention"

The Practical Training of this program in Small Animal Ultrasound consists of a practical stay in a veterinary referral center, lasting 3 weeks, from Monday to Friday with 8 consecutive hours of practical training with an assistant specialist. This stay will allow the graduate to see real cases alongside a professional team of reference in the veterinary area of Surgery, applying the most innovative state-of-the-art procedures.

In this training proposal, completely practical in nature, the activities are aimed at the development and improvement of the competencies necessary for the provision of veterinary care in areas and conditions that require a high level of qualification, and which are oriented to the specific training for the exercise of the activity, in a safe environment and high professional performance.

With the help of adjunct tutors, students will analyze different pathologies and how to detect them using ultrasound techniques. In turn, they will explore cardiovascular disorders that can be identified through the novel applications of Doppler ultrasound in a professional setting of scientific excellence.

Practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the practice of Veterinary (learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the training, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:
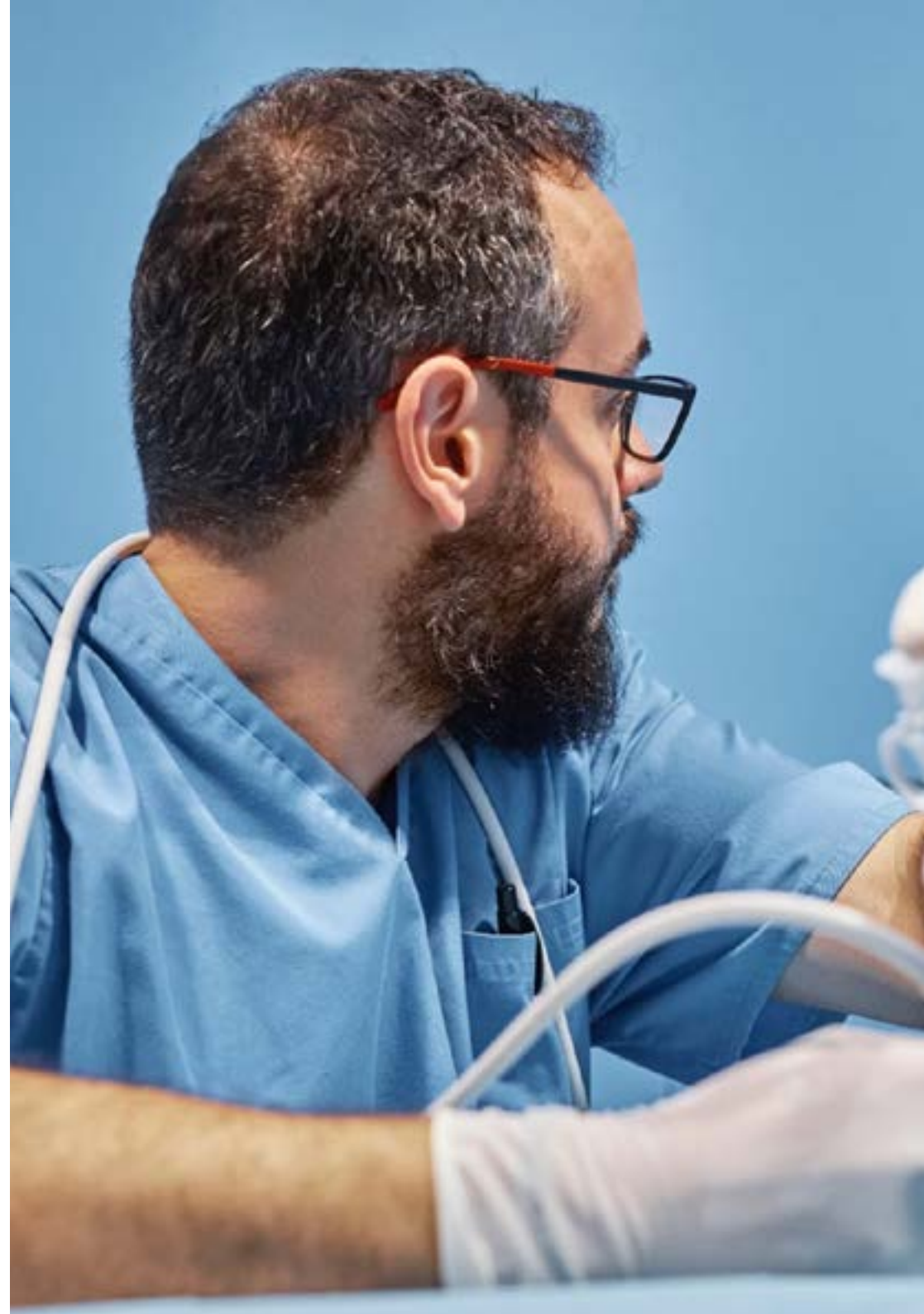
Module	Practical Activity
Ultrasound techniques for small animals	Differentiate the techniques of ultrasound analysis of the female genital tract during and after animal pregnancy
	Apply abdominal ultrasound in new companion animals such as rabbits, rodents, ferrets, turtles, lizards, snakes and birds
	Analyze abdominal lymph nodes and other approaches to the peritoneal cavity by ultrasound
Technological equipment to perform ultrasound scans in Small Animals	Master the different Doppler ultrasound in techniques
	Using ultrasound and its clinical analysis strategies in animal patients
	Develop patient examinations using different types of probes
Applications of ultrasound Doppler	Differentiate the types of Doppler available in the diagnostic imaging market
	Develop the analysis ofshunts to prevent thrombosis, heart attacks, among others
	Implement tissue Doppler to confirm different animal pathologies
Other Ultrasound Applications	Implement cervical and musculoskeletal ultrasound
	Perform Echocardiographic Examination to Assess Hemodynamics
	Perform echocardiographic examination to assess hemodynamics
	Develop examinations through interventional ultrasound
	Apply ultrasound-guided block evaluation

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.

General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

1. TUTOR: During the Hybrid Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Hybrid Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Hybrid Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Hybrid Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

Where Can I Do the Clinical Internship?

In its maxim of offering quality education, TECH offers you the opportunity to boost your academic career in different veterinary centers of rigor so that you can choose the one that best suits your needs. In this way, several specialized clinics are within your reach throughout the Spanish geography for you to live a unique training experience, an opportunity that allows the professional to specialize alongside the best in the field of animal medicine.

Choose from several veterinary centers of the highest quality and carry out your practical training with the best experts in animal ultrasound in the country"

The student will be able to complete the practical part of this Hybrid Master's Degree at the following centers:

Veterinary-medicine

Centro Veterinario Fuente del Moral

Country
Spain

City
Madrid

Address: Avda. de la Salud, 12, 28411 Moralzarzal

The veterinary center specializing in the care of dogs and cats

Related internship programs:
-Veterinary Anesthesiology
- Small Animal Ultrasonography

Veterinary-medicine

Madrid Este Hospital Veterinario

Country
Spain

City
Madrid

Address: Paseo de la Democracia, 10

Veterinary center offering 24-hour care with surgery, ICU, hospitalization and diagnostic imaging services. and diagnostic imaging services.

Related internship programs:
-Veterinary Anesthesiology
- Veterinary Surgery in Small Animals

Veterinary-medicine

Hospital Artemisa Cañaveral

Country
Spain

City
Madrid

Address: Francisco Grande Covian, local 1, 28052 Madrid

Veterinary Hospital specialized in General and care of 24 hour emergency service

Related internship programs:
Professional Master's Degree in Veterinary Surgery in Small Animals

Veterinary-medicine

Hospital Veterinario Assistencia veterinaria Vic

Country
Spain

City
Barcelona

Address: Carrer de Cervera, 6, Bajo; Pol.Ind, 08500 Vic, Barcelona

Clinic specialized in services such as Surgery, Diagnostic Imaging, Laboratory and Intensive Care, among others.

Related internship programs:
- Physiotherapy and Rehabilitation of Small Animals
- Small Animal Ultrasonography

Veterinary-medicine

Hospital Veterinario Maresme MiVet

Country
Spain

City
Barcelona

Address: Camí de la Geganta, 113, 08302 Mataró, Barcelona

24-hour care hospital in Mataró

Related internship programs:
- Small Animal Ultrasonography
- Veterinary Emergencies in Small Animals

Veterinary-medicine

Veterinario Sant Morí MiVet

Country
Spain

City
Barcelona

Address: Av. d'Alfons XIII, 571, 08918 Badalona, Barcelona

Veterinary Hospital in Badalona Barcelona with 24h attention 365 days a year

Related internship programs:
-Veterinary Anesthesiology
- Small Animal Ultrasonography

Veterinary-medicine

Hospital Veterinario Stolz Valencia

Country
Spain

City
Valencia

Address: C/ de Pintor Stolz, 67 Valencia

Reference clinic in the veterinary sector with more than 20 years of experience and 24 hours a day, 365 days a year service.

Related internship programs:
-Veterinary Anesthesiology
- Veterinary Traumatology and Orthopedic Surgery

Veterinary-medicine

Hospital Veterinario Faycan Catarroja MiVet

Country | City
Spain | Valencia

Address: Carrer Charco, 15, 46470 Catarroja, Valencia

Comprehensive animal care clinic with 24-hour emergency and hospitalization service.

Related internship programs:
- Veterinary Surgery in Small Animals

Veterinary-medicine

Centro Veterinario Onteniente MiVet

Country | City
Spain | Valencia

Address: Av. d'Albaida, 12, 46870 Ontinyent, Valencia

Veterinary Hospital with state-of-the-art facilities facilities and with specialized attention 24 hours a day.

Related internship programs:
- Veterinary Traumatology and Orthopedic Surgery
- Small Animal Ultrasonography

Veterinary-medicine

Hospital Veterinario Avenida MiVet

Country | City
Spain | Vizcaya

Address: Sabino Arana Etorbidea, 18 48013 Bilbao, Bizkaia

General veterinary clinic with 24-hour service 24 hours a day

Related internship programs:
-Veterinary Anesthesiology
- Veterinary Emergencies in Small Animals

Veterinary-medicine

Hospital Veterinario Anicura Sur Valencia

Country | City
Spain | Valencia

Address: Av. de Picassent, 28, 46460 Silla, Valencia

Veterinary hospital with comprehensive services, consultations and specialized clinical procedures.

Related internship programs:
- Small Animal Ultrasonography

Veterinary-medicine

Centro Veterinario Animal-Vetx El Saladillo

Country | City
Spain | Huelva

Address: Cam. del Saladillo, 3, 21007 Huelva

AnimalVetx El Saladillo Veterinary Center in Huelva is a complete and innovative veterinary center since 2014.

Related internship programs:
- Veterinary Surgery in Small Animals
- Small Animal Ultrasonography

Veterinary-medicine

AniCura Aitana Hospital Veterinario

Country | City
Spain | Valencia

Address: C/ de Xirivella, 16, 46920 Mislata, Valencia

Veterinary Clinic specialized in 24 hour emergencies.

Related internship programs:
-Veterinary Anesthesiology
- Veterinary Cardiology in Small Animals

Veterinary-medicine

Meds for pets

Country	City
Mexico	Nuevo León

Address: Av. Venustiano Carranza 429 Centro C.P 64000

Advanced and Comprehensive Care Veterinary Hospital

Related internship programs:
- Veterinary Cardiology in Small Animals
- Small Animal Ultrasonography

Veterinary-medicine

Pets, life & Care

Country	City
Mexico	Nuevo León

Address: Av. Cabezada 10701-L12 Barrio acero C.P 64102

Comprehensive Care Veterinary Hospital

Related internship programs:
- Small Animal Ultrasonography
- Veterinary Emergencies in Small Animals

Veterinary-medicine

Hospital Veterinario Reynoso

Country	City
Mexico	Mexico

Address: Guillermo roja No.201 Col. Federal Toluca Edomex

High specialty veterinary hospital

Related internship programs:
- and Veterinary Anesthesiology
- Management and Administration of Veterinary Centers

Veterinary-medicine

Centro Veterinario CIMA

Country	City
Mexico	Mexico City

Address: Av. Vía Adolfo López Mateos 70, Jardines de San Mateo, 53240 Naucalpan de Juárez,CDMX, Méx.

Clinical pet care center

Related internship programs:
- Small Animal Internal Medicine
- Veterinary Oncology in Small Animals

Veterinary-medicine

Clínica Veterinaria Luifran

Country	City
Mexico	Mexico City

Address: Nte. 7-A 4634, Defensores de la República, Gustavo A. Madero, 28001 Ciudad de México, CDMX

Veterinary assistance center specialized in dogs and cats.

Related internship programs:
-Veterinary Anesthesiology
- Infectious Diseases in Small Animals

Veterinary-medicine

Clínica Veterinaria Panda

Country | City
Argentina | Autonomous City of Buenos Aires

Address: Ruiz Huidobro 4771 Saavedra, Ciudad de Buenos Aires

Clínica Veterinaria Panda con 25 años de trayectoria y con cinco sedes distribuidas en la Ciudad de Buenos Aires

Related internship programs:
- Small Animal Internal Medicine
- Veterinary Emergencies in Small Animals

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.

> " *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.

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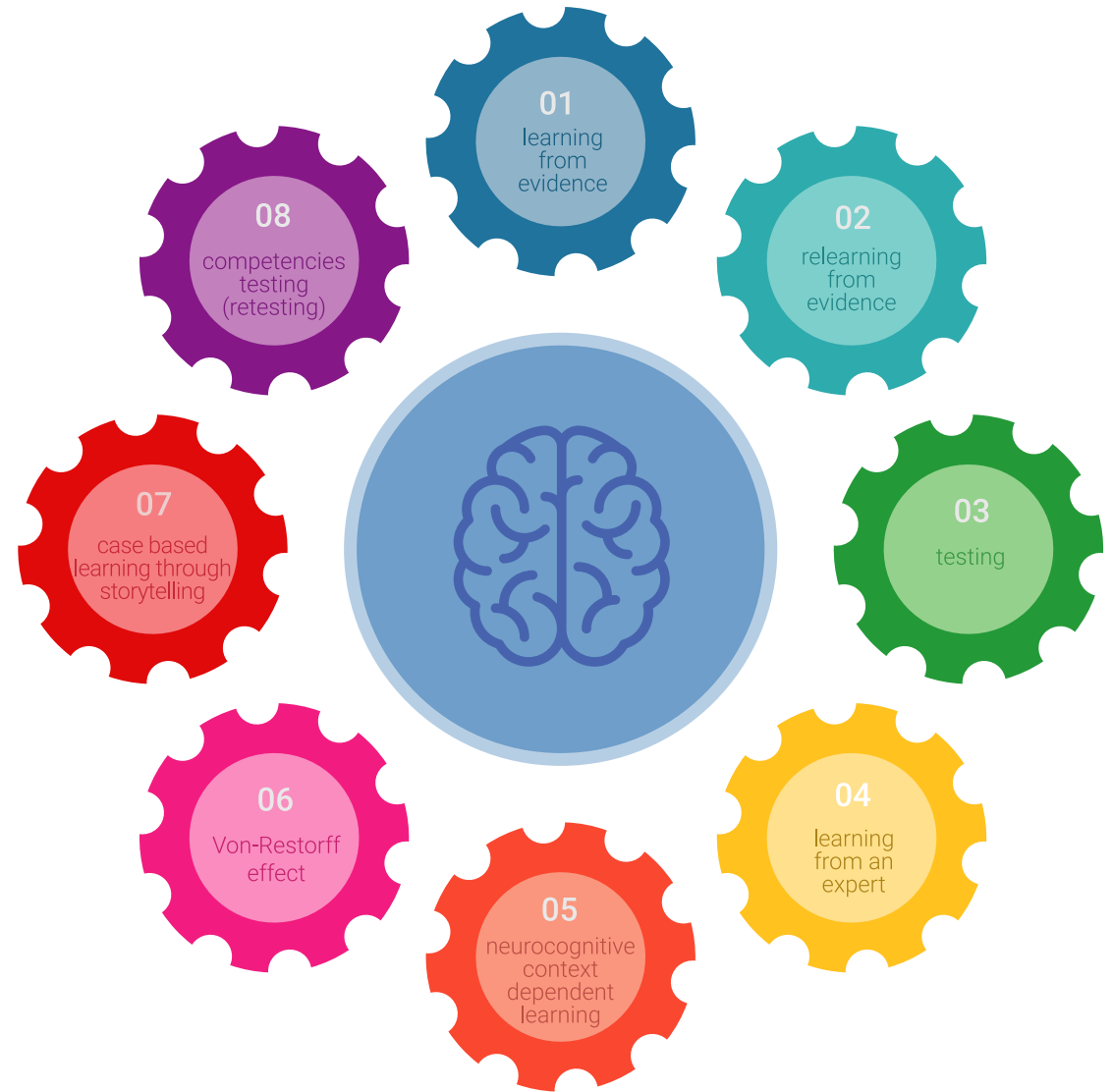
Veterinarians will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

20%

15%

15%

3%

20%

17%

7%

3%

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.

10
Certificate

The Hybrid Master's Degree in Small Animal Ultrasound guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Master's Degree diploma issued by TECH Global University

" *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 **Hybrid Master's Degree diploma in Small Animal Ultrasound** 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.
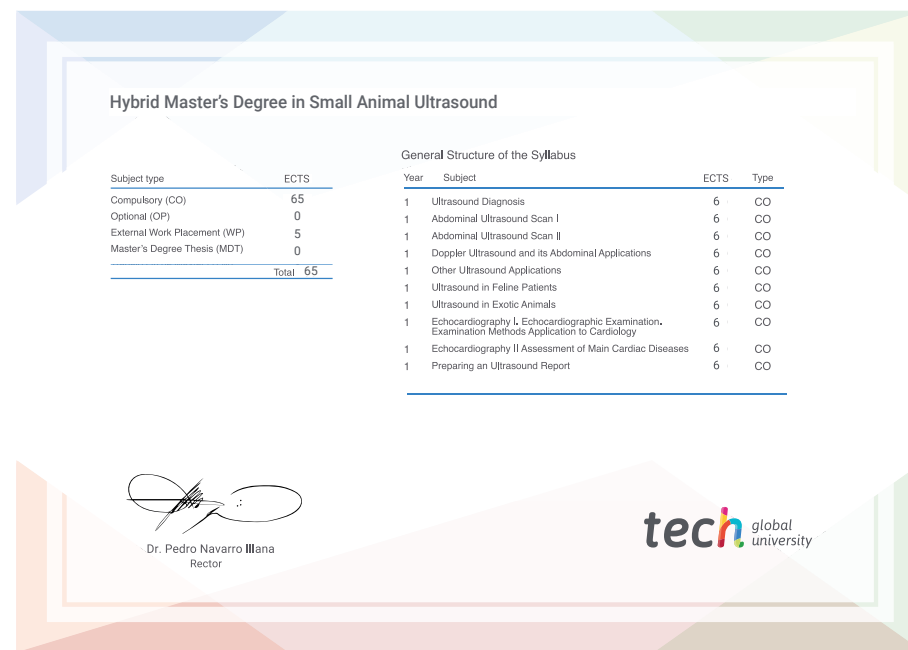
Title: **Hybrid Master's Degree in Small Animal Ultrasound**

Course Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**

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tech global university

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

Hybrid Master's Degree in Small Animal Ultrasound

This is a program of 1,500 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy
and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st
of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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Hybrid Master's Degree in Small Animal Ultrasound

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	65
Optional (OP)	0
External Work Placement (WP)	5
Master's Degree Thesis (MDT)	0
Total	65

Year	Subject	ECTS	Type
1	Ultrasound Diagnosis	6	CO
1	Abdominal Ultrasound Scan I	6	CO
1	Abdominal Ultrasound Scan II	6	CO
1	Doppler Ultrasound and its Abdominal Applications	6	CO
1	Other Ultrasound Applications	6	CO
1	Ultrasound in Feline Patients	6	CO
1	Ultrasound in Exotic Animals	6	CO
1	Echocardiography I. Echocardiographic Examination. Examination Methods Application to Cardiology	6	CO
1	Echocardiography II Assessment of Main Cardiac Diseases	6	CO
1	Preparing an Ultrasound Report	6	CO

Dr. Pedro Navarro Illana
Rector

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

Hybrid Master's Degree
Small Animal Ultrasound

Modality: **Hybrid (Online + Clinical Internship)**
Duration: **12 months**
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60 + 5 créditos ECTS

Hybrid Master's Degree
Small Animal Ultrasound

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