Postgraduate Diploma

Microbiota in Neonatology and Pediatrics

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Postgraduate Diploma

Microbiota in Neonatology and Pediatrics

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/medicine/postgraduate-diploma/postgraduate-diploma-microbiota-neonatology-pediatrics**

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01

Introduction

Scientific research in the field of the microbiota has been booming in recent decades, aimed both at the study of its characteristics and its impact on health. The study of this field opens a door to the knowledge of multiple diseases, especially the so-called functional diseases, being the microbiome as the main asset of researchers. Aware of this, TECH professionals have designed this program that aims to provide specialists with all the information that will allow them to update their knowledge on the functioning of Metagenomics in neonates and pediatric patients. All this through a convenient and flexible 100% online format where you will also find hours of diverse material to perfect your skills in the use of probiotics and prebiotics to enhance microbiota and health.

TECH presents this Postgraduate Diploma as a perfect opportunity for healthcare professionals looking to get up to date on the latest developments in Microbiota in Pediatrics 100% online"

Numerous pieces of scientific evidence have implicated the intestinal microbiome and its metabolic potential in various pathological conditions in recent years, giving rise to new therapeutic strategies to control and regulate this ecosystem. The study of this field represents a rapid scientific advance, and it is universally accepted that in order to achieve an adequate health condition it is also necessary to have a healthy microbiota.

The microbiota undergoes changes as a consequence of the influence of multiple factors, diet, lifestyle, pharmacological treatments, etc., generating disorders in this bacterial ecosystem and in the abnormal interaction that the body may have with it: allergies, acute and chronic intestinal diseases, obesity and metabolic syndrome, neurological diseases, dermatitis and other disorders in the dermis, and even some types of cancer.

In this sense, this Postgraduate Diploma in Microbiota in Neonatology and Pediatrics, gives the ease of access to information and the interest aroused among the general population the units related to the Microbiota, its eubiosis and dysbiosis, problems related to them, probiotics and prebiotics with the growing market launch of new products with very specific strains for problems and very specific diseases, etc..

All this through a convenient and flexible 100% online format through which specialists can keep up to date with the latest developments in this field applied to the field of pediatrics from wherever they want and with a schedule fully adapted to their availability. In addition, students will have 450 hours of diverse material: detailed videos, research articles, complementary readings, dynamic summaries, self-knowledge exercises and much more, to delve, in a personalized way, into the different sections of the syllabus.

This **Postgraduate Diploma in Microbiota in Neonatology and Pediatrics** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Case studies presented by experts in the Digestive System
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the process of self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- 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

A multidisciplinary and comprehensive program that will bring students closer to the latest advances in probiotics and prebiotics used to enhance health and the microbiota"

If you are looking for a program that allows you to be up to date on the different types of microbiota and their characteristics, this Postgraduate Diploma is perfect for you"

You will delve into the diets and lifestyles that have the best health-enhancing results based on the most recent clinical studies.

The symbiosis between mother and child is real and vital. Therefore, this Postgraduate Diploma focuses on the characteristics of this relationship and how to enhance its benefits.

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, 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 education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby professionals must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The success brought about by the application of advances that have been made in the field of Human Microbiota with respect to health potentiation, especially in neonatal and pediatric patients, is what has led TECH to develop this program. The objective is to provide medical specialists with the latest and most exhaustive information related to metagenomics and its fields, In addition, you will be able to keep up to date on the advances related to probiotics and prebiotics, being able to implement the most innovative and effective supplements to your vademecum.

A program that delves into breast milk characteristics and its importance for newborn microbiota development, so that specialists can get up to date and better guide mothers"

General objectives

- Offer a complete and broad vision of the current situation in the field of the Human Microbiota, in its widest sense, the importance of the balance of this microbiota as a direct effect on our health, with the multiple factors that influence it positively and negatively
- Argue with the backing of scientific evidence how the microbiota is in a privileged position based on its interaction with many non-digestive pathologies, those of autoimmune nature or its relationship with immune system dysregulation, disease prevention and as a support to other medical treatments

If among your objectives is to know, in detail, the most intrinsic characteristics of the latest probiotics and prebiotics launched on the market, with this Postgraduate Diploma you will overcome them in less than 6 months"

Specific objectives

Module 1. Microbiota. Microbiome. Metagenomics

- Know the relationship between the Microbiota and the Microbiome and their most accurate definitions
- Understand in depth the concepts of symbiosis, commensalism, mutualism and parasitism
- Delve into the different types of Human Microbiota and know their generalities
- Delve into the aspects that trigger the balance and imbalance of the Microbiota

Module 2. Microbiota in Neonatology and Pediatrics

- Know the mother-infant Symbiosis
- Understand the factors influencing the Intestinal Microbiota of the mother in the gestational stage and at the time of delivery
- Understand the influence of the type of delivery on the microbiota of the neonatal
- Understand the influence of the type of breastfeeding on the infant's microbiota
- Know the clinical applications of Probiotics and Prebiotics in pediatric patients
- Understand the Influence of Antibiotic and other Psychotropic treatment on infant Microbiota
- Deepen in the current lines of research on the subject

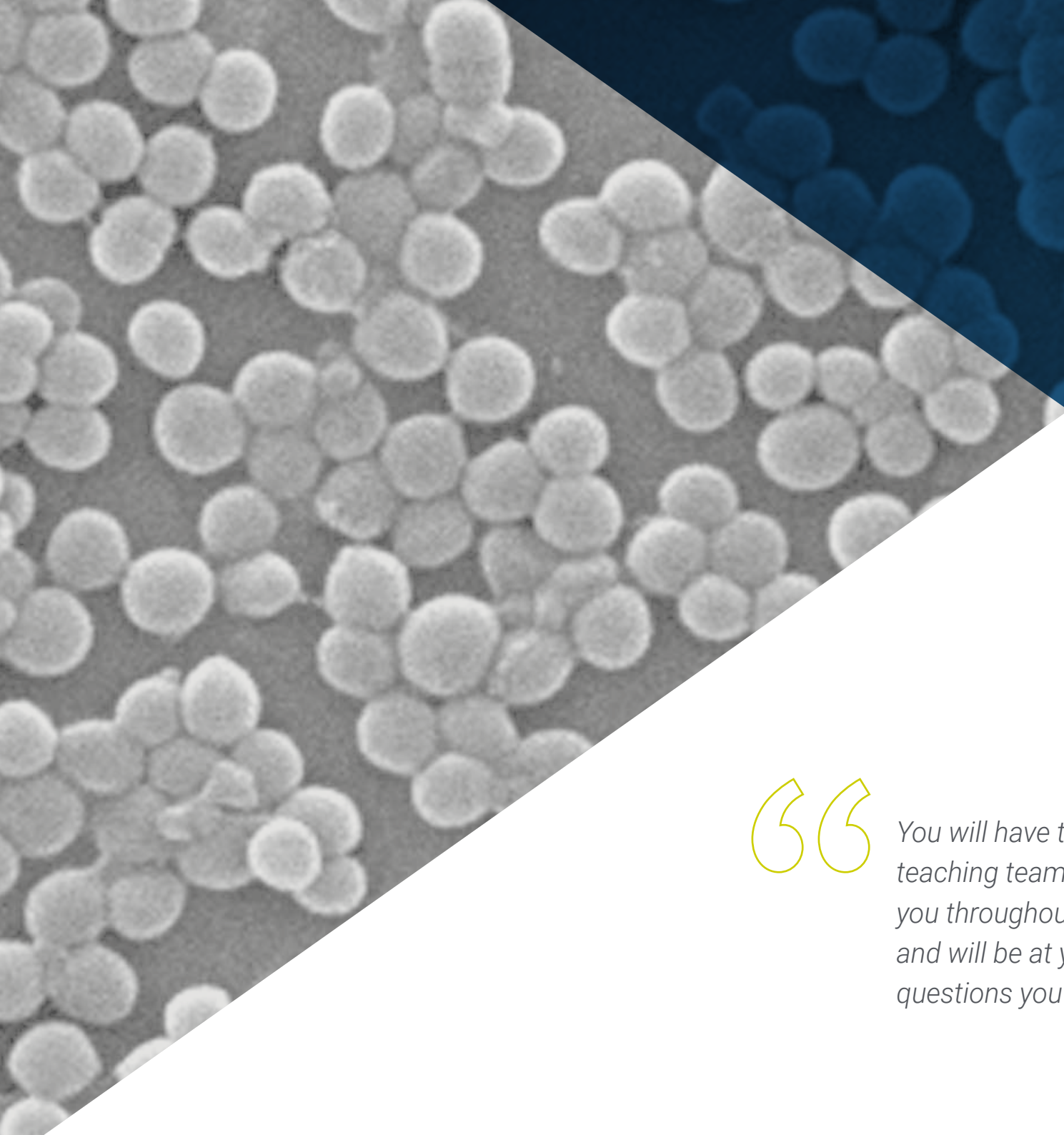
Module 3. Probiotics, Prebiotics, Microbiota, and Health

- Delve into probiotics, their definition, history, mechanisms of action
- Delve into Prebiotics, their definition, types of Prebiotics and mechanisms of action
- Know the clinical applications of probiotics and prebiotics in Gastroenterology
- Know the Clinical Applications of Endocrinology and Cardiovascular Disorders
- Understand the clinical applications of probiotics and prebiotics in Urology
- Understand the clinical applications of probiotics and prebiotics in Gynecology
- Know the clinical applications of Probiotics and prebiotics in Immunology: Autoimmunity, Pneumology, Dermatology, Vaccines
- Know the clinical applications of probiotics and prebiotics in nutritional diseases
- Know the clinical applications of probiotics and prebiotics in neurological diseases, mental health, and elderly
- Understand the clinical applications of Probiotics and Prebiotics in critically ill cancer patients
- Understand the use of dairy products as a natural source of Probiotics and Prebiotics
- Delve into the safety and legislation in the use of Probiotics

03

Course Management

The inclusion of a top-level faculty is always a priority for TECH when designing its programs. For this reason, students who access this Postgraduate Diploma will have the opportunity to share the academic experience with a group of professionals in the field of Biology and Medicine, specialized in the field of Microbiota and its application in Neonatology and Pediatrics. Thanks to this, you will be able to learn first-hand about the latest developments in this sector, as well as implement the most innovative and effective clinical practices related to the microorganisms that reside in the human body, into your practice.



You will have the support of a top-level teaching team, which will accompany you throughout the academic experience and will be at your disposal to answer any questions you may have during the course"

Guest Directors

Dr. Sánchez Romero, María Isabel

- Medical Specialist in Clinical Microbiology and Parasitology
- Area Specialist in the Microbiology Department of the Puerta de Hierro University Hospital, Madrid
- Member of the Spanish Society of Infectious Diseases and Clinical Microbiology
- Technical Secretary of the Madrid Society of Clinical Microbiology
- Doctor in Medicine and Surgery from the University of Salamanca (2003) with the qualification of outstanding cum laude
- Degree in Medicine and Surgery from the University of Salamanca

Dr. Portero, María Francisca

- Acting Head of the Microbiology Department of the Puerta de Hierro University Hospital, Madrid
- Specialist in Clinical Microbiology and Parasitology, Puerta de Hierro University Hospital, Madrid
- Postgraduate in Clinical Management by Gaspar Casal Foundation
- Doctorate in Medicine from the Autonomous University Madrid
- Degree in Medicine and Surgery from the Autonomous University of Madrid

Dr. Alarcón Cavero, Teresa

- Specialist in the Microbiology Department at the La Princesa University Hospital
- Head of Group 52 of the Research Institute of the La Princesa Hospital
- Degree in Biological Sciences with a major in Fundamental Biology from the Complutense University of Madrid
- Master's Degree in Medical Microbiology from the Complutense University of Madrid

Dr. Muñoz Algarra, María

- Area Specialist in the Microbiology Department of the Puerta de Hierro Majadahonda University Hospital, Madrid
- Head of Patient Safety of the Microbiology Service in the H.U. Puerto de Hierro Hospital Majadahonda
- Teaching collaborator at the School of Medicine in the subject of Microbiology at the Autonomous University of Madrid
- Doctorate in Pharmacy from the Complutense University of Madrid
- Degree in Pharmacy from the University of Valencia

Dr. López Dosil, Marcos

- Specialist Physician of the Microbiology and Parasitology Department of the Hospital de Móstoles
- Degree in Medicine from the University of Santiago de Compostela
- Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU Cardenal Herrera University
- Master's Degree in Tropical and Health Medicine from the Autonomous University of Madrid
- Expert in Tropical Medicine from the Autonomous University Madrid

Dr. Anel Pedroche, Jorge

- Facultative Area Specialist. Microbiology Department, Puerta de Hierro University Hospital, Majadahonda, Spain
- Degree in Pharmacy from the Complutense University of Madrid

Management

Ms. Fernández Montalvo, María Ángeles

- Parapharmacy Manager and Nutrition and Natural Medicine Professor
- Specialist in Food Intolerances and the Study of Intestinal Microbiota
- Member of the Spanish Society of Probiotics and Prebiotics (SEPyP)
- Diploma in Natural and Orthomolecular Medicine
- Degree in Biochemistry from the University of Valencia
- Specialist Degree in Nutrition, Dietetics, and Diet Therapy
- Expert in Microbiological Food Analysis
- Expert in Nutrition, Food, and Cancer. Prevention and Treatment
- Expert in Vegetarian, Clinical, and Sports Nutrition
- Expert in the current use of Nutricosmetics and Nutraceuticals in general
- Expert in point-of-sale management in Pharmacies and Parapharmacies

Professors

Dr. Álvarez García, Verónica

- Digestive system specialist at the Central Hospital of Asturias (HUCA)
- Degree in Medicine

Dr. Lombó Burgos, Felipe

- Associate Professor at University of Oviedo
- PhD in Biology and head Professor from the University of Oviedo

Dr. Fernández Madera, Juan

- Microbiology
- Doctorate in Microbiology from the University of Oviedo
- Research at Novartis Laboratories (Boston)

Dr. Méndez García, Celia V

- Microbiology
- Doctorate in Microbiology from the University of Oviedo
- Research at Novartis Laboratories (Boston)

Dr. López López, Aranzazu

- Researcher in oral microbiology at FISABIO foundation
- Ph.D. in Biological Sciences

Dr. Solís Sánchez, Gonzalo

- Neonatologist at the Hospital Universitario Central de Asturias (HUCA)
- Researcher, Associate Professor of the University of Oviedo

Dr. Suárez Rodríguez, Marta

- Neonatologist of the Central University Hospital of Asturias (HUCA)
- Researcher and Professor of the Master's Degree in Early Care and the Master's Degree in Critical Care Nursing at the University of Oviedo and other training courses

Dr. Gonzalez Rodríguez, Silvia Pilar

- Deputy medical director and research coordinator
- Clinical Chief of the Menopause and Osteoporosis Unit at the Velázquez Medical Cabinet (Madrid)
- PhD in Medicine and Surgery from the University of Alcalá de Henares. Gynecology Specialist

Dr. Díaz Martín, Juan José

- Pediatric gastroenterologist at the Central Hospital of Asturias (HUCA)
- Member of the Spanish Society of Pediatric Gastroenterology, Hepatology, and Nutrition
- Associate Professor of Pediatrics at the University of Oviedo

04

Structure and Content

For this Postgraduate Diploma's syllabus design, TECH has taken into consideration, as it could not be otherwise, the teaching team's criteria, which, being formed by Microbiota specialists from different fields, know, in detail, the latest developments related to their clinical practice. In addition, the program includes hours of additional and diverse high-quality material, so students can delve into the different sections of the syllabus in a personalized way, as well as contextualize the information in order to avoid any doubts.

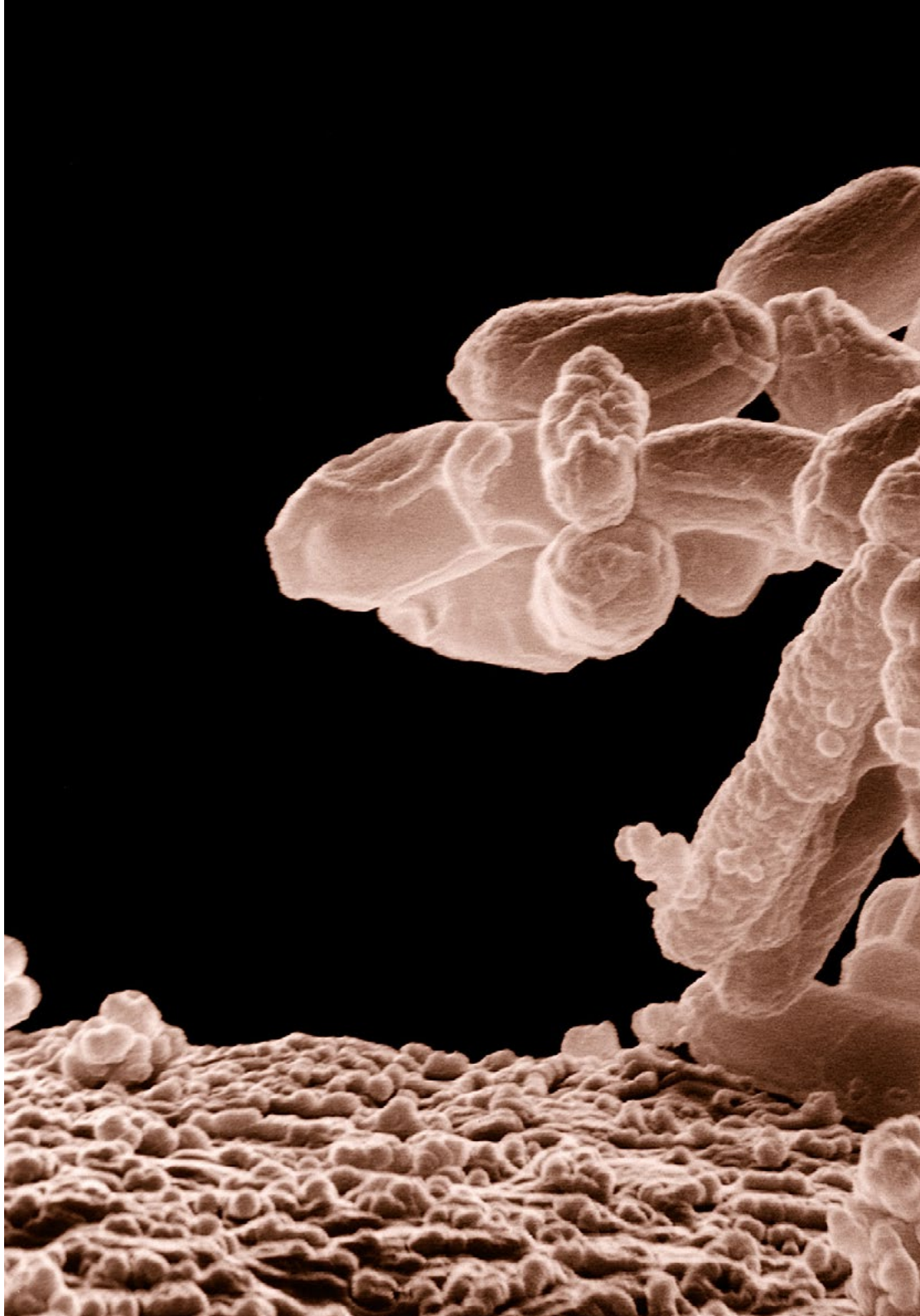
A program that will allow you to get up to date on new developments related to safety and legislation in the use of probiotics in the pediatric field through 450 hours of the best diverse material"

Module 1. Microbiota. Microbiome. Metagenomics

1.1. Definition and Relationship Between Them
1.2. Composition of the Microbiota: Types, Species and Strains
1.3. Different Human Microbiota. General Overview of Eubiosis and Dysbiosis
  1.3.1. Gastrointestinal Microbiota
  1.3.2. Oral Microbiota
  1.3.3. Skin Microbiota
  1.3.4. Respiratory Tract Microbiota
  1.3.5. Urinary Tract Microbiota
  1.3.6. Reproductive System Microbiota
1.4. Factors that Influence Microbiota Balance and Imbalance
  1.4.1. Diet and Lifestyle. Gut-Brain Axis
  1.4.2. Antibiotic Therapy
  1.4.3. Epigenetic-Microbiota Interaction. Endocrine Disruptors
  1.4.4. Probiotics, Prebiotics, Symbiotics. Concepts and Overviews
  1.4.5. Fecal Transplant, Latest Advances

Module 2. Microbiota in Neonatology and Pediatrics

2.1. Mother-Child Symbiosis
2.2. Influencing Factors on the Gut Microbiota of the Mother during Pregnancy and during Birth. Influence of the Type of Delivery on the Microbiota of the New-born
2.3. Type and Duration of Breastfeeding, Influence on the Infant's Microbiota
  2.3.1. Breast Milk: Composition of the Breast Milk Microbiota. Importance of Breastfeeding in the New-born's Microbiota
  2.3.2. Artificial Breastfeeding. Use of Probiotics and Prebiotics in Infant Milk Formulas
2.4. Clinical Applications of Probiotics and Prebiotics in Pediatric Patients
  2.4.1. Digestive Pathologies: Functional Digestive Disorders, Diarrhea, Necrotizing Enterocolitis. Intolerances
  2.4.2. Non-Digestive Pathologies: Respiratory and ENT, Atopic Diseases, Metabolic Diseases. Allergies
2.5. Influence of Antibiotic and other Psychotropic Treatment on the Microbiota of the Infant
2.6. Current Lines of Research



Module 3. Probiotics, Prebiotics, Microbiota, and Health

3.1. Probiotics: Definition, History, Mechanisms of Action
3.2. Prebiotics: Definition, Types of Prebiotics (Starch, Inulin, FOS Oligosaccharides), Mechanisms of Action
3.3. Clinical Applications of Probiotics and Prebiotics in Gastroenterology
3.4. Clinical Applications of Endocrinology and Cardiovascular Disorders
3.5. Clinical Applications of Probiotics and Prebiotics in Urology
3.6. Clinical Applications of Probiotics and Prebiotics in Gynecology
3.7. Clinical Applications of Probiotics and Prebiotics in Immunology: Autoimmunity, Pulmonology, Vaccines
3.8. Clinical Applications of Probiotics and Prebiotics in Nutritional Diseases. Obesity and Eating Disorders. Metabolism, Malnutrition, and Malabsorption of Nutrients
3.9. Clinical Applications of Probiotics and Prebiotics in Neurological Diseases. Mental Health. Old Age
3.10. Clinical Applications of Probiotics and Prebiotics in Critically Ill Patients. Cancer
3.11. Dairy Products as a Natural Source of Probiotics and Prebiotics. Fermented Milk

Do not hesitate and opt for a leading program in medicine that will allow you to perfect your skills to offer a pediatric and neonatological clinical service of the highest level"

05

Methodology

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

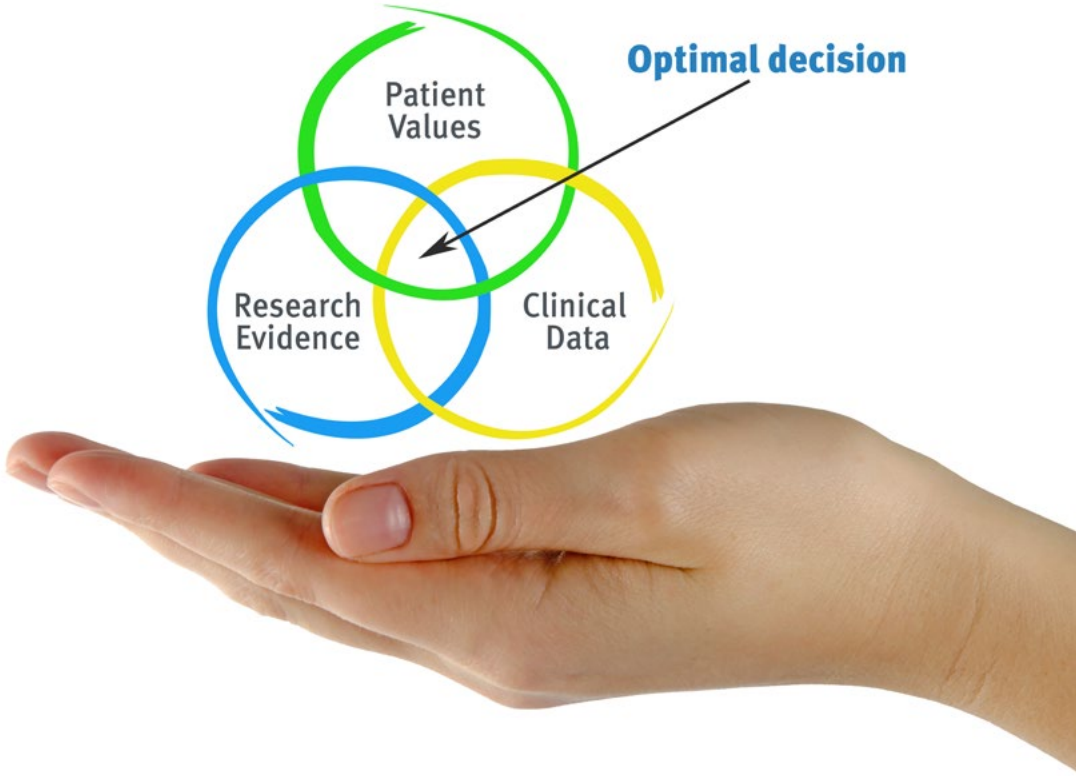
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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, 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 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, trying to recreate the real conditions in the physician'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:

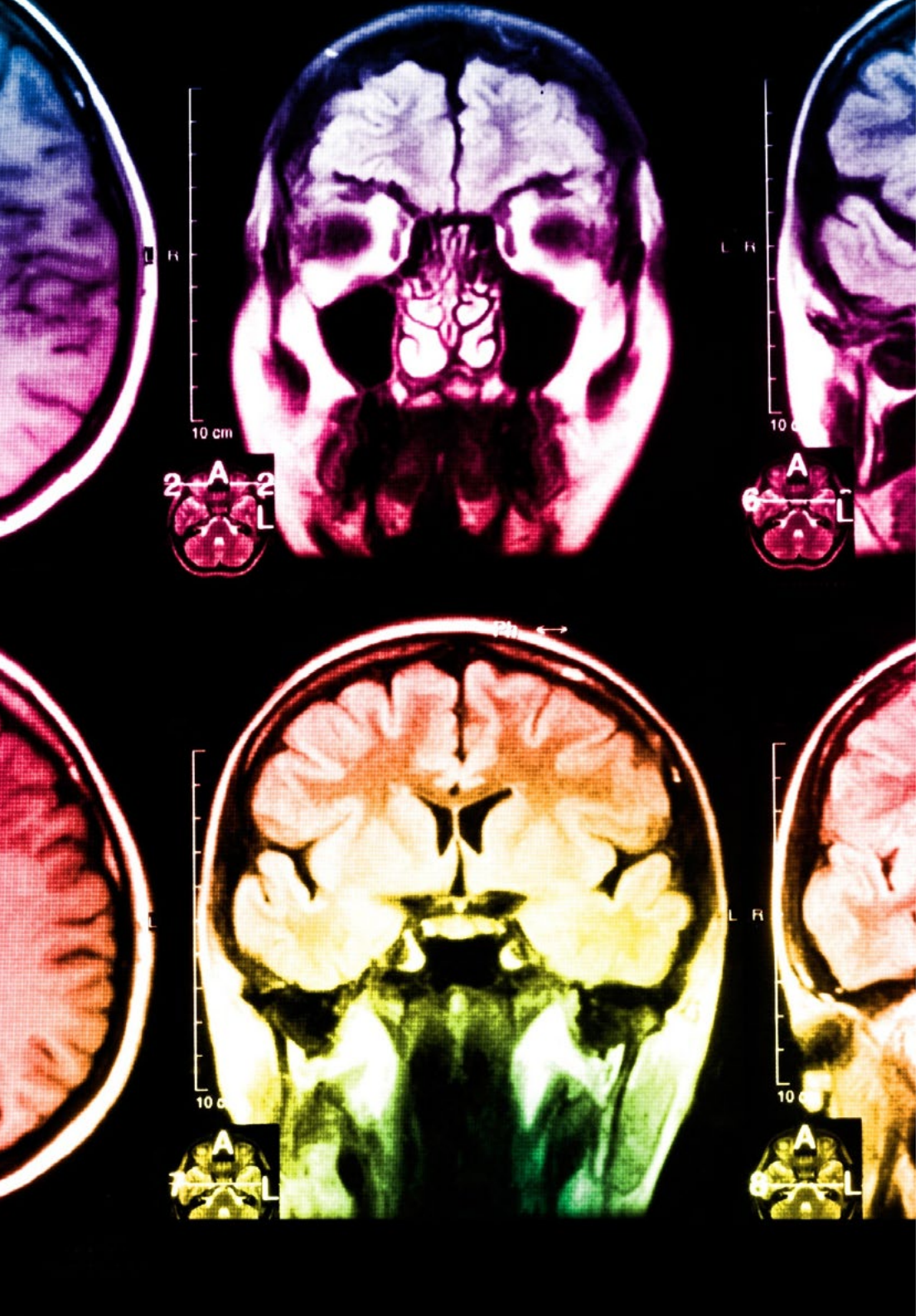
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. 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.

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.

Professionals 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 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, 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 (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.

Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical 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.

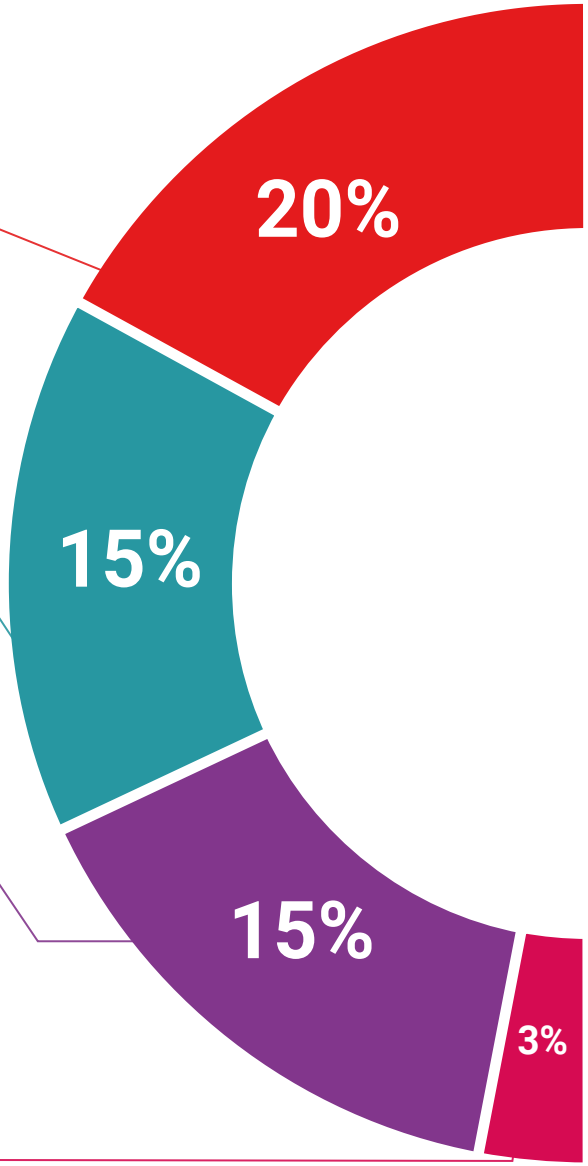
Interactive Summaries

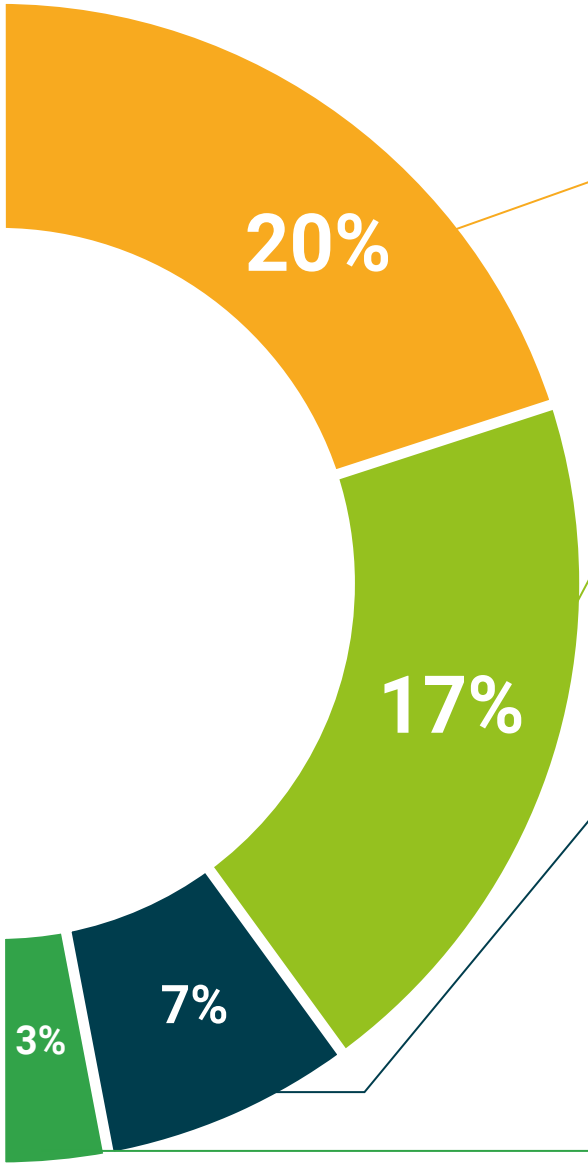
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 on the usefulness of learning by observing experts. The system known as 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.

06

Certificate

The Postgraduate Diploma in Microbiota in Neonatology and Pediatrics guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma Degree issued by TECH Technological University.

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

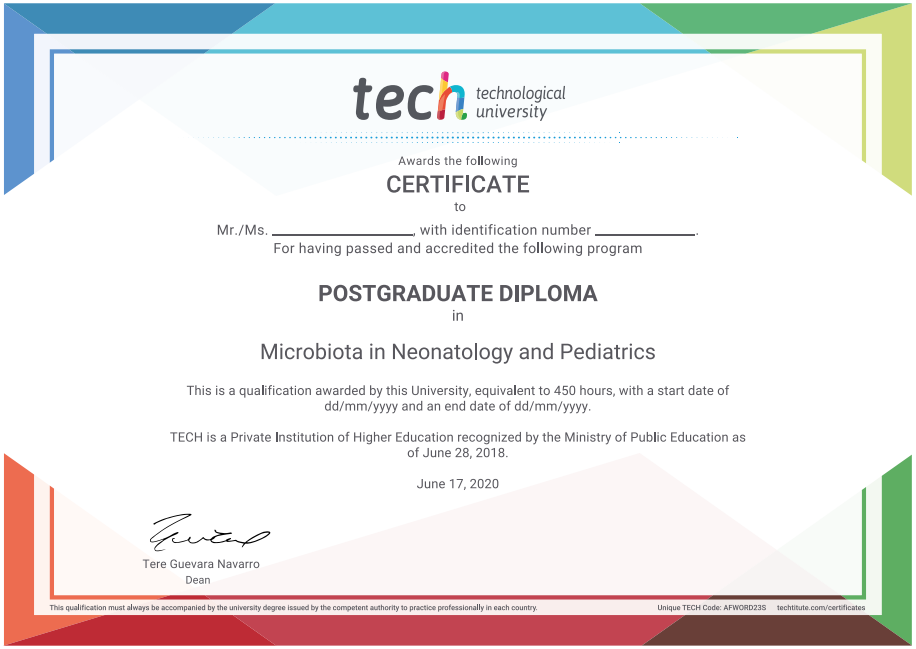
This **Postgraduate Diploma in Microbiota in Neonatology and Pediatrics** contains the most complete and up-to-date scientific program on the market.

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 Microbiota in Neonatology and Pediatrics**

Official Nº of Hours: **450 h.**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Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Microbiota in Neonatology and Pediatrics

This is a qualification awarded by this University, equivalent to 450 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 certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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