

# Postgraduate Certificate

## Animal Production and Health





## Postgraduate Certificate Animal Production and Health

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/veterinary-medicine/postgraduate-certificate/animal-production-health](http://www.techtute.com/us/veterinary-medicine/postgraduate-certificate/animal-production-health)

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# 01

# Introduction

This Postgraduate Certificate in Animal Production and Health is designed to provide Veterinary Professionals and other related professionals with expertise in line with the concept of *One Health*. With this training, the professional will be able to identify those processes related to the public health impacts of veterinary medicine (such as zoonotic diseases and antibiotic resistance) and food safety. This knowledge will be effectively rounded off with an exploration of Ecology, the laws of nature and the interaction between human communities and their natural, social and cultural environment. A high-quality program that will propel you to the highest levels in the field.





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*A comprehensive update on Animal Production and Health with the most complete and effective program on the online education market"*

Recent globalization and its impact on animal health and, therefore, public health, is a topic of worldwide interest. The increase in international trade and structural changes in nation states have led to the emergence and spread of global health phenomena that represent risks, challenges and opportunities for producers and consumers. This in turn has posed serious challenges for health agencies, professionals and educational institutions.

In this module students will be able to explore the concept of "One Health", how veterinarians contribute towards this concept and its importance in an increasingly globalized world. 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 impact of ecology on animal health based on an analysis of population ecology, environmental impact and the use of natural resources in the sustainable development of different farmed animal 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.

During this program students will benefit from being able to apply the theoretical knowledge they acquire to specific practical cases.

This **Postgraduate Certificate in Animal Production and Health** 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
- ♦ Intensely visual teaching system, supported by graphic and schematic contents, easy to assimilate and understand
- ♦ Practical cases presented by practicing 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-assessment 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 and open new paths to help you advance in your professional progress"*

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*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. This way, we ensure that we provide you with up-to-date knowledge, which is what we are aiming for. A multidisciplinary team of professionals trained and experienced in different areas, will cover the theoretical knowledge in an efficient way, but above all, will bring practical knowledge from their own experience to the course: one of the factors that makes this program unique.

This mastery of the subject matter is complemented by the effectiveness of the methodological design. 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 education.

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 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 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 program will take you through different teaching approaches to allow you to learn in a dynamic and effective way.*



# 02 Objectives

Our objective is to prepare 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 training.



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*If your objective is to broaden your skills set to include new paths of success and development, this is your Professional Master's Degree: a training that aspires to excellence"*



## General Objective

- 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

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- 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 manner
- 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 field
- 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
- To develop Specialized Knowledge in Animal Welfare committed to Sustainable Development
- Enhance social-ethical processes with viable, effective, and efficient animal welfare solutions
- 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
- Enhance ethical, technical, and social processes to generate viable, effective, and efficient animal welfare solutions in line with the concept of "One Health, One Welfare"
- Promote social awareness processes focused on the creation of short-term solutions for the application of animal welfare



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

03

# 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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*Leading professionals in the field have come together to teach you the latest advances in Animal Production and Health”*

## Management



### Dr. Ruiz Fons, José Francisco

- ♦ Member of the Spanish Society for the Conservation and Study of Mammals (SECEM) and the Wildlife Disease Association (WDA).
- ♦ CSIC Senior Scientist at the Institute for Research in Hunting Resources IREC
- ♦ Researcher in the Health Research Fund at The Macaulay Land Use/James Hutton Research Institute and the Carlos III Health Institute.
- ♦ Degree in Veterinary Medicine from the University of Murcia.
- ♦ PhD in Biology and Technology of Hunting Resources from the University of Castilla La Mancha.

## Professors

### Dr. Sarmiento García, Ainhoa

- ♦ Veterinarian. Head of the Nutrition Department. Casaseca Livestock, SLU
- ♦ 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

### Mr. Romero Castañón, Salvador

- ♦ Veterinarian and Zootechnician graduated from the Benemérita Universidad Autónoma de Puebla, in Mexico
- ♦ Master of Science in Natural Resources and Rural Development, Colegio de la Frontera Sur, Mexico
- ♦ PhD student in Agricultural and Environmental Sciences
- ♦ Courses 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 at Benemérita Autonomous University, Puebla
- ♦ Member of the IUCN Deer Specialist Group

**Dr. Gómez Castañeda, Irma**

- ♦ President of the World Network of Veterinary Specialists in Animal Welfare
- ♦ Doctoral candidate. Veterinarian and Zootechnician
- ♦ General Director of the Animal Welfare Institute, Puebla, Mexico
- ♦ Master in Clinical Veterinary Ethology and Animal Welfare, Universidad Complutense de Madrid (UCM), Spain
- ♦ Postgraduate in Veterinary Clinical Neurology from the Catholic University of Salta (Argentina)
- ♦ Master in Education and Doctorate in Education from the UAT, Argentina
- ♦ Graduate in Animal Welfare and Behavioral Medicine from the Latin American Veterinary College of Animal Welfare and Behavioral Medicine Certificate in Animal Behaviour and Welfare, The University of Edinburgh, The Royal School of Veterinary Studies, International Center for Animal Welfare Education. Scotland, United Kingdom:
- ♦ Training in Forensic Veterinary Medicine, Animal Law, and Criminalistics from the Annual Training Program Bogotá, Colombia. Certified in Psychological First Aid
- ♦ Teacher, Researcher, and thesis director in Ethology, Clinical Ethology and Animal Welfare for Undergraduate and Postgraduate Courses, Universidad Autónoma de Barcelona (Spain)



04

# Structure and Content

The contents have been developed by different specialists in the area, 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 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. Important Animal Production and Health Aspects

- 1.1. Animal Production
  - 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
    - 1.6.3.1. 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
- 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
  - 2.5.6. Physiology
  - 2.5.7. Biochemistry

- 2.5.8. The Five Animal Needs
  - 2.5.8.1. Suitable Environment
  - 2.5.8.2. Adequate Diet
  - 2.5.8.3. Normal Behavior
  - 2.5.8.4. Adequate Housing
  - 2.5.8.5. Pain, Suffering, Injury and Illness
- 2.5.9. Stress and Animal Welfare
  - 2.5.9.1. Relationship between Stress and Animal Welfare
- 2.5.10. Social Aspects of Animal Welfare
- 2.5.11. Principles of Animal Welfare
  - 2.5.11.1. What are the Basic Principles of Animal Welfare?
- 2.5.12. Assessment of Animal Welfare
  - 2.5.12.1. Important Aspects to evaluate Animal Welfare
- 2.6. Animal 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. Feeding
  - 2.6.5. Normal and Abnormal Behavior Patterns
    - 2.6.5.1. Normal Behavior
    - 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 *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



- 2.8. Animal Welfare Indicators
  - 2.8.1. Types of Indicators
  - 2.8.2. Biomarkers of Stress as Indicators of Animal Welfare
    - 2.8.2.1. Types of Indicators
  - 2.8.3. Welfare Assessment Protocols
  - 2.8.4. Criteria for Animal Welfare Assessment
  - 2.8.5. Animal Welfare Problems and Their Effects on Animal Health and Production
  - 2.8.6. Health
  - 2.8.7. Diseases
  - 2.8.8. Physiology and Biochemistry
  - 2.8.9. Productivity
  - 2.8.10. Stressors
    - 2.8.10.1. Introduction
    - 2.8.10.2. Types of Stressors

# 05 Methodology

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

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



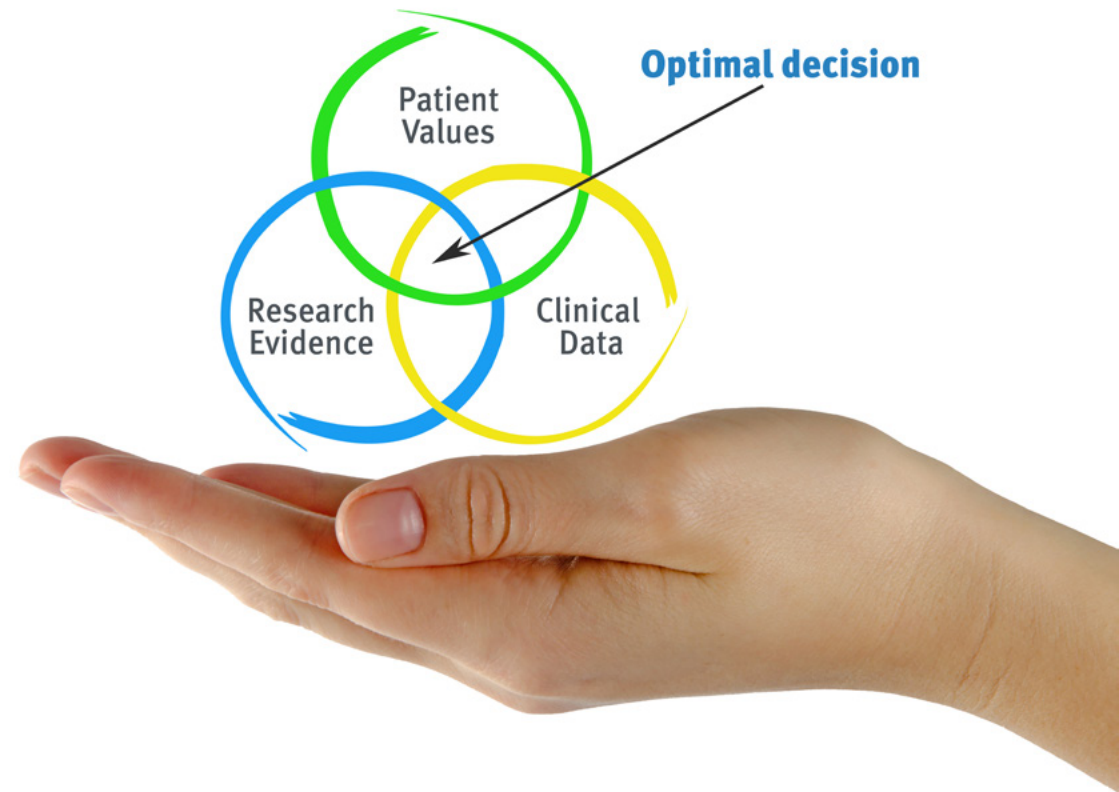
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

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

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



According to Dr. Gervas, 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

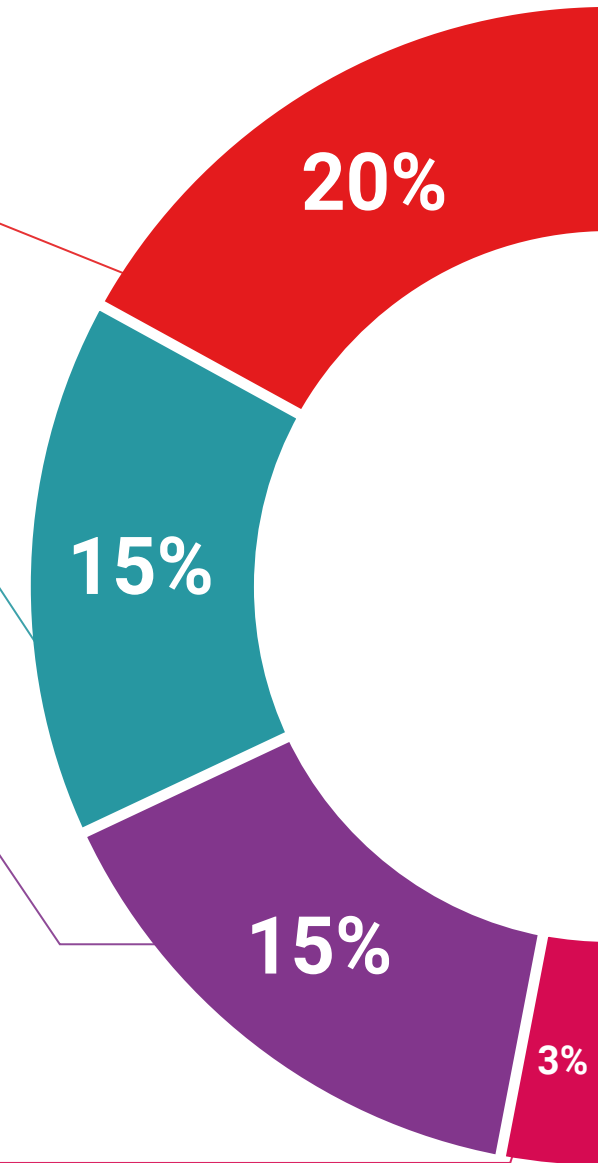
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

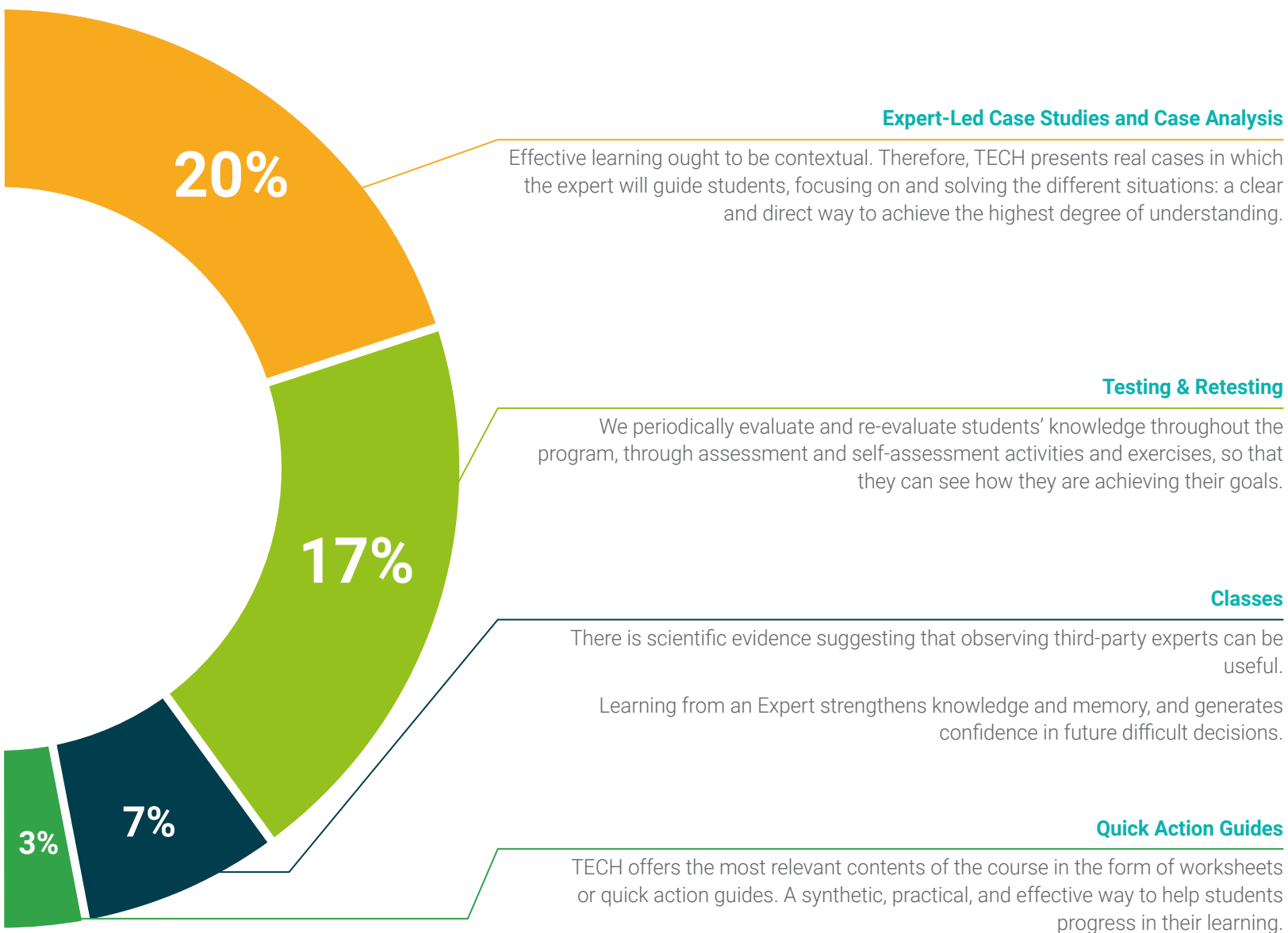
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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.





# 06 Certificate

The Postgraduate Certificate in Animal Production and Health guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Animal Production and Health** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Animal Production and Health**

Modality: **online**

Duration: **12 weeks**

Credits: **12 ECTS**





## Postgraduate Certificate Animal Production and Health

- » Modality: online
- » Duration: 12 weeks
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- » Schedule: at your own pace
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