



## Postgraduate Certificate

## Animal Production and Health

» Modality: online

» Duration: 12 weeks

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We bsite: www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/animal-production-health

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Certificate

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## tech 06 | Introduction

The globalization that has emerged in recent years and its relationship with animal health and, therefore, with public health, is a topic of worldwide interest. The increase in international trade and structural changes in the State have favored the emergence and spread of global health phenomena that represent risks, challenges and opportunities for producers and consumers. This is turn has posed serious challenges for health agencies, professionals and educational institutions.

Within the concept of globalization where this module arises, the student will be able to analyze the concept of "One Health", examining the contribution of veterinarians to this concept which is of such great importance on a global level. Similarly, the veterinarian will identify organizations such as FAO and OIE and their functions.

The rational use of natural capital in any profession requires the training of highly competitive professionals with clear bioethical principles, knowledge of the laws of nature and who are committed to sustainable human development.

The first part of the module analyzes the different implications of ecology in animal health by analysing population ecology, environmental impact and the use of natural resources in sustainable development in different animal species of economic importance and wild species.

The second part of the module - "Animal Welfare" - focuses on the different implications of the well-being of animals. This part of the module aims to provide the professional with specialized knowledge about the proper functioning of the organism, the behavioral state, and the requirements and needs, focused on the measurement of Wellness.

It also develops the necessary skills to provide advice and guidance on the various aspects related to the science of Animal Welfare, analyzing the scientific, legislative and ethical foundations.

The veterinary professional will be able to propose preventive measures, as well as to solve the main problems generated by welfare deficiencies in different animals.

Through studying this course, the student will gain satisfaction in being able to apply the theoretical knowledge they acquired in concrete practical cases.

This **Postgraduate Certificate in Animal Production and Health** offers you the advantages of a high-level scientific, teaching, and technological course.

These are some of its most notable features:

- The latest technology in online teaching software.
- Intensely visual teaching system, supported by graphic and schematic contents, easy to assimilate and understand
- Practical cases presented by practising experts.
- State-of-the-art interactive video systems.
- Teaching supported by telepractice.
- · Continuous updating and recycling systems.
- Autonomous learning: full compatibility with other occupations
- Practical exercises for self-evaluation and learning verification.
- Support groups and educational synergies: questions to the expert, discussion forums and debates.
- Communication with the teacher and individual reflection work.
- Content available from any fixed or portable device with internet connection.
- Supplementary documentation databases are permanently available, even after finishing the course.



Join the elite, with this highly effective training training and open new paths to help you advance in your professional progress"



A complete training program that will allow you to acquire the most advanced knowledge in all the areas of intervention of a specialized veterinarian"

Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will develop the theoretical knowledge in an efficient way, but above all, they will bring their practical knowledge from their own experience to the course: one of the differential qualities of this training.

The efficiency of the methodological design of this Postgraduate Certificate, enhances the student's understanding of the subject. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

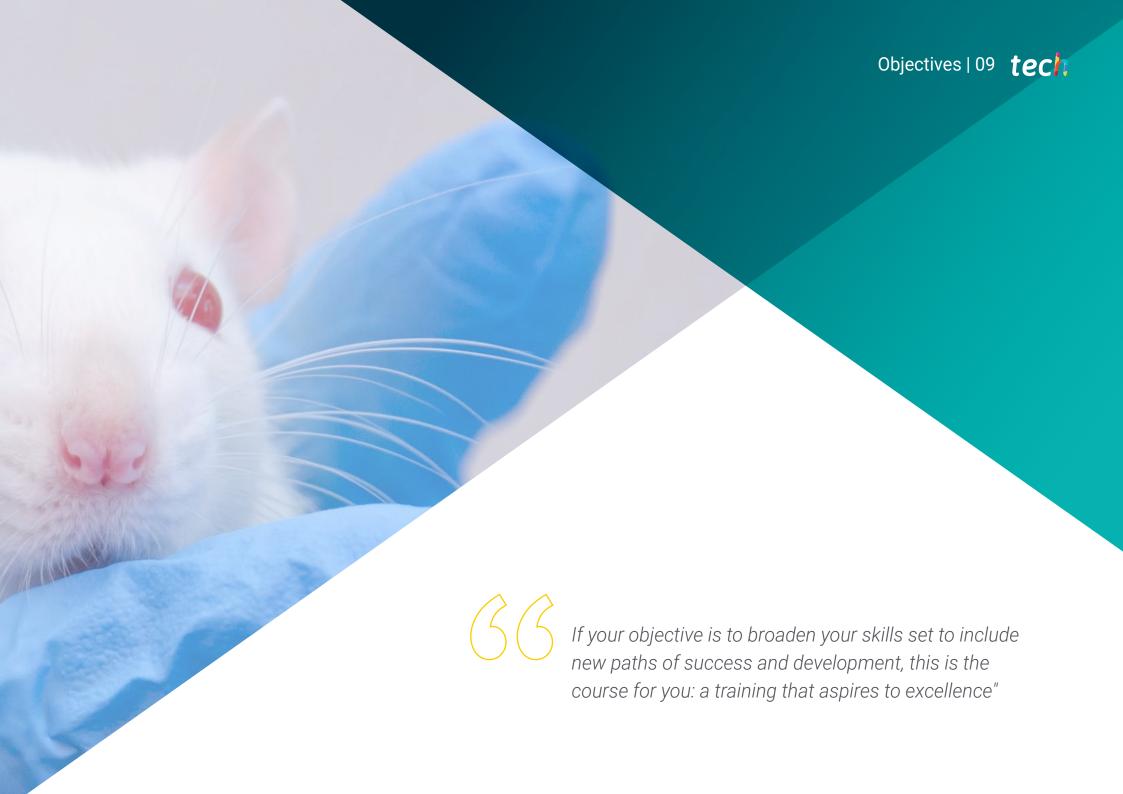
The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: with the help of an innovative interactive video system, and learning from an expert, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

With the experience of working professionals and the analysis of real success stories, in a high-impact training.

With a methodological design based on proven teaching techniques, this innovative course will take you through different teaching approaches to allow you to learn in a dynamic and effective way.







## tech 10 | Objectives



## **General Objectives**

- Develop specialized knowledge in the field of Animal Production and Health.
- Analyze the impact of livestock production on public health.
- Examine the concept of Globalization.
- Justify the term "One Health" and its relationship with veterinary medicine.
- Analyze which are the competent authorities from the veterinarian's point of view.
- Specify which communications should be made to the competent authorities.
- Analyze the levels of organization of living beings in interaction with the environment: individuals, populations, communities, and ecosystems of the biosphere.
- Provide tools and competencies of a cognitive, communicative and specific professional nature, for the evaluation, assessment and solution of problems related to animal welfare.
- Train veterinarians of a high professional level to be able to apply the knowledge obtained
  with a high sense of ethics, responsibility, social commitment, and care for the environment
  to promote and contribute to the solution of local, national and international problems
  related to animal welfare.
- Develop tools and competencies of a cognitive, communicative, and specific professional nature, for the evaluation, assessment, measurement, and solution of problems related to animal welfare.





## **Specific Objectives**

- · Determine the biosecurity measures in livestock production.
- Analyze the veterinary controls to be carried out at border control.
- Identify zoonotic diseases and their communication to the authorities.
- Classify antibiotics according to their group of use in animals within the framework of antibiotic resistance.
- Determine the competent bodies in the field of Animal Health.
- Specify which notifications should be made to the competent authority and in what way.
- Analyze the different animal identification systems depending on the species in question.
- Develop specialized knowledge on livestock diseases whose declaration is mandatory.
- Examine the existing innovations in Animal Health and the perspectives of the sector.
- Develop analytical skills and critical judgment through the study of ecological problems.
- Develop the basic concepts of ecology, structure, and functioning.
- Promote innovation as a development tool in animal welfare.
- Develop specialized knowledge in animal welfare committed to sustainable development.
- Strengthen social-ethical processes with viable, effective, and efficient solutions in the field of animal welfare
- Provide specialist training to students in animal welfare so that they are trained and committed to sustainable development and the environment.

- Encourage the creation and development of innovation programs in animal welfare.
- Strengthen ethical, technical, and social processes to generate viable, effective, and efficient solutions in animal welfare with a focus on "One Health, One Welfare".
- Promote social awareness procedures focused on the creation of short-term solutions for application in animal welfare.



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





## tech 14 | Course Management

## Management



## Dr. Ruiz Fons, José Francisco

- PhD from the UCLM 2006
- Degree in Veterinary Medicine (2002) from the University of Murcia
- Member of the Spanish Society for the Conservation and Study of Mammals (SECEM) and the Wildlife Disease Association (WDA).
- Contracted Predoctoral FPU (2007) of the Ministry of Education and Science at the Institute of Research in Hunting Resources IREC (CSIC-UCLM-JCCM)
- Postdoctoral contract JCCM and Carlos III Institute of Health at The James Hutton Institute (Aberdeen, Scotland; 2007-2008) and at Neiker-Tecnalia (Derio, Biscay; 2008-2010).
- Contracted JAE-DOC CSIC at IREC (2010 to 2011)
- Supervision of 11 Master's Theses, 3 final Degree theses, 2 Doctoral Theses and 5 Doctoral Theses currently in progress.
- Lecturer in Animal Health, Epidemiology, Prevention, and Control of Diseases shared between Dogs, Cats, and Other Species and Livestock in the UCLM Professional Master's Degree "Basic and Applied Research in Hunting Resources" in the last 12 years.
- Lecturer in Professional Master's Degree in "Animal Medicine, Health, and Improvement" at the University of Cordoba in 2015-16. He has been invited speaker in more than 30 specialization courses for veterinarians, farmers, hunters, and public administration staff, and in conferences and seminars on aspects of the Health of Wild Species and Global Health.

#### **Professors**

#### Dr. Gómez Castañeda, Irma

- Doctoral candidate. Veterinarian and Zootechnician
- President of the World Network of Veterinary Specialists in Animal Welfare
- General Director of the Animal Welfare Institute, Puebla (Mexico)
- One of the 5 veterinarians in Mexico with simultaneous double recertification, granted by CONCERVET (Certification Council in Veterinary Medicine), both in Ethology and Animal Welfare, as well as in Dog and Cat Medicine.
- Master in Clinical Veterinary Ethology and Animal Welfare, Universidad Complutense de Madrid (Spain)
- Postgraduate in Veterinary Clinical Neurology from the Catholic University of Salta (Argentina)

#### Dr. Romero Castañón, Salvador

- Veterinarian and Zootechnician graduated from the Benemérita Universidad Autónoma de Puebla (Mexico)
- Master of Science in Natural Resources and Rural Development, Colegio de la Frontera Sur (Mexico)
- PhD student in Agricultural and Environmental Sciences
- PhD Student in Agricultural and Environmental Sciences at the Instituto de Investigación en Recursos Cinegéticos (IREC), Castilla-La Mancha University (UCLM)(Spain)
- Completed training stays at the University of Nebraska, USA, and at the Cayetano Heredia University in Peru
- Professor-Researcher at the Faculty of Veterinary Medicine and Animal Husbandry of the Benemérita Universidad Autónoma de Puebla, in addition to having work experience in Zoos and as a Technical Advisor in Hunting Centers in Mexico (2007- present)
- Member of the IUCN Deer Specialist Group

#### Dr. Sarmiento, Ainhoa

- Veterinarian. Responsible for the Nutrition Department (03-17/currently). Casaseca Livestock 2010, SLU. Functions Development and formulation of diets for Iberian Swine.
- Responsible for the Antibiotic Reduction Program and Animal Welfare. Management of Productive Data of Fattening and Mothers (Pigchamp)
- Elaboration of Projects. R&D&I Management. Collaborative Researcher (09/17-Currently)
- Faculty of Agricultural and Environmental Sciences and Polytechnic School of Zamora, University of Salamanca. Functions: Participation in Projects, Papers and Communications to Congresses. Analysis of Production and Meat Quality Data.



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"





## tech 18 | Structure and Content

## Module 1. Important Aspects of Animal Production and Health

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- 1.1.1. Introduction
- 1.1.2. Current Situation of the Sector
- 1.1.3. Role of the Veterinarian
- 1.2. Animal Production Systems
  - 1.2.1. Intensive
  - 1.2.2. Alternative Systems

1.2.2.1. Extensive Production

1.2.2.2. Ecological Production

- 1.3. Livestock Production
  - 1.3.1. Biosecurity Measures
  - 1.3.2. Vaccination and Treatment Plans
- 1.4. Health in the Livestock Sector
  - 1.4.1. Concept of Animal Health
  - 1.4.2. Animal Identification Systems
  - 1.4.3. Movements of Animals For Slaughter
- 1.5. Animal Welfare
  - 1.5.1. Current Situation
  - 1.5.2. Animal Welfare Measures
- 1.6. Impacts of Livestock Production on Public Health
  - 1.6.1. Concept of One Health
  - 1.6.2. Zoonotic Diseases
    - 1.6.2.1. Main Zoonotic Diseases
    - 1.6.2.2. Declaration to the Competent Authority
  - 1.6.3. Resistance to Antibiotics
    - 1.6.2.1. Importance of Antibiotic Resistance
    - 1.6.2.2. Categorization of Antibiotics from the Point of View of their Use in Animals
- 1.7. Impact of Animal Production on Food Safety
  - 1.7.1. Food Safety.
  - 1.7.2. Major Foodborne Diseases
  - 1.7.3. Declaration



## Structure and Content | 19 tech

- 1.8. Notifiable Diseases of Livestock
  - 1.8.1 Introduction
  - 1.8.2. Main Diseases
  - 1.8.3. Notification
- 1.9. Competent Veterinary Medicine and Animal Health Authorities
  - 1.9.1. Introduction
  - 1.9.2. National Veterinary Corps
  - 1.9.3. Regional Offices and Veterinary Units
- 1.10. Reference Laboratories
  - 1.10.1. Introduction
  - 1.10.2. Sensitivity and Specificity
  - 1.10.3. Sample Collection Tables

### Module 2. Ecology and Animal Welfare

- 2.1. Introduction to Ecology
  - 2.1.1. Ecology Definition
  - 2.1.2. Abiotic Factors
  - 2.1.3. Biotic Factors
  - 2.1.4. City
  - 2.1.5. Community
- 2.2. Population Ecology
  - 2.2.1. Reproductive Patterns
  - 2.2.2. Extinction
  - 2.2.3. Biogeography
  - 2.2.4. Interspecific Competition
- 2.3. Environmental Impact
  - 2.3.1. Definition
  - 2.3.2. Causes of Environmental Deterioration
  - 2.3.3. Population Growth
  - 2.3.4. Consumerism

- 2.4. Natural Resources
  - 2.4.1. Renewable and Non-Renewable Resources
  - 2.4.2. Alternative Energy Sources
  - 2.4.3. Protected Areas
  - 2.4.4. Sustainable Development
- 2.5. General Aspects of Animal Welfare
  - 2.5.1. Concept of Animal Welfare
    - 2.5.1.1. Introduction
    - 2.5.1.2. History
  - 2.5.2. Definitions of Animal Welfare
    - 2.5.2.1. Historical Definitions of Animal Welfare.
  - 2.5.3. Impact of the Environment on Animal Welfare
  - 2.5.4. Health Alert Plans
  - 2.5.5. Physiology and Biochemistry
    - 2.5.5.1. Introduction
  - 2.5.2. Physiology
  - 2.5.3. Biochemistry
  - 2.5.4. The Five Animal Needs
    - 2.5.4.1 Suitable Environment
    - 2.5.4.2 Adequate Diet
    - 2.5.4.3 Normal Behavior
    - 2.5.4.4 Adequate Housing
    - 2.5.4.5 Pain, Suffering, Injury and Illness
  - 2.5.5. Stress and Animal Welfare
    - 2.5.5.1. Relationship between Stress and Animal Welfare
  - 2.5.6. Social Aspects of Animal Welfare
  - 2.5.7. Principles of Animal Welfare
    - 2.5.7.1. What are the Basic Principles of Animal Welfare?
  - 2.5.8. Assessment of Animal Welfare
    - 2.5.8.1. Important Aspects to evaluate Animal Welfare

## tech 20 | Structure and Content

2.6.		Behavior				
	2.6.1.	Applied Ethology				
		2.6.1.1. What is Ethology?				
		2.6.1.2. Application of Ethology				
	2.6.2.	Learning and Social Behavior				
		2.6.2.1. Types of Behavior				
		2.6.2.2. Social Behavior				
	2.6.3.	Biology of Animal Suffering				
	2.6.4.	Food				
	2.6.5.	Normal and Abnormal Behavior Patterns				
		2.6.5.1 Normal Behaviors				
		2.6.5.2 Abnormal Behaviors				
	2.6.6.	Interactions Between Groups of Animals				
		2.6.6.1 Types of Interactions				
	2.6.7.	Causes of Stress				
		2.6.7.1. Types of Interactions				
		2.6.7.2. Stressors				
		2.6.7.3. Physiological Responses to Stress				
	2.6.8.	General Adaptation Syndrome				
	2.6.9.	Animal Sense Organs in Relation to Stress and Injury				
		2.6.9.1. Introduction				
		2.6.9.2. Sensory Organs				
	2.6.10.	Animal Welfare and Ethology				
		2.6.10.1. Introduction				
		2.6.10.2. Relationship of Sciences in Animal Welfare				
2.7	One Health					
	2.7.1.	One Welfare, One Health				
		2.7.1.1. Introduction to One Health				
		2.7.1.2. Economic and Environmental Benefits				
		2.7.1.3. Health Benefits				
	2.7.2.	International Animal Welfare Standards				
	2.7.3.	World Organization for Animal Health (OIE)				
	2.7.4.	OIE International Standards				
	2.7.5.	Food and Agriculture Organization of the United Nations (FAO)				

2.7.6.	World Animals Protection (WAP)
2.7.7.	Animal Welfare Standards on the Farm
2.7.8.	International Consumers
2.7.9.	Welfare Quality Project
	2.7.9.1. Introduction
	2.7.9.2. Types of Valuations
2.7.10.	Animal Welfare Labeling
Legisla	tion
2.8.1.	Animal Ethics and Legislation
	2.8.1.1. Introduction
	2.8.1.2. Veterinary Ethics in Animal Welfare
2.8.2.	National and International Legislation on Animal Welfare
2.8.3.	Animal Welfare Legal Framework
2.8.4.	Specific Legislation on Animal Welfare in Farms.
2.8.5.	Legislation Related to Religious Rites
2.8.6.	Regulations in this Area
2.8.7.	Economic Importance of Implementing Animal Welfare legislation.
2.8.8.	Proposals in Administrative-Criminal Matters
2.8.9.	Animal Welfare, Protection, and Law in Legislation.
2.8.10.	Directives, Standards, and Protocols
Animal	Welfare Indicators
2.9.1. T	ypes of Indicators
2.9.2. E	Biomarkers of Stress as Indicators of Animal Welfare
	2.9.2.1. Types of Indicators
2.9.3. V	Velfare Assessment Protocols
2.9.4. 0	riteria for Animal Welfare Assessment
2.9.5. A	nimal Welfare Problems and Their Effects on Animal Health and Production
2.9.6. H	lealth
2.9.7. 🗅	viseases
2.9.8. P	hysiology and Biochemistry
2.9.9. P	Productivity
2.9.10.	Stressors
	2.9.10.1. Introduction
	2.9.10.2. Types of Stressors

2.8.

2.9.

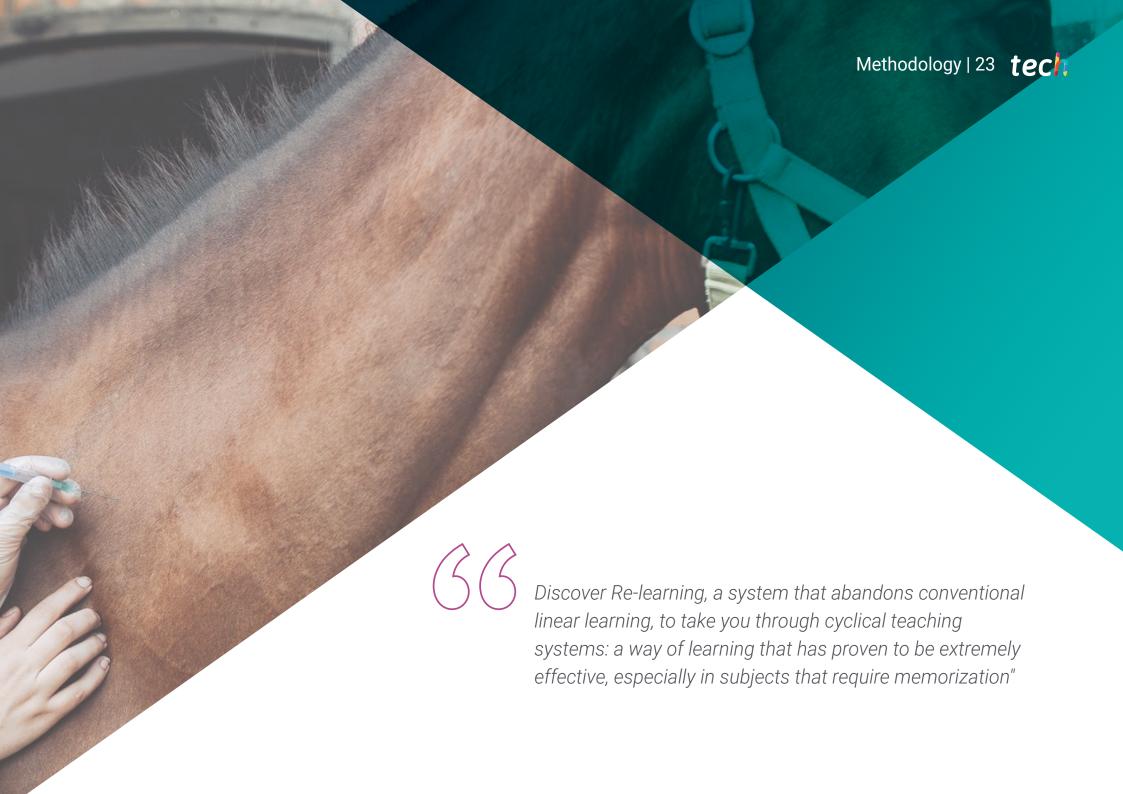


## Structure and Content | 21 tech

2.10. Welfare in the Different Species	2.10.	Welfare	in the	Different	Species
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- 2.10.1. Animal Welfare in Production
- 2.10.2. Laboratory Animal Welfare 2.10.2.1. Experimental Animals
- 2.10.3. Animal Welfare in Dogs
- 2.10.4. Animal Welfare in Cats
- 2.10.5. Animal Welfare in Exotic Species
  2.10.5.1. Exotic Animals in Zoos
  2.10.5.2. Unconventional Animals
- 2.10.6. Animal Welfare in Pigs
- 2.10.7. Animal Welfare in Hens
- 2.10.8. Environmental Enrichment
  2.10.8.1. Types of Enrichment
  2.10.8.2. Food Enrichment
  2.10.8.3. Social Enrichment
  2.10.8.4. Sensory Enrichment
- 2.10.9. Biosafety
- 2.10.10. Mutilations
  - 2.10.10.1. Introduction
  - 2.10.10.2. Types of Mutilations





## tech 24 | Methodology

#### At TECH we use the Case Method

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

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



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching potential or because of its uniqueness or rarity. It is essential that the case be based on current professional life, trying to recreate the real conditions in the 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 achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
- 2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- 4. The feeling that the effort invested is effective becomes a very important motivation for veterinarians, which translates into a greater interest in learning and an increase in the time dedicated to working on the course.



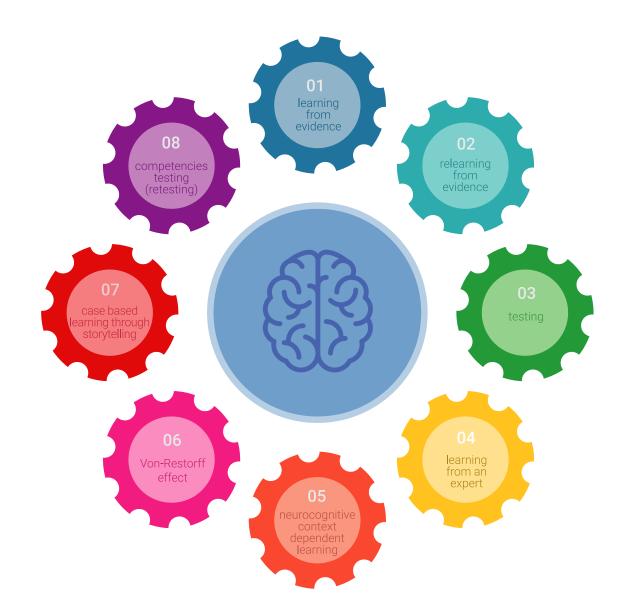


## Re-Learning Methodology

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

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.

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



## Methodology | 27 tech

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

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

Re-learning 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 to success.

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

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

## tech 28 | Methodology

In this program you will have access to the best educational material, prepared with you in mind:



#### **Study Material**

All the teaching materials are specifically created for the course by specialists who teach on the course so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### **Latest Techniques and Procedures on Video**

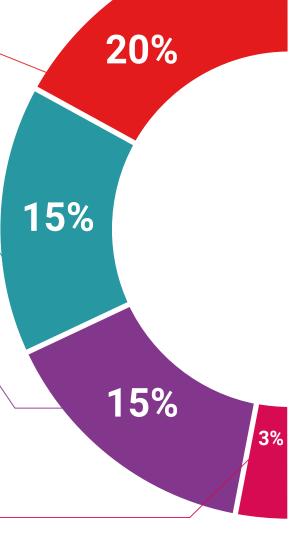
We bring you closer to the latest Techniques, to the latest Educational Advances, to the forefront of current Veterinary Techniques and Procedures. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

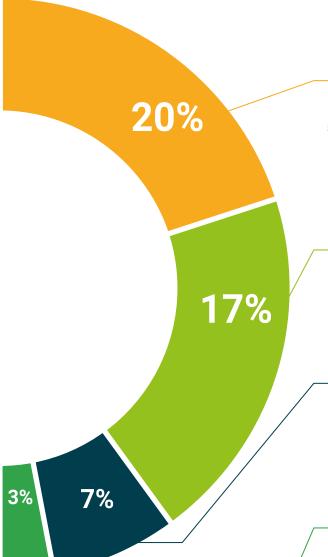
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".





#### **Additional Reading**

Recent articles, consensus documents, international guides. in our virtual library you will have access to everything you need to complete your training.



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

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### **Testing & Re-testing**

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



#### Classes

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



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

#### **Quick Action Guides**

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







## tech 32 | Certificate

This **Postgraduate Certificate in Animal Production and Health** contains the most complete and up-to-date scientific program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the **Postgraduate Certificate**, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professionals career evaluation

Title: Postgraduate Certificate in Animal Production and Health

ECTS: **12** 

Official Number of Hours: 300



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning



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