

# Professional Master's Degree

## Animal Welfare





## Professional Master's Degree Animal Welfare

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/veterinary-medicine/professional-master-degree/master-animal-welfare](http://www.techtitute.com/us/veterinary-medicine/professional-master-degree/master-animal-welfare)

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# 01

# Introduction

The Program in Animal Welfare will help veterinary professionals acquire an up-to-date specialization in the field of Animal Welfare, an increasingly demanded qualification in society today, where conflicts between animal defenders and food producers are constantly present.

This training prepares veterinary professionals to perform specialized work in companies and organizations responsible for animal welfare, as well as to act as Animal Welfare consultants for livestock farms, zoos, animal shelters or slaughterhouses. Obtaining further qualifications in Animal Welfare will enable students to participate in the development of production standards and products that guarantee Animal Welfare.





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*A complete and total update in Animal Welfare with the most complete and rigorous online program on the market”*

The Professional Master's Degree in Animal Welfare is a new and updated program that arises from growing demand among veterinary professionals for specialized training in Animal Welfare to minimize animal suffering, since, nowadays, the consumer demands not only healthier and safer food, but also food obtained through practices that ensure the protection and welfare of animals.

The Professional Master's Degree in Animal Welfare includes a comprehensive syllabus covering the most important areas in the field, production animals, swine, cattle, poultry, including fish farming, pets and zoo animals.

It addresses the concept of Animal Welfare and its evolution and applied ethology, one of the main welfare problems in all animal facilities.

It covers animal ethics or bioethics as a differentiating element with respect to other similar training courses. Since this topic is usually included in philosophy programs, in health sciences it is usually addressed very superficially. The Professional Master's Degree in Animal Welfare, however, will thoroughly delve into it in depth given its relevance today.

The program will analyze current legislation and Animal Welfare in livestock farms, zoos, shelters and commercial animal establishments.

It devotes a complete module to Animal Welfare in fish farming, the ethics of which barely make an appearance in other training programs on account of its relatively new status.

Lastly, it includes two greatly important, complete modules devoted to Animal Welfare in transport and in slaughterhouses. These two moments in the life of these animals are extremely brief albeit crucial, since any incident, no matter how small, can upset the animal's welfare balance.

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

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



*Join the elite with this highly effective training program and open new paths to aid in your professional progress"*

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

Our teaching staff is made up of professionals from different fields related to this specialty. In this way we ensure that we deliver the educational 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 program.

The efficiency of the methodological design of this Professional Master's Degree, 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 views learning as a highly practical process. To achieve this remotely, we will use telepractice learning: 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 a methodological design based on proven teaching techniques, this innovative program will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*

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



02

# Objectives

Our objective is to specialize highly qualified professionals for the working An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is materialized in helping professionals to reach a much higher level of competence and control. A goal that, in just a few months, you will be able to achieve, with a high intensity and effective program.







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*If your goal is to broaden your skill set to include new paths of success and development, this is your Professional Master's Degree: A training program that aspires to excellence”*



## General objectives

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- ♦ Analyze the concept of Animal Welfare
- ♦ Examine human involvement in animal welfare
- ♦ Establish animal welfare assessment systems
- ♦ Provide a foundation of knowledge of applied animal ethology
- ♦ Examine ethology as a fundamental item in animal welfare
- ♦ Analyze the ethological basis for the main species of interest
- ♦ Analyze the ethical implications of the treatment of animals in society
- ♦ Substantiate the different ethical theories concerning animals
- ♦ Generate critical awareness of the human responsibility toward animals
- ♦ Examine our role in Animal Welfare
- ♦ Analyze the information on animal protection at the international level
- ♦ Analyze and compile all information on welfare in pig farms
- ♦ Identify Animal Welfare issues in dairy and beef cattle production
- ♦ Examine poultry establishments for both egg and meat production from an Animal Welfare point of view
- ♦ Analyze welfare in different species of interest
- ♦ Generate different points of view on the management and welfare of non-classical livestock species
- ♦ Identify welfare problems in companion animals
- ♦ Present welfare in beekeeping as a new field within the science of Animal Welfare
- ♦ Define welfare problems in zoo and shelter animals
- ♦ Assess animal welfare problems in shows
- ♦ Analyze the welfare of experimental and teaching animals
- ♦ Develop the concept of "sentient being" in fishes
- ♦ Examine welfare assessment in fish farming
- ♦ Identify facility and management problems in fish welfare
- ♦ Understand welfare in aquarium fish
- ♦ Discuss proper handling guidelines for effective livestock transport
- ♦ Examine the factors involved in livestock transportation
- ♦ Relate transport to health and productivity
- ♦ Examine neurological and physiological principles in stunning and slaughtering
- ♦ Assess the effectiveness of stunning systems and detect animals at risk of regaining consciousness
- ♦ Determine the main risk factors in improper stunning
- ♦ Identify the repercussions of the stunning system on meat quality



## Specific objectives

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### Module 1. Animal Welfare. Concepts and Evolution

- ◆ Examine the concept of Animal Welfare in all its implications
- ◆ Analyze the physiological stress response in animals and its quantification
- ◆ Develop the concepts of stress and acute and chronic stress responses
- ◆ Fundamentalize the concepts of "eustress" and "distress"
- ◆ Determine the Animal Welfare implications in this stress response
- ◆ Develop the concept of freedoms and needs to understand Animal Welfare
- ◆ Examine the concept of Animal Welfare assessment
- ◆ Specify current Animal Welfare assessment systems

### Module 2. Applied Animal Ethology

- ◆ Develop the concept of applied animal ethology
- ◆ Establish the principles of learning and motivation in animals
- ◆ Identify the role of domestication in the development of current behaviors
- ◆ Demonstrate the importance of the study of ethology in assessing animal welfare
- ◆ Identify normal and abnormal animal behavior patterns
- ◆ Examine enrichment systems in wild and domestic animals and propose enrichment systems on farms or other facilities

### **Module 3. Animal Ethics**

- ♦ Analyze the concept of animal ethics and bioethics in all its branches
- ♦ Provide a foundation for social, personal and professional ethics towards animals
- ♦ Examine the different ethical theories
- ♦ Develop the concept of animal status
- ♦ Identify the moral status that can be given to animals
- ♦ Substantiate animal integrity and hence animal abuse
- ♦ Introduce animal law and the Universal Declaration of Animal Rights
- ♦ Assess the role of human-animal relationships in welfare

### **Module 4. International Animal Protection Legislation**

- ♦ Analyze the development of animal protection regulations in the European Union
- ♦ Identify international actors in the development of animal protection legislation
- ♦ Present animal welfare regulations in countries outside the European Union

### **Module 5. Livestock Establishments. Welfare in Swine, Beef Cattle and Poultry**

- ♦ Analyze welfare problems in swine breeding establishments
- ♦ Examine welfare problems in the management of sows and piglets during lactation and rearing
- ♦ Analyze welfare during the fattening of pigs
- ♦ Examine cattle facilities from a welfare standpoint
- ♦ Determine welfare in dairy cattle facilities and during calf fattening
- ♦ Analyze welfare in laying hen establishments and in broiler establishments

### **Module 6. Welfare in Other Species of Interest**

- ♦ Analyze welfare in dairy sheep and goats, and in sheep feedlots
- ♦ Examine equine welfare
- ♦ Address welfare in rabbit farms
- ♦ Acquire specialized knowledge of welfare in alternative poultry production
- ♦ Analyze the welfare of big game species (deer, roe deer, fallow deer, etc.) and small game species (rabbit, hare, partridge, quail, etc.)
- ♦ Analyze the welfare of camelids
- ♦ Examine welfare in companion animals
- ♦ Identify welfare aspects in beekeeping

### **Module 7. Welfare in Zoos, Shelters and Other Facilities and Establishments**

- ♦ Define welfare problems in zoos animals
- ♦ Analyze indicators to assess welfare in zoos
- ♦ Assess Animal Welfare in zoos
- ♦ Examine welfare problems in shelter animals
- ♦ Develop welfare assessment protocols for animal shelters
- ♦ Identify welfare problems in entertainment, research and teaching animals
- ♦ Evaluate welfare assessment protocols for experimental and teaching animals

**Module 8. Animal Welfare in Fish Farming**

- ♦ Define the physiological stress response in fish
- ♦ Analyze information on consciousness, pain and fear in fish
- ♦ Develop the most effective indicators to assess welfare in fish
- ♦ Examine measures of water quality and their implications for fish
- ♦ Discuss the main welfare issues in fish farming
- ♦ Establish the best management guidelines for fish to minimize suffering
- ♦ Examine the welfare of fish during capture in both farmed and commercial fisheries
- ♦ Determine the welfare of aquarium fish

**Module 9. Animal Welfare during Transportation**

- ♦ Examine the behavior of animals in relation to transportation
- ♦ Establish the environmental and management factors that affect welfare during transportation
- ♦ Identify the correct handling and transportation guidelines for cattle and swine
- ♦ Determine the correct handling and transportation guidelines for poultry
- ♦ Examine the correct handling and transportation guidelines for fish
- ♦ Assess differences in Animal Welfare as a function of means of transportation
- ♦ Present the relation between animal transportation and health and productivity

**Module 10. Animal Welfare during Slaughter**

- ♦ Analyze the principles of consciousness and insensibility in animals
- ♦ Define the potential causes of pain during animal slaughter
- ♦ Specify the most effective stunning systems for each animal species
- ♦ Examine the indicators for correct stunning
- ♦ Identify the main factors that can lead to inadequate stunning
- ♦ Assess the repercussions of stunning systems on carcass and meat quality
- ♦ Provide a foundation for animal euthanasia principles



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

# 03 Skills

Professionals will be able to acquire the skills of an expert in Animal Welfare through an educational approach that will turn the knowledge imparted throughout this intensive Professional Master's Degree into experience. An exceptional opportunity to give a boost to your skills, making you one of the most competitive experts in the sector.



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*An intensive program created to provide you with the necessary skills to successfully intervene in each of the areas of Animal Production and Health, with the quality of a high-impact educational approach”*



## General skills

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- ◆ Discern the concept of Animal Welfare
- ◆ Provide a foundation of knowledge of applied animal ethology
- ◆ Generate critical awareness of human responsibility toward animals
- ◆ Examine our role in Animal Welfare

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*Take the step to get up to date  
on the latest developments in  
Animal Welfare”*







## Specific skills

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- ◆ Develop the concepts of stress and acute and chronic stress responses
- ◆ Identify normal and abnormal animal behavior patterns
- ◆ Substantiate animal integrity and hence animal abuse
- ◆ Detail animal protection regulations in transport and slaughtering
- ◆ Examine animal protection regulations for teaching and research purposes
- ◆ Determine welfare in dairy cattle facilities and during calf fattening
- ◆ Examine welfare in companion animals
- ◆ Identify welfare aspects in beekeeping
- ◆ Identify welfare problems in entertainment, research and teaching animals
- ◆ Determine the welfare of aquarium fish
- ◆ Determine the correct handling and transportation guidelines for poultry
- ◆ Identify the main factors that can lead to inadequate stunning

04

# Course Management

Within the concept of total quality of our program, we are proud to put at your disposal a Teaching Staff of the highest level, chosen for their proven experience. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*Our teaching team will help you  
achieve professional success”*

## Management



### Dr. De la Fuente Vázquez, Jesús

- ♦ Doctor in Veterinary Medicine, Complutense University, Madrid, 2003
- ♦ Master's Degree in Science in Pig Production, Aberdeen University, 1998
- ♦ Graduated in Veterinary Medicine, Complutense University, Madrid, 1997
- ♦ Assistant Professor in the Department of Animal Production, Faculty of Veterinary Medicine, UCM, since 2005
- ♦ Collaboration grant holder in teaching and research tasks, Department of Animal Production, Faculty of Veterinary Medicine, UCM, 1997
- ♦ European Social Fund predoctoral training fellow, Department of Agriculture, University of Aberdeen, 1998
- ♦ FPU predoctoral training grant, Universidad Complutense de Madrid, 1999-2002
- ♦ Three-month stay in the Department of Animal Science, Texas A&M University, 2001
- ♦ Contract Researcher in the Department of Food Technology, National Institute of Agricultural and Food Research and Technology, INIA, 2004
- ♦ Participation as a collaborating professor in more than 40 national and international courses on Animal Welfare
- ♦ Participated in more of 35 research articles in journals indexed in the Journal Citation Report
- ♦ Participation in more than 14 publicly and privately funded research projects
- ♦ Participation in ten book chapters and complete books
- ♦ Contribution in more than 60 communications to national and international congresses

## Professors

### Dr. Arroyo Lambaer, Ana Alejandra

- ♦ Founder Yolcati, Animal Welfare Veterinary consultancy specializing in ethology and Animal Welfare
- ♦ Degree in Veterinary Medicine and Zootechnics, Universidad Nacional Autónoma, Mexico
- ♦ Trainer at Oasis Wildlif of animal caregivers and trainers

### D. Beltrán Álvarez, Santiago

- ♦ Biology teacher at Academia Nuevo Futuro
- ♦ Self-employed professional aquarist, founder of *The Green Guy* company
- ♦ Degree in Biology, Universidad de Salamanca
- ♦ Master's Degree in Advanced Therapies and Biotechnological Innovation, Francisco Vitoria University
- ♦ Researcher in Biomedicine, Francisco de Vitoria University

### Dr. Cabezas Albéniz, Almudena

- ♦ Doctor in Veterinary Medicine, Madrid Complutense University, 2017
- ♦ Master's Degree in Veterinary Science Research, Complutense University of Madrid, 2012
- ♦ Technical Agricultural Engineer, University School of Agricultural Engineering, Polytechnic University of Madrid, 2010
- ♦ Assistant Professor in the Department of Animal Production, Faculty of Veterinary Medicine, UCM, since 2016

### Ms. Calero Alonso, Silvia

- ♦ Assistant Pharmacist at Plaza Santa Margarita and Mercedes Heras Peña Pharmacy Office, Madrid
- ♦ Degree in Pharmacy, University of La Laguna
- ♦ Master's Degree in Animal Production and Health, Complutense University and Polytechnic University, Madrid

### Dr. Díaz Díaz-Chirón, María Teresa

- ♦ D. in Veterinary Medicine by Madrid Complutense University in 2002
- ♦ Graduated in Veterinary Medicine from the Complutense University of Madrid in 1997
- ♦ Assistant Professor in the Department of Animal Production, Faculty of Veterinary Medicine, UCM, 2019-2020

### Dr. González de Chavarri Echaniz, Elisabeth

- ♦ D. in Veterinary Medicine by Madrid Complutense University in 1991
- ♦ Graduated in Veterinary Medicine from the Complutense University of Madrid in 1987
- ♦ Assistant Professor in the Department of Animal Production, Faculty of Veterinary Medicine, UCM, since 2004

### Dr. Pérez Marcos, Concepción

- ♦ Doctor in Veterinary Medicine, Madrid Complutense University, 1986
- ♦ Graduated in Veterinary Medicine, Complutense University of Madrid, 1979
- ♦ Assistant Professor in the Department of Animal Physiology, Faculty of Veterinary Medicine, UCM, since 1987

**D. Sánchez Arispe, Alex**

- ♦ Science Teacher, Fundació Jesuïtes Educació
- ♦ Degree in Biology, Autonomous University of Barcelona
- ♦ Master's Degree in Land Ecology, Autonomous University of Barcelona
- ♦ Master's Degree in Animal Welfare, Autonomous University of Barcelona

**Dr. Tamsamani Rivero, Nabil**

- ♦ Exotic and Wildlife Veterinarian at Oasis Wildlife Fuerteventura
- ♦ Speaker and trainer on Nutrition and Animal Welfare
- ♦ Bachelor's Degree in Pharmacodynamics, University of Córdoba
- ♦ Degree in Veterinary Medicine, University of Córdoba
- ♦ Máster's Degree in Business Administration, EAE Business School, Barcelona

**Dr. Moreno Guiberteau, Ana Isabel**

- ♦ Veterinarian specialized in management, health and nutrition of Iberian pigs.
- ♦ Degree in Veterinary Medicine from the University of Extremadura.
- ♦ Master's Degree in Companion Animal Medicine and Surgery (Equine and Small Animals) by the Clinical Veterinary Hospital - University of Extremadura.
- ♦ Official course in Equine Kinesio Taping by the Complutense University of Madrid
- ♦ Certification in Animal Welfare Quality (Swine)
- ♦ Effect of BoarBetter® on the reproductive parameters of weaned sows Specialist in swine production and nutrition





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*Leading professionals on the subject have come together to offer you the most comprehensive knowledge in the field so you can develop with total guarantees of success”*

05

# Structure and Content

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

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







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

## Module 1. Animal Welfare. Concepts and Evolution

- 1.1. Evolution of the Concept of Animal Welfare, from Antiquity to Present Day
  - 1.1.1. Animal Welfare in Antiquity
  - 1.1.2. Introduction to the Concept of Welfare
  - 1.1.3. Animal Welfare Today
- 1.2. Vision of the Concept of Animal Welfare from Different Cultures
  - 1.2.1. Buddhism
  - 1.2.2. Catholicism
  - 1.2.3. Islam
  - 1.2.4. Judaism
  - 1.2.5. Orthodox Church
  - 1.2.6. Protestantism
- 1.3. Concept of Animal Welfare, Approaches to Understanding It
  - 1.3.1. Definitions of Animal Welfare
  - 1.3.2. Emotion-Based Approach
  - 1.3.3. Function-Based Approach
  - 1.3.4. Ethology-Based Approach
- 1.4. Physiological Responses to Stress
  - 1.4.1. Hypothalamus-Pituitary-Adrenal-Glands Axis
- 1.5. Acute and Chronic Stress Response
  - 1.5.1. Physiological Responses to Chronic Stress
  - 1.5.2. Physiological Responses to Acute Stress
- 1.6. Concepts of "Eustress" and "Distress"
  - 1.6.1. Eustress: Optimal Stress
  - 1.6.2. Distress: Negative Stress
- 1.7. The Role of Stress Response in Welfare
- 1.8. Freedoms and Needs
  - 1.8.1. Concept of Freedoms
  - 1.8.2. The Role of freedoms in Animal Welfare
  - 1.8.3. Concept of Needs

- 1.9. Animal Welfare Assessment Systems
  - 1.9.1. Direct Indicators
  - 1.9.2. Indirect Indicators
- 1.10. Developing Animal Welfare Assessment Protocols
  - 1.10.1. TGI 35 L
  - 1.10.2. WelfareQuality ®
  - 1.10.3. AWIN (Animal Welfare Indicators)

## Module 2. Applied Animal Ethology

- 2.1. Applied Animal Ethology and Its Relation to Animal Welfare
  - 2.1.1. General Information on Ethology
  - 2.1.2. Origin of Applied Ethology
  - 2.1.3. Fields of Applied Ethology
- 2.2. Organization of Behavior
  - 2.2.1. Learning
  - 2.2.2. Motivation
- 2.3. The Effect of Domestication on Animal Behavior
  - 2.3.1. Definition of Domestication
  - 2.3.2. The Environment in Domestication
  - 2.3.3. Domestication and Animal Behavior
- 2.4. Individual Animal Behavior
  - 2.4.1. Feeding
  - 2.4.2. Body Care
  - 2.4.3. Exploration
  - 2.4.4. Reaction Behavior
  - 2.4.5. Rest and Sleep
- 2.5. Social and Reproductive Behavior
  - 2.5.1. General Social Behavior
  - 2.5.2. Association
  - 2.5.3. Social Interactions
  - 2.5.4. Reproductive Capacity



- 2.6. Infant and Parental Behavior
  - 2.6.1. Fetal Behavior and Childbirth
  - 2.6.2. Maternal Behavior
  - 2.6.3. Neonatal and Juvenile Behavior
  - 2.6.4. Play, Practice and Exercise
- 2.7. Applied Ethology in Swine and Poultry
  - 2.7.1. Origin and Domestication of Swine
  - 2.7.2. Swine Signals and Communication
  - 2.7.3. Biological Rhythms in Swine: Diet, Rest, Reproduction
  - 2.7.4. Origin and Domestication of Birds
  - 2.7.5. Signals and Communication in Birds
  - 2.7.6. Biological Rhythms in Birds: Diet, Rest, Reproduction
- 2.8. Applied Ethology in Cattle, Sheep and Goats
  - 2.8.1. Origin and Domestication of Beef Cattle
  - 2.8.2. Signals and Communication in Cattle
  - 2.8.3. Biological Rhythms in Cattle: Diet, Rest, Reproduction
  - 2.8.4. Origin and Domestication of Sheep and Goats
  - 2.8.5. Signals and Communication in Sheep and Goats
  - 2.8.6. Biological Rhythms in Sheep and Goats: Diet, Rest, Reproduction
- 2.9. Applied Ethology in Dogs and Cats
  - 2.9.1. Origin and Domestication of Dogs
  - 2.9.2. Signals and Communication in Dogs
  - 2.9.3. Biological Rhythms in Dogs: Diet, Rest, Reproduction
  - 2.9.4. Origin and Domestication of Cats
  - 2.9.5. Signals and Communication in Cats
  - 2.9.6. Biological Rhythms in Cats: Diet, Rest, Reproduction
- 2.10. Environmental Enrichment
  - 2.10.1. Concept of Environmental Enrichment
  - 2.10.2. Functions of Environmental Enrichment
  - 2.10.3. Types of Environmental Enrichment

### Module 3. Animal Ethics

- 3.1. Concept of Animal Ethics: Bioethics
  - 3.1.1. Concept of Animal Ethics
  - 3.1.2. Principles of Animal Ethics
- 3.2. Social, Personal and Professional Ethics
  - 3.2.1. Ethics and Logic behind Ethics
- 3.3. Ethics and Morals concerning Animals
- 3.4. Ethical Theories
  - 3.4.1. Utilitarianism
  - 3.4.2. Rights Ethics
  - 3.4.3. Contractualism
  - 3.4.4. Aristotelian Approaches
  - 3.4.5. Ethics of Care
  - 3.4.6. Egalitarianism
- 3.5. Debate on the Moral Status of Animals
  - 3.5.1. Value Attached to Animals
  - 3.5.2. Differentiation between Species
- 3.6. Animal Integrity
  - 3.6.1. Animal Integrity and Zoocentric Animal Ethics
  - 3.6.2. Biocentric Animal Integrity and Ethics
  - 3.6.3. Aesthetics and Ethics
- 3.7. Animal Abuse
  - 3.7.1. The Evolution of Animal Treatment
  - 3.7.2. Types of Animal Abuse
  - 3.7.3. Animal Abuse in Society Today
- 3.8. Distress and Happiness in Animals
  - 3.8.1. Quality of Life in Animals
  - 3.8.2. Interpreting Animal Pain
- 3.9. Animal Rights
  - 3.9.1. The Universal Declaration of Animal Rights
- 3.10. Human-Animal Relationships
  - 3.10.1. Qualities of the Human-Animal Relationships
  - 3.10.2. Implications of the Human Animal on the Non-Human Animal

### Module 4. International Animal Protection Legislation

- 4.1. European Union Treaties
  - 4.1.1. Prior to the Treaty of Lisbon
  - 4.1.2. The Treaty of Lisbon
- 4.2. The European Parliament, Its Role in Animal Protection
  - 4.2.1. The European Parliament, First Stage prior to 1986
  - 4.2.2. Second Stage of Animal Welfare in the European Parliament
  - 4.2.3. The European Parliament and Animal Welfare Today
- 4.3. The European Council: Origin of Legislation in the European Union
  - 4.3.1. The European Council
  - 4.3.2. The Role of the European Council on Animal Welfare
- 4.4. Legislation on the Protection of Experimental Animals
  - 4.4.1. European Parliament and Council 2010/63/EU Directive, 22 September 2010, on the Protection of Animals used for Scientific Purposes
- 4.5. The Role of International Agencies in Animal Welfare
  - 4.5.1. The Role of the Organization for Economic Co-Operation and Development (OECD)
  - 4.5.2. The Role of Food and Agriculture Organization of the United Nations (FAO)
  - 4.5.3. The Role of the World Organization for Animal Health (WOAH)
- 4.6. Animal Protection in Countries outside the European Union: North America, South America, Africa, Asia and Oceania
  - 4.6.1. Animal Protection Regulations in the Americas
  - 4.6.2. Animal Protection Regulations in Africa
  - 4.6.3. Animal Protection Regulations in Asia
  - 4.6.4. Animal Protection Regulations in Oceania

**Module 5. Livestock Establishments. Welfare in Swine, Beef Cattle and Poultry**

- 5.1. Welfare in Swine Establishments: Facilities and Equipment
  - 5.1.1. Accommodation
  - 5.1.2. Environmental Needs
  - 5.1.3. Management
- 5.2. Breeding Swine Welfare
  - 5.2.1. Breeding Sow Welfare
  - 5.2.2. Boar Welfare
- 5.3. Welfare in Swine Breeding
  - 5.3.1. Nursing
  - 5.3.2. Transition
- 5.4. Welfare in Fattening Pigs
  - 5.4.1. Accommodation and Facilities
  - 5.4.2. Management
- 5.5. Welfare in Beef Cattle Establishments: Facilities and Equipment
  - 5.5.1. Accommodation
  - 5.5.2. Environmental Needs
  - 5.5.3. Management
- 5.6. Dairy Cow Welfare
  - 5.6.1. Cow Comfort
- 5.7. Calf Welfare
  - 5.7.1. Accommodation and Facilities
  - 5.7.2. Management
- 5.8. Welfare in Poultry Establishments: Facilities and Equipment
  - 5.8.1. Accommodation
  - 5.8.2. Environmental Needs
  - 5.8.3. Management
- 5.9. Laying Hen Welfare
  - 5.9.1. Alternative Egg Production Systems
- 5.10. Welfare in Broiler Fattening
  - 5.10.1. Accommodation and Facilities
  - 5.10.2. Management

**Module 6. Welfare in Others Species of Interest**

- 6.1. Welfare in Dairy Sheep and Goats
  - 6.1.1. Accommodation
  - 6.1.2. Environmental Needs
  - 6.1.3. Management
- 6.2. Sheep Feedlot Welfare
  - 6.2.1. Accommodation
  - 6.2.2. Environmental Needs
  - 6.2.3. Management
- 6.3. Welfare in Equine Livestock
  - 6.3.1. Accommodation
  - 6.3.2. Environmental Needs
  - 6.3.3. Management
- 6.4. Welfare in Rabbit Farms
  - 6.4.1. Accommodation
  - 6.4.2. Environmental Needs
  - 6.4.3. Management
- 6.5. Welfare in Alternative Poultry Production
  - 6.5.1. Accommodation
  - 6.5.2. Environmental Needs
  - 6.5.3. Management
- 6.6. Welfare of Game Species
  - 6.6.1. Accommodation
  - 6.6.2. Environmental Needs
  - 6.6.3. Management
- 6.7. Camelid Welfare (Llamas, Alpacas, Vicunas and Guanacos)
  - 6.7.1. Accommodation
  - 6.7.2. Environmental Needs
  - 6.7.3. Management
- 6.8. Welfare in Companion Animals: Dogs and Cats
  - 6.8.1. Accommodation
  - 6.8.2. Responsible Animal Ownership
  - 6.8.3. Welfare Problems

- 6.9. Welfare in Other Companion Animals
  - 6.9.1. Accommodation
  - 6.9.2. Responsible Animal Ownership
  - 6.9.3. Welfare Problems
- 6.10. Welfare in Beekeeping
  - 6.10.1. The Importance of Bees as a Super Organism
  - 6.10.2. The Environment
  - 6.10.3. Feeding and Management

## Module 7. Welfare in Zoos, Shelters and Other Facilities and Establishments

- 7.1. Welfare in Zoos
  - 7.1.1. Functions of Zoos
  - 7.1.2. Physical and Emotional Health in Zoo Animals
  - 7.1.3. Fear Response
- 7.2. Wild Animal Response to Captivity
  - 7.2.1. Accommodation
  - 7.2.2. Behavior and Welfare
  - 7.2.3. Species-Specific Response to Captivity
- 7.3. Welfare Indicators in Zoos
  - 7.3.1. Behavioral Indicators
  - 7.3.2. Animal-Related Indicators
- 7.4. Welfare Problems in Zoo Animals
  - 7.4.1. Dietary Problems
  - 7.4.2. Thermal Stress
  - 7.4.3. Space Restrictions
  - 7.4.4. Social Stress
- 7.5. Animal Welfare in Animal Shelters
  - 7.5.1. Accommodation, Care and Environment
- 7.6. Problems in Animal Shelters
  - 7.6.1. Animal Collection
  - 7.6.2. Grouping and Sheltering

- 7.7. Animal Welfare in Shows
  - 7.7.1. Fighting Bulls
  - 7.7.2. Circus Animals
  - 7.7.3. Dolphins
- 7.8. Animal Welfare in Commercial Animal Establishments
  - 7.8.1. Accommodation, Care and Environment
- 7.9. Welfare in Research and Teaching Establishments
  - 7.9.1. Housing, Care and Environmental Factors
  - 7.9.2. Nutrition and Welfare
- 7.10. Welfare Problems in Research and Teaching Animals
  - 7.10.1. Experimental Procedures: General Principles and Recommendations
  - 7.10.2. Infections in Laboratory Animals: Significance and Control

## Module 8. Animal Welfare in Fish Farming

- 8.1. Physiological Stress Response in Fish
  - 8.1.1. Stress Response in Fish
  - 8.1.2. Detecting and Measuring Stress Response
  - 8.1.3. Cortisol as a Stress Index
- 8.2. Consciousness in Fish
  - 8.2.1. Fish Are Capable of Suffering
  - 8.2.2. Basic Brain Organization of Teleost Fish
  - 8.2.3. Cognitive Capacity and Behavior Modification
- 8.3. Pain and Fear in Fish
  - 8.3.1. Sensitivity and Consciousness
  - 8.3.2. Pain
  - 8.3.3. Fear
- 8.4. Fish Welfare Indicators
  - 8.4.1. Based on the Group
  - 8.4.2. Based on the Individual

- 8.5. Water Quality and Fish Welfare
  - 8.5.1. Dissolved Oxygen
  - 8.5.2. Ammonia, Nitrates, Nitrites
  - 8.5.3. Carbon Dioxide, Gas Oversaturation
  - 8.5.4. Suspended Solids, Heavy Metals
  - 8.5.5. Acidity, Alkalinity, Hardness, Temperature, Conductivity
  - 8.5.6. Water Flow
- 8.6. Fish Welfare under Different Production Systems
  - 8.6.1. Pond Aquaculture
  - 8.6.2. Continuous Flow Systems
  - 8.6.3. Semi-Closed Water Circuit Systems
  - 8.6.4. Water Recirculation Systems
  - 8.6.5. Net Cages
  - 8.6.6. Offshore Culture Systems using Sea Cages
- 8.7. Fish Management and Welfare Implications
- 8.8. Fish Welfare Problems due to Animal Density
  - 8.8.1. Animal Density in Cages
  - 8.8.2. Animal Density in Tanks, Ponds and Raceways
  - 8.8.3. Animal Density and Behavior
  - 8.8.4. Relation between Animal Density and Welfare
- 8.9. Welfare in Commercial Fishery Capture and Fish Farming
  - 8.9.1. Stressors during Capture
  - 8.9.2. Commercial Catching Methods: Trawling, Seining, Trammel Nets and Pots
  - 8.9.3. Preparing for Capture, Crowding and Harvesting of Fish in Fish Farming
- 8.10. Aquarium Fish Welfare
  - 8.10.1. General Considerations
  - 8.10.2. Breeding and Capture
  - 8.10.3. Destination Arrival
  - 8.10.4. Feeding
  - 8.10.5. Health

## Module 9. Animal Welfare during Transportation

- 9.1. Animal Behavior during Handling and Transportation
  - 9.1.1. Animal Handling
  - 9.1.2. Behavioral Features in Animals
  - 9.1.3. Fear Response and Interaction with the Environment
- 9.2. Animal Transportation by Road: Vehicles and Drivers
  - 9.2.1. Features of Road Transportation Vehicles
  - 9.2.2. Driver Aptitude in Animal Transportation
- 9.3. Environmental Factors involved in Welfare during Transportation
  - 9.3.1. Temperature
  - 9.3.2. Dampness
  - 9.3.3. Ventilation
- 9.4. Handling Factors Involved in Welfare during Transportation
  - 9.4.1. Loading and Unloading
  - 9.4.2. Social Mixing
  - 9.4.3. Fasting
- 9.5. Transportation and Handling in Swine and Beef Cattle
  - 9.5.1. Temperature in Swine Transportation
  - 9.5.2. Loading Density, Diet and Microclimate in Swine Transportation
  - 9.5.3. Cattle Behavior in Moving Vehicles
  - 9.5.4. Loading Density and Diet in Cattle Transportation
- 9.6. Poultry Transportation and Handling
  - 9.6.1. Loading and Unloading Poultry
  - 9.6.2. Heat Stress: Energy Balance, Hunger, Thirst and Fatigue
  - 9.6.3. Behavioral Responses: Fear, Aversion
- 9.7. Fish Transportation and Handling
  - 9.7.1. Transportation Systems
  - 9.7.2. The Impact of Transportation on Fish Welfare
  - 9.7.3. Minimizing the Impact of Transportation on Welfare

- 9.8. Transportation and Handling in Other Species
  - 9.8.1. Horse Transportation
  - 9.8.2. Sheep Transportation
  - 9.8.3. Rabbit Transportation
  - 9.8.4. Dog Transportation
  - 9.8.5. Wildlife Transportation
- 9.9. Animal Welfare in Rail, Air and Ship Transportation
  - 9.9.1. Animal Transportation by Rail
  - 9.9.2. Animal Transportation by Aircraft
  - 9.9.3. Animal Transportation by Ship
- 9.10. Impact of Transportation on Animals: Health and Productivity
  - 9.10.1. Consequences of Transportation and Handling on Health
  - 9.10.2. Consequences of Transportation and Handling on Carcass and Meat Quality

## Module 10. Animal Welfare during Slaughter

- 10.1. Scientific Basis of Consciousness and Being Stunned
  - 10.1.1. Neural Basis of Consciousness
  - 10.1.2. Behavior and Physical Reflexes
  - 10.1.3. Criteria for Stunning and Stunning/Sacrifice Methods
- 10.2. Potential Causes of Pain during Slaughter
  - 10.2.1. Pain Caused by Cutting Off Bleeding
  - 10.2.2. Loss of Consciousness Time
  - 10.2.3. Consequences of Cutting Off Animal Responsiveness
- 10.3. Neurophysiological Basis of Stunning and Stunning/Sacrifice Methods
  - 10.3.1. Mechanical Method
  - 10.3.2. Electrical Method
  - 10.3.3. Gas-Mixture Method
- 10.4. Stunning and Stunning/Slaughtering Systems used in Slaughterhouses
  - 10.4.1. Mechanical Stunning Equipment
  - 10.4.2. Electrical Stunning Equipment
  - 10.4.3. Gas-Mixture Stunning Equipment







- 10.5. Welfare in the Slaughter of Cattle, Sheep, Goats and Horses
  - 10.5.1. Stunning or Stunning/Slaughtering Methods Employed
  - 10.5.2. Assessing Effectiveness of Use
  - 10.5.3. Advantages and Disadvantages of Such Methods
- 10.6. Welfare in Swine Slaughter
  - 10.6.1. Stunning or Stunning/Slaughtering Methods Employed
  - 10.6.2. Assessing Effectiveness of Use
  - 10.6.3. Advantages and Disadvantages of Such Methods
- 10.7. Welfare in Poultry Slaughter
  - 10.7.1. Stunning or Stunning/Slaughtering Methods Employed
  - 10.7.2. Assessing Effectiveness of Use
  - 10.7.3. Advantages and Disadvantages of Such Methods
- 10.8. Welfare in Fish Slaughter
  - 10.8.1. Stunning or Stunning/Slaughtering Methods Employed
  - 10.8.2. Assessing Effectiveness of Use
  - 10.8.3. Advantages and Disadvantages of Such Methods
- 10.9. Impact of Stunning or Stunning/Slaughtering Methods on Carcass and Meat Quality
  - 10.9.1. Impact on Carcass Quality
  - 10.9.2. Impact on Meat Quality: Pale, Soft, Exudative and Dark Cut Meats
- 10.10. Euthanasia in Production, Companion and Research Animals
  - 10.10.1. Euthanasia Techniques
  - 10.10.2. Euthanasia Agents

# 06 Methodology

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

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





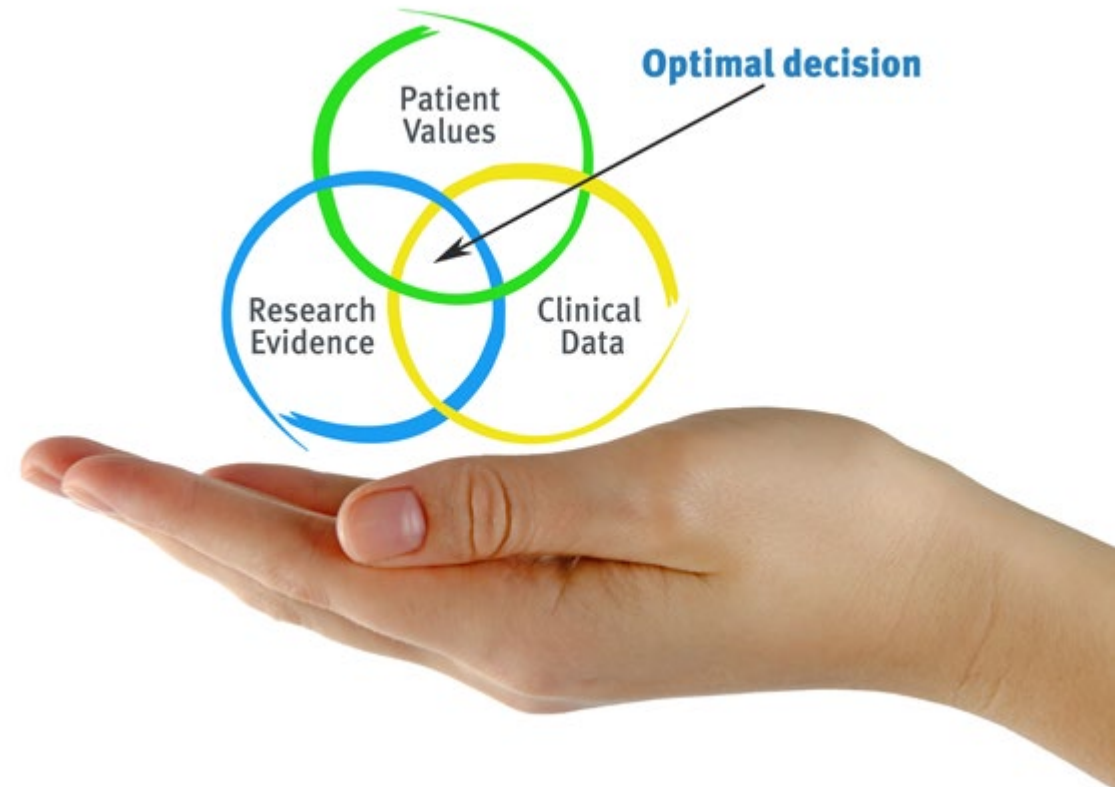
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

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

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



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

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

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

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



## Relearning Methodology

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

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



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

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

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

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

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

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



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



#### Study Material

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

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



#### Latest Techniques and Procedures on Video

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



#### Interactive Summaries

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

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



#### Additional Reading

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







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

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



#### Testing & Retesting

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



#### Classes

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

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



#### Quick Action Guides

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



07

# Certificate

The Professional Master's Degree in Animal Welfare guarantees students, in addition to the most rigorous and updated education, access to a Professional Master's Degree issued by TECH Technological University.



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*Successfully complete this program  
and receive your university degree  
without travel or laborious paperwork”*

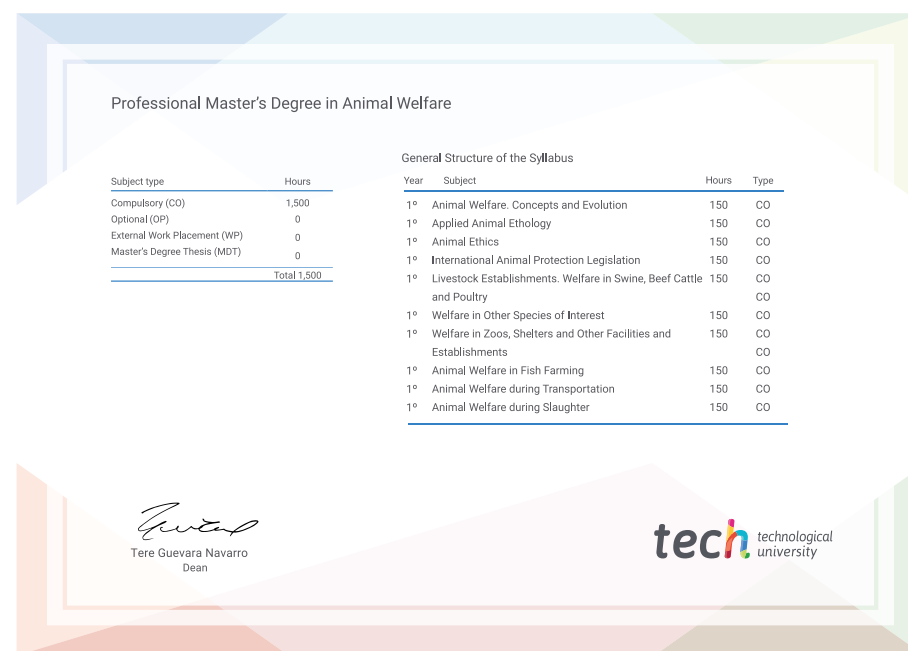
This **Professional Master's Degree** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Animal Welfare**

Official N° of hours: **1,500 h.**



\*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.



## Professional Master's Degree Animal Welfare

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

# Professional Master's Degree

## Animal Welfare

