Postgraduate Certificate
Aquaculture Nutrition

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Postgraduate Certificate
Aquaculture Nutrition

Course Modality: **Online**
Duration: **12 weeks**
Certificate: **TECH - Technological University**
12 ECTS Credits
Teaching Hours: **300 hours.**
Website: **https://www.techtitute.com/us/veterinary-medicine/postgraduate-certificate/aquaculture-nutrition**

Index

01

Introduction

The correct feeding of the species raised in aquaculture will achieve better results in terms of reproduction and fish breeding, which will result in an economic and social benefit for the population, since it will satisfy the demand with sustainable and quality products. Do not hesitate and expand your knowledge with this complete course specializing in Aquaculture Nutrition.

Each culture has specific characteristics that are necessary to know in order to apply the appropriate nutrients to each species"

The management and knowledge of nutrition in different aquatic species can be one of the fundamental factors that determine the good yield of a culture, while a poor management of this aspect can be reflected in low aquaculture production.

In the current circumstances, where the use of chemicals and antibiotics is increasingly limited, it becomes more necessary to master the application of nutrients and additives in the manufacture of feed used in the aquaculture industry.

The study of the intestinal microbiota of fish, for example, is also an important development in aquaculture nutrition. Currently, there is a lot of information about their composition, abundance, diversity and activity and how to make use of this knowledge to improve culture yields, since these microbes have important implications on the health of the host, its development, well-being and, above all, on its nutrition.

In addition, it must be taken into account that each type of culture has different characteristics, and therefore each species has a specific set of requirements in terms of nutrition.

This Postgraduate Certificate provides students with specialized tools and skills to successfully develop their professional activity in the wider aquaculture environment, works on key competencies such as knowledge of the reality and daily practice of the professional, and it further promotes responsibility in the monitoring and supervision of their work, as well as communication skills through essential teamwork. In addition, as it is an online Postgraduate Certificate, the student is not constrained by fixed timetables or the need to move to another physical location, but can access the contents at any time of the day, balancing his or her work or personal life with their academic life.

This **University Course in Aquaculture Nutrition** is the most comprehensive and up-to-date educational program on the market. The most important features of the program include:

- Practical cases studies are presented by experts in Aquaculture
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- New developments in Aquaculture Nutrition
- Practical exercises where self-assessment can be used to improve learning.
- Special emphasis is placed on innovative methodologies in Aquaculture Nutrition
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Immerse yourself in this high-quality educational training-program, which will allow you to face the future challenges in Aquaculture Nutrition"

This Postgraduate Certificate is the best investment you can make in selecting a refresher program to bring your knowledge of Aquaculture Nutrition up to date"

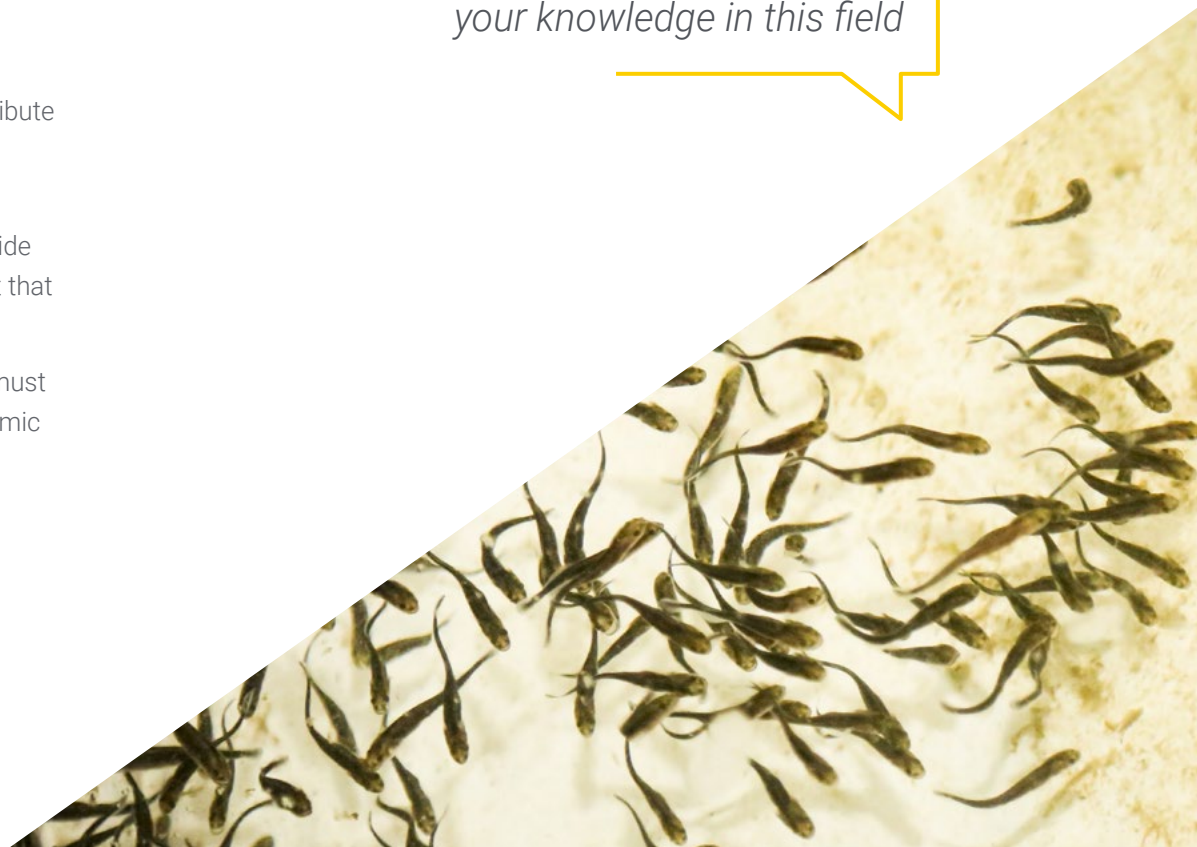
This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning

This 100% online course will allow you to combine your studies with your professional work while increasing your knowledge in this field

Its teaching staff includes professionals belonging to the veterinary field, who contribute their expertise to this specialization, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

This program is designed around Problem Based Learning, whereby the specialist must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative Interactive Video System, developed by well-known experts in Aquaculture Nutrition



02

Objectives

The Postgraduate Certificate in Aquaculture Nutrition is designed to facilitate the performance of the veterinary professional with the latest advances and most innovative procedures in the sector.

Our goal is to achieve academic excellence and to help you achieve professional success as well"

General Objectives

- To master the formulation techniques of different types of feed for aquaculture cultures
- Examine the nutritional requirements of aquatic cultures
- Generate specialized, quality knowledge on feeds to select the most appropriate raw materials
- Analyze the intestinal microbiota of aquatic species to obtain better culture yields
- Analyze the details of the different Aquaculture Cultures
- Analyze the differences that can be observed between the various types of aquaculture cultures
- Examine the different systems used within the variety of existing Aquaculture Culture Systems.
- Determine the different standards to be followed in the different products obtained within the wide practice of aquaculture

Make the most of the opportunity and take the step to get up to date on the latest developments in Aquaculture Nutrition"

Specific Objectives

- Determine the nutritional requirements of fish, crustaceans, and mollusks
- Manage practical feed formulation for different life stages, such as larval, fattening, and reproductive stages
- Analyze the Digestibility of the Fundamental Components of Feedstuffs
- Establish the relevant aspects of the different forms of feed presentation for Aquaculture Cultures
- Generate specialized knowledge on the supply of minerals, vitamins, and other additives
- Analyze the advantages and possible disadvantages derived from the use and misuse of probiotics
- Examine live feed cultures and their use in Aquaculture
- Examine the Production Systems used in Inland Aquaculture
- Analyze the Culture Models of Different Inland Species
- Determine the production systems used in Marine Aquaculture
- Analyze the Culture Patterns of Different Marine Species
- Examine the production systems used in Ornamental Aquaculture
- Analyze the Culture Models of different Ornamental Species
- Determine the Details and Differences between different Fish Species in order to take them into account in their Culture Modes
- Develop the most Relevant Aspects of other Types of Aquaculture Models, such as Live Food Culture

03

Course Management

The program's Teaching Staff includes leading experts in Aquaculture who contribute their expertise to this specialization. They are World-renowned Professionals from different Countries with proven Theoretical and Practical Professional Experience.

We have the best Teaching Team in the field of Aquaculture, with years of experience and who are determined to transmit all their knowledge about this Sector"

Management

Mr. Gracia Rodríguez, José Joaquín

- Degree in Veterinary Medicine from the University of Murcia.
- Diploma in Aquaculture Specialization. Polytechnic University of Valencia
- Advanced Ichthyopathology Course
- International Congress on Sustainable Aquaculture
- Certificate in Pedagogical Aptitude University of Extremadura
- Attendance at the AVEPA Continuing Education Conference
- Teacher in Higher Vocational Training Degrees in the Sanitary Branch
- Training in Biosecurity and Pathology in the Ornamental Aquaculture Sector
- Speaker at National Congresses and Courses on Ornamental Aquaculture
- Training Courses for Livestock Farmers on Safety and Regulations in the Transport of Animals
- Food Handler Courses for Companies and Individuals.
- Consultant in Ichthyopathology for several companies in the Aquaculture Sector
- Technical Director in the Ornamental Aquaculture Industry
- Coordination of Projects in Maintenance of Wild Species and Water Quality
- Projects in Natural Parks for the Control of Allochthonous Ichthyofauna
- Projects for the Recovery of Native Crayfish
- Carrying out Wildlife Species Censuses
- Coordination of livestock Sanitation Campaigns in Castilla-La Mancha
- Veterinarian in a Breeding and Genetic Improvement Company in the Rabbit Breeding Sector

Management

Ms. Herrero Iglesias, Alicia Cristina

- Degree in Veterinary Medicine from the University of Extremadura.
- Master's Degree in Secondary Education, International University of La Rioja
- Course "Animal Welfare in Livestock Production" organized by the Official College of Veterinarians of Madrid, in collaboration with the Faculty of Veterinary Medicine UCM and the Ministry of Environment and Land Management of the Community of Madrid
- Occupational Trainer, given by the INESEM Postgraduate Training Center.
- "Trainer of Trainers" Course given by the University Antonio de Nebrija .
- Teacher in the Degree in Veterinary Medicine, University of Alfonso X el Sabio (Madrid)
- Since February 2012 she has been Teaching "Ethnology and Veterinary Business Management" and "Animal Production"
- From the Academic Year 2016-2017 to the present, she has been teaching Hematological Analysis Techniques and Immunological Diagnostic Techniques for the 2nd year of the Formative Cycle of Higher Degree of Clinical and Biomedical Laboratory in Opesa (Madrid)
- Secondary School Teacher Cristóbal Colón School (Talavera de la Reina) Academic Year 18/19
- Veterinary Trainer in the Alonso Herrero HACCP Company for the Training of Food Handlers
- Teacher of the Course of Veterinary Technical Assistant, in Grupo INN, giving Classes during the course 18/19 (Talavera de la Reina)
- Her Professional Career began with Field Work in the Field of Large Animal Production
- After working in Animal Health and Sanitary Inspection, she began to focus on the Field of Teaching
- At present, she combines her Teaching Work at the University with Higher Technical Classes and Field Activities within the Veterinary Field
- During their Professional Career, she has taken a large number of Continuing Education and Specialization Courses
- Internships in the Jesús Usón Center for Minimally Invasive Surgery (CCMI) in Cáceres, Spain
- She was also a Student Intern at the Department of Medicine of the Faculty of Veterinary Medicine of the UEX

04

Structure and Content

The structure of the content has been designed by the best Professionals in the Aquaculture Sector, with extensive Experience and Recognized Prestige in the Profession, backed by the volume of cases Reviewed, Studied, and Diagnosed, and with extensive knowledge of New Technologies applied to Veterinary Medicine.

We have the most complete and up-to-date academic program in the market. We strive for excellence and for you to achieve it too"

Module 1. Nutrition in Aquaculture Farms

1.1. Nutritional Requirements of Aquatic Organisms
- 1.1.1. Nutritional Requirements of Fish
- 1.1.2. Nutritional Requirements of Crustaceans
- 1.1.3. Nutritional Requirements of Molluscs

1.2. Practical Feed Formulation
- 1.2.1. Larval Feed Formulation
- 1.2.2. Feed Formulation for Fattening
- 1.2.3. Feed Formulation for Reproductive Stage

1.3. Feed Quality and Raw Material Selection
- 1.3.1. Proteins
- 1.3.2. Amino Acids
- 1.3.3. Carbohydrates
- 1.3.4. Lipids

1.4. Digestibility of Food Components
- 1.4.1. Protein
- 1.4.2. Amino Acids
- 1.4.3. Carbohydrates
- 1.4.4. Lipids

1.5. Forms of Presentation of Feed for Aquaculture Cultures
- 1.5.1. Floating Feeds
- 1.5.2. Pelletized
- 1.5.3. Expanded
- 1.5.4. Extruded

1.6. Supply of Minerals, Vitamins and Other Additives
- 1.6.1. Minerals
- 1.6.2. Vitamins.
- 1.6.3. Other Additives

1.7. Intestinal Microbiota
- 1.7.1. The Importance of Microbiota
- 1.7.2. Microbiota Composition
- 1.7.3. Factors influencing the Composition of the Microbiota

1.8. Use of Probiotics in Aquaculture
- 1.8.1. Probiotics
- 1.8.2. Beneficial effects of Probiotics
- 1.8.3. Immune Response to the Intestinal Microbiota
- 1.8.4. Organisms considered as Probiotics
- 1.8.5. Some problems associated with the misuse of Probiotics

1.9. Live Feeding: Probiotics and Prebiotics
- 1.9.1. Bacterial Aspects of Live Feeding
- 1.9.2. Bacterial Control in Live Feed Cultures
- 1.9.3. Live Feed Enrichment and Microbial Implications
- 1.9.4. Probiotics in Live Feed Production
- 1.9.5. Prebiotics and SymbiAotics in Live Feeds

1.10. Antinutritional Factors and Toxins in Feeds
- 1.10.1. Thiaminase
- 1.10.2. Avidin
- 1.10.3. Protease Inhibitors
- 1.10.4. Lectins
- 1.10.5. Phytoestrogens and Phytosterols
- 1.10.6. Phytic Acid:
- 1.10.7. Glucosinolates
- 1.10.8. Saponins
- 1.10.9. Alkaloids
- 1.10.10. Mycotoxins

Module 2. Aquaculture Culture Models

2.1. Inland Models I
- 2.1.1. Cyprinid Farming
- 2.1.2. Tilapia Farming

2.2. Continental Models II
- 2.2.1. Trout Farming
- 2.2.2. Salmon Farming

2.3. Marine Aquaculture Models I
- 2.3.1. Sea Bream Farming
- 2.3.2. Sea Bass Farming

2.4. Marine Aquaculture Models II
- 2.4.1. Turbot Farming
- 2.4.2. Tuna Farming

2.5. Mollusc Farming Models
- 2.5.1. Clam Farming
- 2.5.2. Mussel Farming

2.6. Crustacean Culture Model
- 2.6.1. Shrimp Farming
- 2.6.2. Prawn Farming

2.7. Models for Ornamental Aquaculture Cultures. Freshwater Species I
- 2.7.1. Viviparous Culture
- 2.7.2. Cultivation of South American Cichlids
- 2.7.3. Cultivation of African Cichlids

2.8. Models for Ornamental Aquaculture Cultures. Freshwater Species II
- 2.8.1. Cultivation of African Cichlids
- 2.8.2. Discus Fish Farming
- 2.8.3. Koi Culture
- 2.8.4. Culture of Other Freshwater Species

2.9. Models for Ornamental Aquaculture. Saltwater Species
- 2.9.1. Clownfish Farming
- 2.9.2. Paracanthurus Hepatus Farming
- 2.9.3. Pterapogon Kauderni Farming
- 2.9.4. Macro and Microalgae Culture

2.10. Other Aquaculture Culture Models
- 2.10.1. Microalgae Culture
- 2.10.2. Macroalgae Culture
- 2.10.3. Live Food Culture

This specialization will allow you to comfortably advance in your career "

05

Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

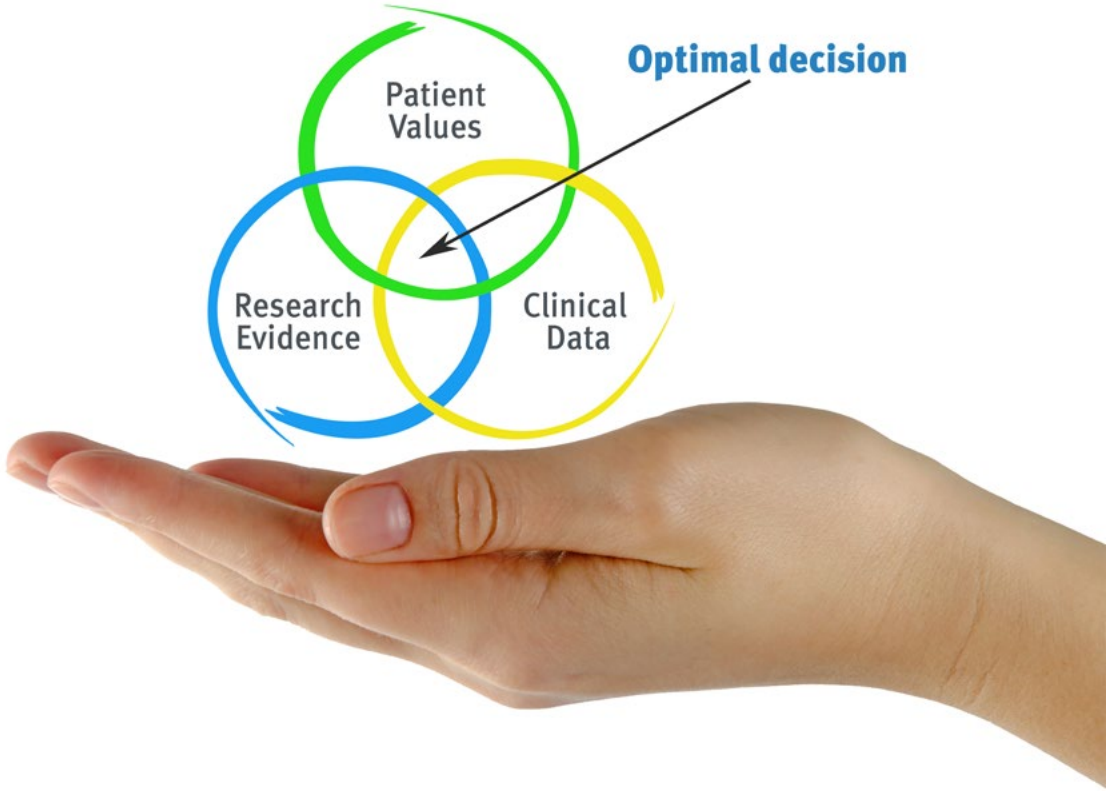
This teaching system is used in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.

Discover Re-learning, 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

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:

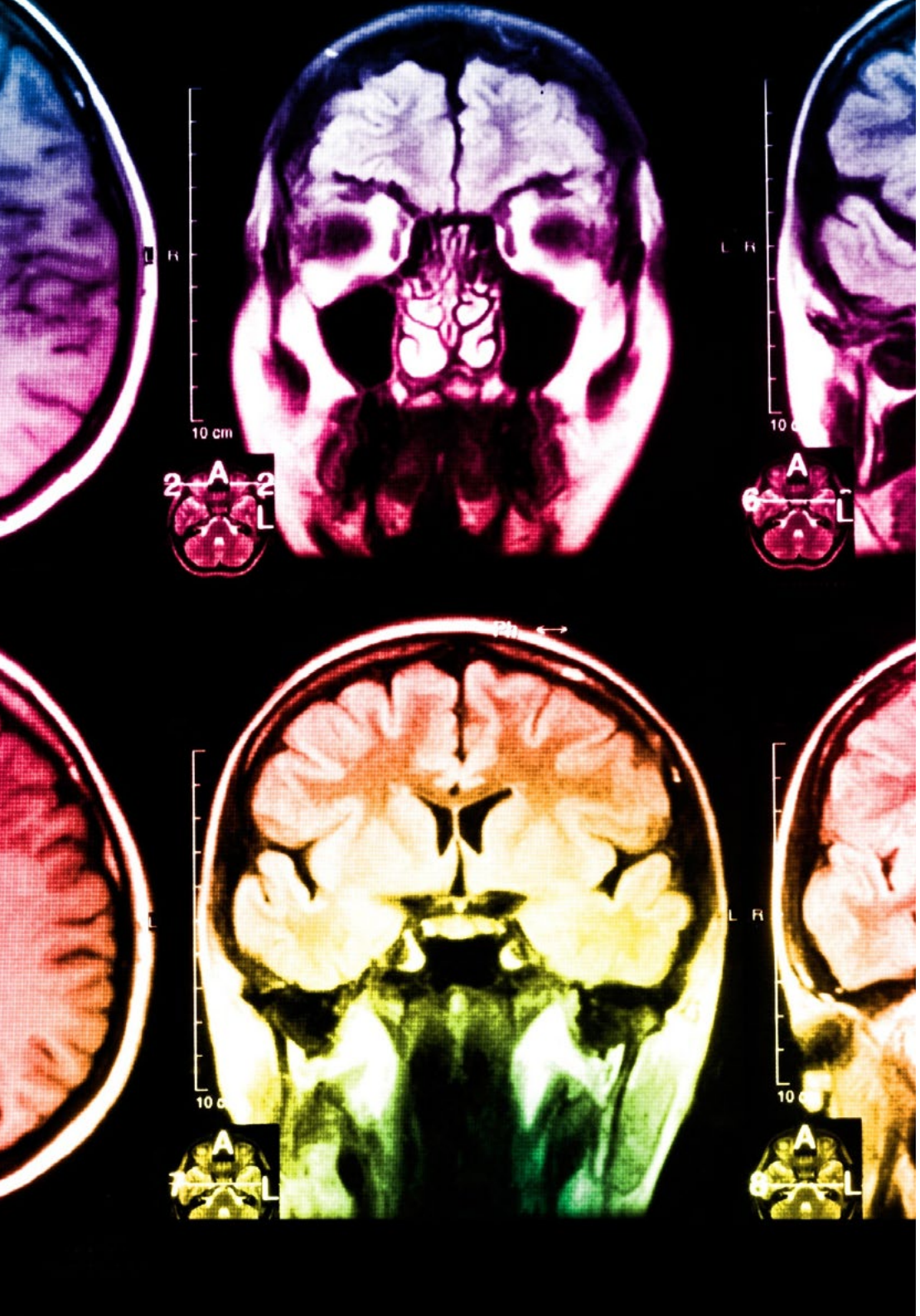
1. Veterinarians who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. The learning process has a clear focus on practical skills that allow the student to 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.



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.

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

Study Material

All didactic contents are created by the very specialists who will teach the course, and which is specifically designed for said course, so that the didactic content is both concrete and practical.

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.

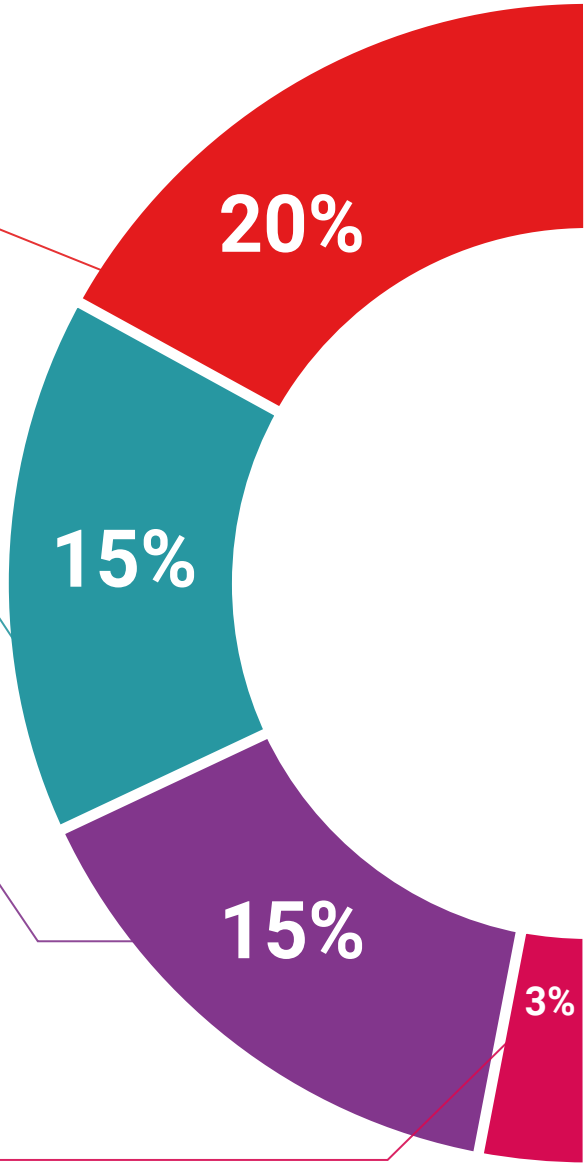
Interactive Summaries

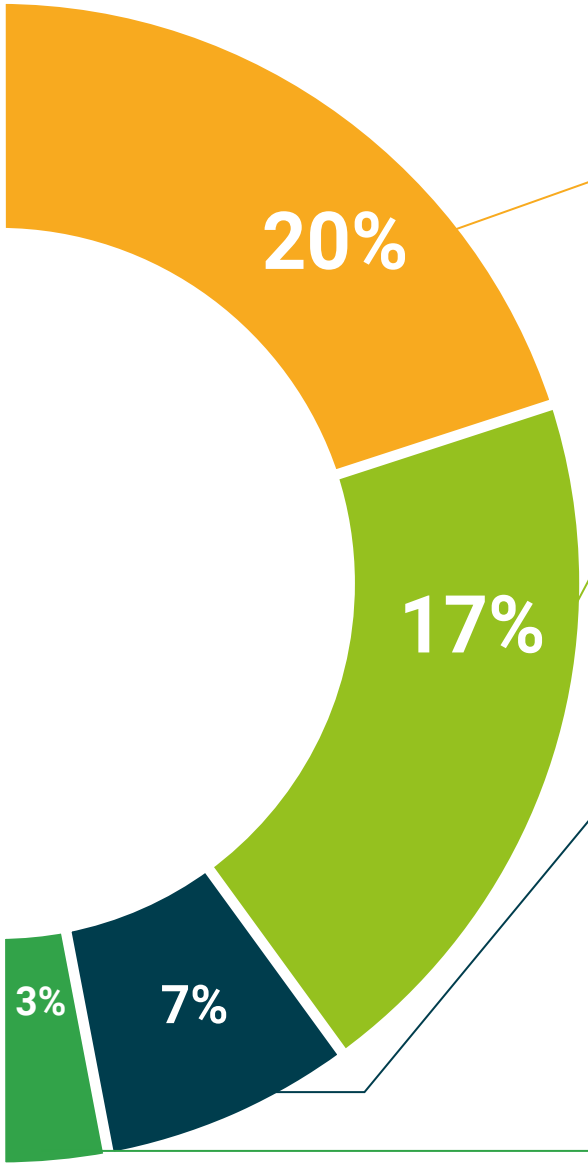
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 & Retesting

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.

06

Certificate

The Postgraduate Certificate in Aquaculture Nutrition guarantees you, in addition to the most rigorous and up to date training, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this training and receive your university degree without travel or laborious paperwork"

This **Postgraduate Certificate in Aquaculture Nutrition** is the most comprehensive and up-to-date program on the market.

After students have passed the assessments, they will receive their **Postgraduate Certificate Certificate** issued **TECH - Technological University.**

The Postgraduate Certificate issued by **TECH Technological University** will reflect the qualification obtained in the course, and meets the requirements commonly demanded by the job market, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Aquaculture Nutrition**

ECTS: **12**

Official Number of Hours: **300**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Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Aquaculture Nutrition

This is a qualification awarded by this University, with 12 ECTS credits and equivalent to 300 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

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

*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.

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