



Postgraduate Diploma

Poultry Nutrition and Feeding

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We b site: www.techtitute.com/in/nutrition/postgraduate-diploma/postgraduate-diploma-poultry-nutrition-feeding

Index

> 06 Certificate

> > p. 30





tech 06 | Introduction

The Poultry Nutrition and Feeding program is designed for professional nutritionists to update and improve their technical and practical knowledge in this sector. It addresses the main aspects related to the nutrition and feeding of the main poultry species destined to the production of animal protein (broilers and laying hens) as well as the differentiated nutrition in broilers to obtain a higher yield of cuts, special feeds, transport of newly hatched birds or finished birds before slaughter.

The program enables the entry, linkage and specialization of nutritionists to one of the most important sectors of animal production at present and with more labor demand and need for specialization.

It is an ambitious, broad, structured and intertwined proposal, which covers from the fundamental and relevant principles of nutrition to the manufacture of feed. All this with the characteristics of a course of high scientific, teaching and technological level.

Become one of the most demanded professionals of the moment: educate yourself with this Postgraduate Diploma in Poultry Nutrition and Feeding"

This **Postgraduate Diploma in Poultry Nutrition and Feeding** 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 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-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 the course

Introduction | 07 tech

66

A course that will enable you to work in the poultry production sectors with the solvency of a high-level professional"

TECH's teaching staff is made up of professionals from different fields related to this specialty. This will ensure that they are provided with the intended objective of the training update. A multidisciplinary team of professionals prepared and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will bring the practical knowledge derived from their own experience to the course: one of the differential qualities of this course.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Diploma. Developed by a multidisciplinary team of e-learning experts, it integrates the latest advances in educational technology. In this way, our students will be able to study with a range of convenient and versatile multimedia tools that will give them the operability they need during the program.

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, telepractice will be used: with the help of an innovative system of interactive videos, and learning from an expert you will be able to acquire the knowledge as if you were facing the case you are learning in real time. A concept that will allow students to integrate and memorize what they have learnt in a more realistic and permanent way.

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

Learning through an immersive experience is possible thanks to this academic program.







tech 10 | Objectives



General Objectives

- Determine the properties, use and metabolic transformations of nutrients in relation to the nutritional needs of an animal
- Provide clear and practical tools so that the professional can identify and classify the different foods that are available in the region and have better elements of judgment to make the most appropriate decision in terms of differential costs, etc
- Propose a series of technical arguments which allow for a better quality of diet and nutrition and therefore, improve the end produce (meat or milk)
- Analyze the different raw material components with both positive and negative effects on Animals. Nutrition and how animals use them for the production of animal protein
- Identify and understand the different levels of digestibility for each of the various nutritional components according to their origin
- To analyze the key aspects for the design and creation of diets (food) aimed at achieving the maximum utilization of nutrients by animals intended for animal protein production
- Provide specialized training on the nutritional requirements for the two main species of birds to be used in animal protein production
- Develop specialized understanding of the nutritional requirements of the porcine species and the different feeding strategies needed in order to guarantee that they reach the expected welfare and production standards according to their production stage
- Provide practical, theoretical and specialized knowledge on the physiology of canine and feline digestive systems

- Analyze the digestive system of ruminants and their particular way of assimilating nutrients from fiber-rich foods
- Analyze the main additive groups used in the food production industry, focused on ensuring the quality and performance of different food products
- Analyze, in a clear way, how the complete animal feed manufacturing process is developed: the phases and processes which feed undergoes to guarantee its nutritional composition, quality and safety



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



Specific Objectives

Module 1. Nutrients and Metabolism

- Develop the different nutrients contained in the raw materials used in animal nutrition
- Develop the different components of each one of the nutrient groups
- Determine the destinations or metabolic pathways of nutrients to be utilized by the animal
- Establish how animals obtain energy from different nutrients and what energy metabolism consists of
- Analyze the different assimilation processes of nutrients that different species
 of animals have and which are necessary for their well-being and production
- Evaluate the importance of water as a nutrient and the effect that it has on animals

Module 2. Nutrition and Food in Poultry.

- Establish the nutritional requirements and the feeding programs of broiler chickens
- Specify the nutritional requirements of laying hens (commercial eggs)
- Specify the nutritional requirements and feeding programs in matrices.
- Identify the critical phases of broilers and layers and the adjustments that can be implemented through the use of special diets
- Establish the different nutritional strategies used to manage challenges such as heat stress and shell quality
- Analyze the Nutritional Profiles and Strategies that allow higher yield of meat cuts and modification of egg size
- Determine the different production phases in commercial poultry farming by species
- Compile the different feeding programs in commercial poultry farming
- Apply different strategies in the application of feeding programs focused on guaranteeing zootechnical results

Module 3. Additives in Animal Food

- Analyze the different types of additives which exist in the animal feed and nutrition market
- Define the recommendations for the use and functionality of the different additive groups
- Gain up-to -date knowledge of the new technology focused on improving the quality and efficiency of animal feed
- Identify mycotoxins as the hidden enemy in diet quality, animal health and productivity; what are the strategies for their control, the different types and use of mycotoxin binders
- Specialize in the use of enzymes in balanced feed, what they are, the differences between enzymes of the same category, what they are used for and the benefits of their incorporation in the diet
- Analyze phytogenics as a category that goes beyond essential oils; what they are, types of phytogenic substances, modes of use and benefits





tech 14 | Course Management

Management



Dr. Cuello Ocampo, Carlos Julio

- Technical Director at Huvepharma in Latin America
- Degree in Veterinary Medicine from the National University of Colombia
- Professional Master's Degree in Animal Production with emphasis on Monogastric Nutrition at the Universidad Nacional de Colombia
- Postgraduate Certificate in Ration Formulation for Productive Species at the University of Applied and Environmental Sciences UDCA

Professors

Dr. Fernández Mayer, Anibal Enrique

- Academic Research at INTA
- Specialist and Private Advisor in Milk Production
- Technician Specialized in Animal Production at the Bordenave Agricultural Experimental Station (EEA)
- Agricultural Engineer from the University of Nacional de la Plata
- Veterinary Doctor from the La Habana Agricultural University

Dr. Páez Bernal, Luis Ernesto

- Commercial Director at BIALTEC, a company dedicated to efficient and sustainable animal nutrition
- Doctor in Nutrition and Monogastric Production from Viçosa Federal University
- Bachelor's Degree in Veterinary from the National University of Colombia
- Master's Degree in Zootechnics from Viçosa Federal University
- Lecturer

Dr. Sarmiento García, Ainhoa

- Collaborative Researcher at the Faculty of Agricultural and Environmental Sciences and the Polytechnic School of Zamora
- Research Director at Entogreen
- Reviewer of scientific articles in Iranian Journal of Applied Science
- Veterinarian in charge of the nutrition department at Casaseca Livestock
- Veterinary Clinic El Parque in Zamora
- Associate Professor at the Faculty of Agricultural Sciences of the University of Salamanca
- Degree in Veterinary Medicine from the University of León
- PhD. in Chemical Science and Technology from the University of Salamanca
- Master's Degree in Innovation in Biomedical and Health Sciences by the University of León

D. Ordoñez Gómez, Ciro Alberto

- Researcher specialized in animal nutrition
- Author of the book Glycerin and biodiesel by-products: alternative energy for poultry and swine feed
- Lecturer in the area of animal nutrition and feeding at the Francisco de Paula Santander University
- Master's Degree in animal production at the Francisco de Paula Santander University
- Degree in Animal Husbandry from Francisco de Paula Santander University

Dr. Portillo Hoyos, Diana Paola

- Zootechnician at Dog Home Veterinary Clinic
- Zootechnician at Productos Lácteos San Andrés
- Expert researcher in Animal Production
- Co-author of several books on veterenary
- Zootechnician at the National University of Colombia

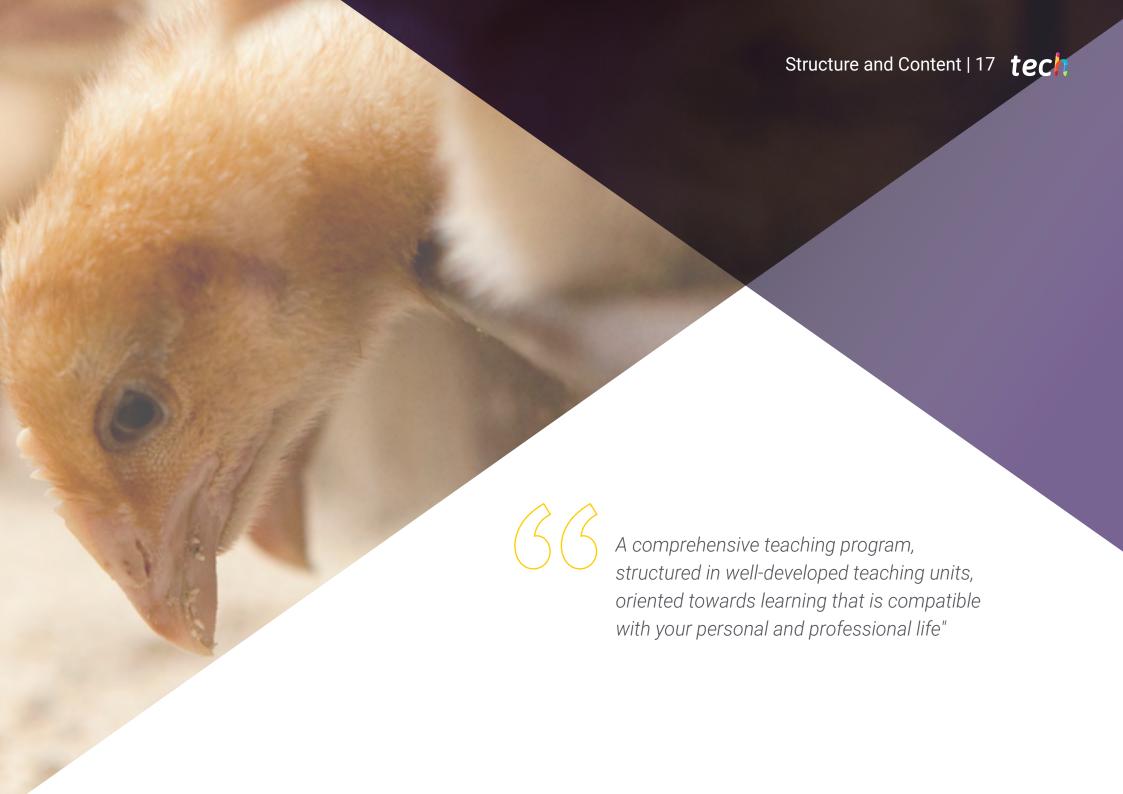
Dr. Rodríguez Patiño, Leonardo

- Technical Manager at Avícola Fernandez (poultry company)
- Nutritionist at Grupo Casa Grande
- Nutritionist at Unicol
- Technical-Commercial Consultant at PREMEX
- Nutritionist at Corporación Fernández for Broilers and Pigs
- Master's Degree in Animals. Nutrition
- Zootechnician at the National University of Colombia

Structure and Content

The contents of this training have been developed by the different experts of this course, 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.



tech 18 | Structure and Content

Module 1. Nutrients and Metabolism

- 1.1. Carbohydrates
 - 1.1.1. Carbohydrates in Animal Food
 - 1.1.2. Classification of Carbohydrates
 - 1.1.3. Digestion Process
 - 1.1.4. Fiber and Digestion of Fiber
 - 1.1.5. Factors which Affect the Utilistion of Fiber
 - 1.1.6. Physical Function of Fibre
- 1.2. Metabolism of Carbohydrates
 - 1.2.1. Metabolic Fate of Carbohydrates
 - 1.2.2. Glycolysis, Glycogenolysis, Glycogenesis and Gluconeogenesis
 - 1.2.3. Pentose Phosphate Cycle
 - 1.2.4. Krebs Cycle
- 1.3. Lipids
 - 1.3.1. Classification of Lipids
 - 1.3.2. Functions of Lipids
 - 1.3.3. Fatty Acids
 - 1.3.4. Digestion and Absorption of Fats
 - 1.3.5. Factors which Affect Lipid Digestion
- 1.4. Lipid Metabolism
 - 1.4.1. Metabolic Fate of Lipids
 - 1.4.2. Fat Metabolism Energy
 - 1.4.3. Oxidative Rancidity
 - 1.4.4. Essential Fatty Acids
 - 1.4.5. Lipid Metabolism Problems
- 1.5. Energy Metabolism
 - 1.5.1. Measurement of Heat Reaction
 - 1.5.2. Biological Partitioning of Energy
 - 1.5.3. Nutrient Caloric Increase
 - 1.5.4. Energy Balance
 - 1.5.5. Environmental Factors that Influence Energy Requirements
 - 1.5.6. Characteristics of Energy Deficiencies and Excesses

- 1.6. Proteins
 - 1.6.1. Protein Classification
 - 1.6.2. Functions of the Different Proteins
 - 1.6.3. Digestion and Absorption of Proteins
 - 1.6.4. Factors which Affect Protein Digestion
 - .6.5. Nutritional Classification of Amino Acids for Poultry and Swine
- 1.7. Protein Metabolism in Poultry and Swine
 - 1.7.1. Metabolic Fate of Proteins
 - 1.7.2. Gluconeogenesis and Degradation of Amino Acids
 - 1.7.3. Excretion of Nitrogen and Synthesis of Uric Acid
 - 1.7.4. Imbalance of Amino Acids and Energetic Cost of Protein Metabolism
 - 1.7.5. Interaction Between Amino Acids
- 1.8. Vitamins and minerals
 - 1.8.1. Vitamin Classification
 - 1.8.2. Vitamin Requirements for Poultry and Swine
 - 1.8.3. Vitamin Deficiencies
 - 1.8.4. Macro and Micro minerals
 - 1.8.5. Interaction Between Minerals
 - 1.8.6. Organic Chelates
- 1.9. Mineral and Vitamin Metabolism
 - 1.9.1. Vitamin Interdependence
 - 1.9.2. Deficiencies and Toxicity of Vitamins
 - 1.9.3. Choline
 - 1.9.4. Metabolism of Calcium and Phosphorus
 - 1.9.5. Electrolyte Balance
- 1.10. Water. The Forgotten Nutrient
 - 1.10.1. Principal Functions of Water
 - 1.10.2. Distribution of Water in an Organism
 - 1.10.3. Sources of Water
 - 1.10.4. Factors Affecting Water Requirements
 - 1.10.5. Water Requirements
 - 1.10.6. Requirements for the Quality of Drinking Water



Structure and Content | 19 tech

Module 2. Nutrition and Food in Poultry

- 2.1. Broiler Chickens, Feeding Programs and Nutritional Requirements
 - 2.1.1. Genetic Evolution and Changes in Nutritional Requirements
 - 2.1.2. Food Programs
 - 2.1.3. Nutritional Requirements in the Main Genetic Lines
 - 2.1.4. Nutrition by Gender
 - 2.1.5. Nutritional Strategies to Reduce Environmental Impact
- 2.2. Special Food for Broiler Chickens
 - 2.2.1. Transport Feed (from Hatchery to Farm)
 - 2.2.2. Pre-Starter Food
 - 2.2.3. Finishing Food
- 2.3. Nutritional Strategies to Improve the Quality of a Whole Chicken
 - 2.3.1. Production Focus: Whole Chicken or Chicken Pieces
 - 2.3.2. Feeding Program for Chicken Pieces
 - 2.3.3. Nutritional Adjustments for Increased Chicken Breast Yield
 - 2.3.4. Strategies to Ensure the Quality of Fresh or Chilled Whole Chickens
- 2.4. Pullet Chickens, Feeding Programs and Nutritional Requirements
 - 2.4.1. Nutritional Program According to Age and Performance
 - 2.4.2. Nutritional Specifications of Pullet Diets
 - 2.4.3. Factors Affecting the Performance and Optimization of Nutrient Consumption
 - 2.4.4. Pre-Posture Diet
- 2.5. What is the Purpose of a Pre-Posture Diet
 - 2.5.1. Supply Period
 - 2.5.2. Nutritional Profile of the Pre-Posture Diet
 - .5.3. Calcium and Phosphorus in Pre-Posture Diet
- 2.6. Layer Hens, Feeding Programs and Nutritional Requirements
 - 2.6.1. Posture Stages and Characteristics
 - 2.6.2. Staged Feeding Program
 - 2.6.3. Nutritional Requirements
 - 2.6.4. Consumption Models
 - 2.6.5. Food Texture
 - 2.6.6. Egg Size

tech 20 | Structure and Content

- 2.7. Nutrition and Egg Shell
 - 2.7.1. Importance of the Shell Quality
 - 2.7.2. Formation of the Shell
 - 2.7.3. Factors Which Affect a Good Quality Shell
 - 2.7.4. Nutritional Strategies and the Additives to Safeguard the Quality of the Shell
 - 2.7.5. Confusion Matrices, Feeding Programs and Nutritional Requirements
 - 2.7.6. Development Stages of the Breeder
 - 2.7.7. Feeding Program for Chicks
 - 2.7.8. Nutritional Requirements of Chicks
 - 2.7.9. Nutritional Program for Breeding Adults
 - 2.7.10. Male Nutrition
 - 2.7.11. Nutrition and Hatchability
- 2.8. Nutritional Strategies and the Additives for the Intestinal Health of the Poultry
 - 2.8.1. Importance of Intestinal Health and Integrity
 - 2.8.2. Aspects Which Challenge the Intestinal Integrity
 - 2.8.3. Nutritional Strategies to Safeguard Intestinal Health
 - 2.8.4. Additives and Programs for Intestinal Health
- 2.9. Caloric Stress and Nutritional Strategies
 - 2.9.1. Physiology and Caloric Stress
 - 2.9.2. Nutrition and Endogenous Heat Production
 - 2.9.3. Electrolyte Balance
 - 2.9.4. Physiological Mechanisms of Heat Dissipation in Birds
 - 2.9.5. Nutritional Strategies to Help Combat Caloric Stress

Module 3. Additives in Animal Food

- 3.1. Definitions and Types of Additives Used in Animal Food
 - 3.1.1. Introduction
 - 3.1.2. Classification of Additive Substances
 - 3.1.3. Additives for Quality
 - 3.1.4. Performance Enhancing Additives
 - 3.1.5. Nutraceuticals
- 3.2. Anticoccidials and Growth Promoting Antibiotics
 - 3.2.1. Types of Anticoccidials
 - 3.2.2. Anticoccidials Programs
 - 3.2.3. Growth-Promoting Antibiotics and Purposes of Use
- 3.3. Enzymes
 - 3.3.1. Phytases
 - 3.3.2. Carbohydrases
 - 3.3.3. Proteases
 - 3.3.4. Mananasa Beta
- 3.4. Antifungals and Mycotoxin Binders
 - 3.4.1. Importance of Fungal Contamination
 - 3.4.2. Types of Fungi that Contaminate Grains
 - 3.4.3. Substances with Antifungal Characteristics
 - 3.4.4. What are Mycotoxins?
 - 3.4.5. Types of Mycotoxins
 - 3.4.6. Types of Binders
- 3.5. Acidifiers and Organic Acids
 - 3.5.1. Objectives and Approaches to the Use of Acidifiers in Poultry and Swine
 - 3.5.2. Types of Acidifiers
 - 3.5.3. What are Organic Acids?
 - 3.5.4. Main Organic Acids Used
 - 3.5.5. Mechanisms of action
 - 3.5.6. Technological Characteristics of Acidifiers



Structure and Content | 21 tech

3.6. Antioxidants and F	Pigmenting Agents
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- 3.6.1. Importance of Antioxidantes in Balanced Foods and Veterinary Nutrition
- 3.6.2. Natural and Synthetic Anitoxidants
- 3.6.3. How Antioxidants Work?
- 3.6.4. Pigmentation in the Egg and the Chicken
- 3.6.5. Pigment Sources

3.7. Probiotics, Prebiotics, and Symbiotics

- 3.7.1. Differences between Probiotics, Prebiotics, and Symbiotics
- 3.7.2. Types of Probiotics and Prebiotics
- 3.7.3. Approaches and Strategies of Use
- 3.7.4. Benefits of Poultry and Pig Farming

3.8. Odor Control Products

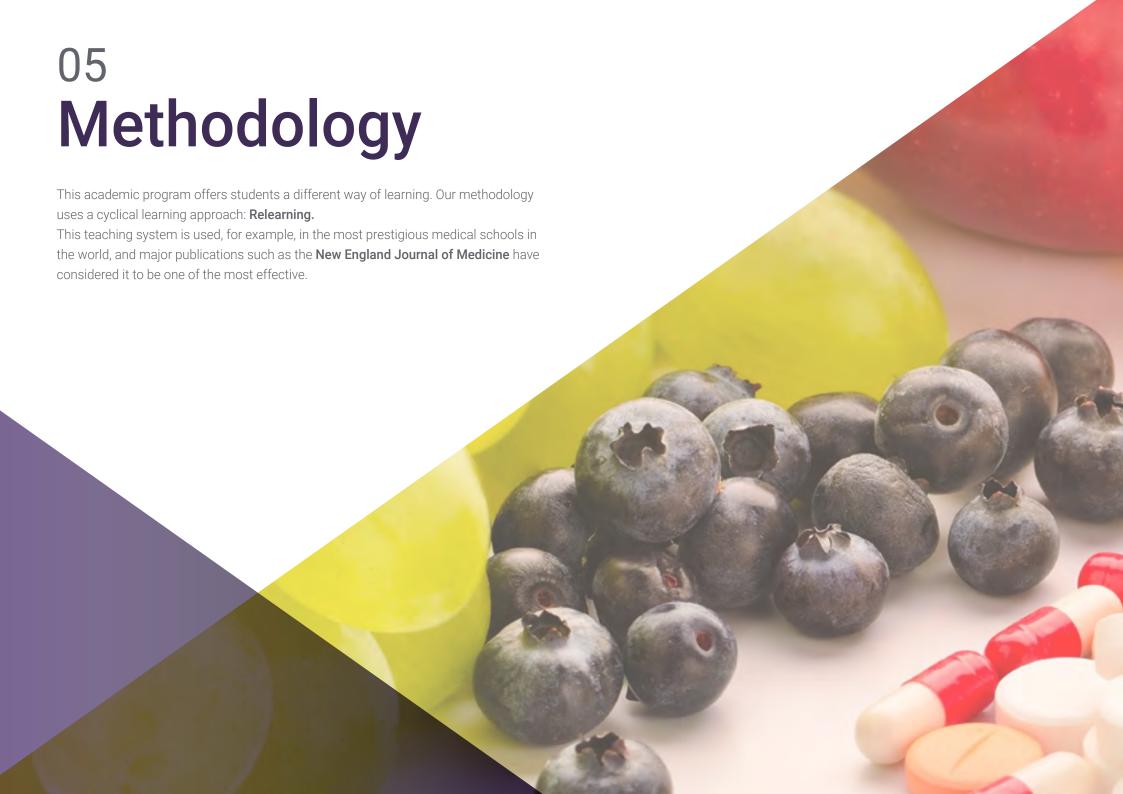
- 3.8.1. Air Quality and Ammonia Control in Poultry Farming
- 3.8.2. Yucca Shidigera
- 3.8.3. Odour Controls in Pig Farming

3.9. Phytogenics

- 3.9.1. What are Phytogenic Substances?
- 3.9.2. Types of Phytogenic Substances
- 3.9.3. Procurement Processes
- 3.9.4. Mechanisms of action
- 3.9.5. Essential Oils
- 3.9.6. Flavonoids
- 3.9.7. Pungent Substances, Saponins, Tannins and Alkaloids

3.10. Bacteriophages and Other New Technologies

- 3.10.1. What are Bacteriophages?
- 3.10.2. Recommendations for Use
- 3.10.3. Proteins and Bioactive Peptides
- 3.10.4. Egg Immunoglobulins
- 3.10.5. Additives for the Correction of Process Losses





tech 24 | Methodology

At TECH we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately 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, nutritionists 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 power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions of professional nutritional 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:

- Nutritionists 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. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
- 3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
- **4.** Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



tech 26 | Methodology

Relearning Methodology

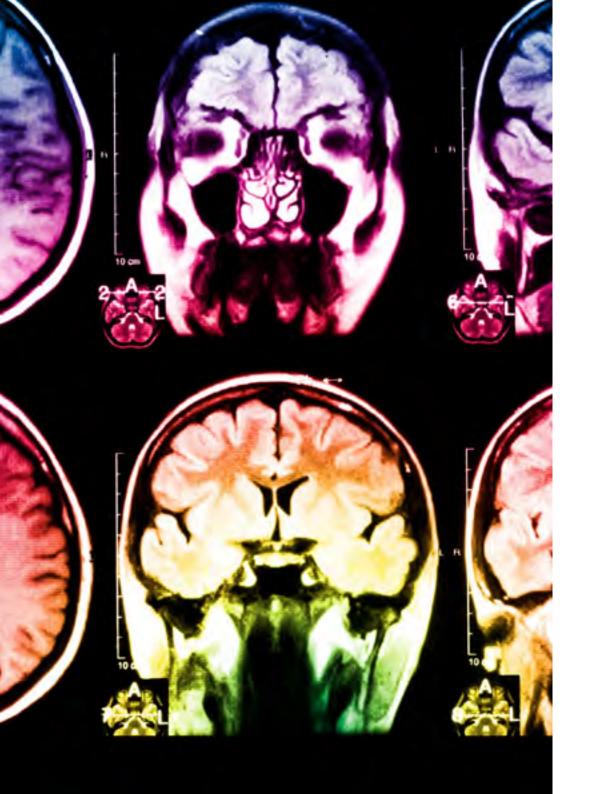
At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

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.

The nutritionist will learn through real cases and by solving complex situations in simulated learning environments.

These simulations are developed using state-of-the-art software to facilitate immersive learning.





Methodology | 27 tech

At the forefront of world teaching, the 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 45,000 nutritionists have been trained 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 socioeconomic 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.

tech 28 | Methodology

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.



Nutrition Techniques and Procedures on Video

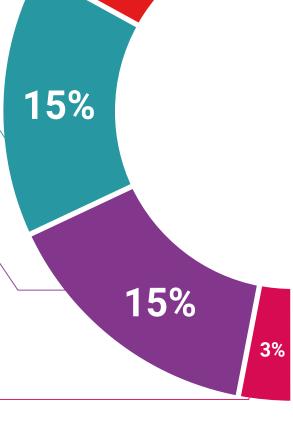
TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counselling techniques and procedures. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, 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



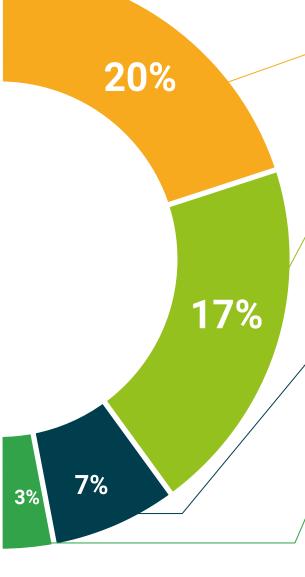
There is scientific evidence suggesting that observing third-party experts can be useful.

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.







tech 32 | Certificate

This **Postgraduate Diploma in Poultry Nutrition and Feeding** contains the most complete and up-to-date scientific program on the market.

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

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: Postgraduate Diploma in Poultry Nutrition and Feeding
Official No. of Hours: **450 h.**



technological university

Postgraduate Diploma

Poultry Nutrition and Feeding

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- » Dedication: 16h/week
- » Schedule: at your own pace
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