Postgraduate Diploma Respiratory Microbiota and Allergies





Postgraduate Diploma Respiratory Microbiota and Allergies

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

Website: www.techtitute.com/in/medicine/postgraduate-diploma/postgraduate-diploma-respiratory-microbiota-allergies

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06 Certificate

01 Introduction

The relation between the microbiota and respiratory allergies or asthma is very close. Numerous studies have determined that nasopharyngeal secretions in humans, especially at early ages, play a crucial role in the development of diseases related to this tract later in life. The respiratory tract has a great bacteriological richness, so therapeutic perspectives that are contemplated in terms of the use of these organisms' properties are very positive. For this reason, and in order for students to keep up to date with the latest developments in this field, TECH and its team of experts in Medicine and Biology have developed a program that brings together the most exhaustive and innovative information related to the immune system, intolerances, allergies and microbiota. In this way, specialists will be able to update their clinical practice 100% online and in only 6 months.

An avant-garde, dynamic and intensive Postgraduate Diploma which will allow you to get up to date on all the latest news about the Respiratory Microbiota and its relationship with allergies, 100% online and in only 6 month"

tech 06 | Introduction

The advances that have been made in the field of microbiota and its role in human health have determined that the involvement of some systems' microorganisms, such as the respiratory or intestinal systems, are essential for the prevention or treatment of allergies and intolerances. A clear example of this is the increased risk of suffering some type of atopic dermatitis, rhinitis or asthma after repeated or prolonged consumption of antibiotics at an early age. Therefore, the use of probiotics and prebiotics in the medical field of allergology to strengthen the immune system should be the order of the day, in order to be able to offer patients increasingly effective and efficient alternatives for their health.

In order to provide professionals in this sector with the most exhaustive and innovative information related to the Respiratory Microbiota and Allergies, TECH and its team of biologists and medical specialists have developed this comprehensive Postgraduate Diploma. This is a rigorous and innovative program through which students will be able to immerse themselves in the advances that have been made in this field through 450 hours of theoretical, practical and additional content. They will work with the latest clinical evidence related to the bacteria that colonize the respiratory tract and help prevent and alleviate diseases and conditions, as well as strengthen the immune system.

All this 100% online and over 6 months, during which students will have access to a state-of-the-art Virtual Campus, characterized not only by its compatibility with any device with Internet connection, but also by the innovative academic tools it includes. It is, therefore, a flexible, multidisciplinary experience adapted to physicians' needs, thanks to which they will be able to update their knowledge from wherever they want and with a schedule fully adapted to their availability, allowing them to combine their course with their daily practice.

This **Postgraduate Diploma in Respiratory Microbiota and Allergies** 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 self-assessment process can be carried out 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



If you are looking for an academic experience that will allow you to get up to date on the factors regulating the respiratory microbiota, this Postgraduate Diploma is your best option" Knowing the relationship between the oral microbiota and the respiratory tract, as well as the latest scientific advances that have been made in this field, will allow you to offer a service in line with the current clinical situation"

In the Virtual Campus, you will find 450 hours of diverse material for you to contextualize the curriculum information and delve into each of its sections in a personalized way.

You will work with the most comprehensive information related to current lines of research and their future clinical applications.

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 innumerable benefits brought about by the use of Microbiota characteristics as regulatory agents for respiratory diseases and allergies has allowed specialists to offer more therapeutic alternatives to their patients. For this reason, this Postgraduate Diploma aims to provide students with the latest information related to this field, so that they can update their knowledge in a guaranteed way and based on the latest scientific advances carried out in relation to the oral microbiota and the respiratory tract.

Objectives | 09 tech

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You will learn the best strategies related to the microbiota to prevent caries, halitosis or periodontal, gingival and peri-implant diseases"

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- Develop a broad and up-to-date knowledge of the current relationship between the Respiratory Microbiota and Allergies
- Update specialists' notions regarding the use of therapeutic guidelines with probiotics and prebiotics



You will review primary and secondary organ characteristics, as well as their involvement in the occurrence of allergies and intolerances, so you can get up to date on the advances that have been made in this field"



Objectives | 11 tech





Specific objectives

Module 1. Oral Microbiota and Respiratory Tract

- In-depth knowledge of the entire oral and respiratory structure, as well as the ecosystems that live in them
- Observe how an alteration of the oral microbiota has a direct relationship with many associated pathologies

Module 2. Microbiota and The Immune System

- Delve into the bidirectional relationship between microbiota and neuroimmunological system
- In-depth study of the intestine-microbiota-brain axis and all the pathologies generated by its imbalance

Module 3. Relationship between Intolerances/Allergies and Microbiota

- Thoroughly understand the safety profile of Probiotics, as well as their adverse effects and potential risks
- Delve into the current lines of research on intolerances and allergies

03 Course Management

The teaching staff of this Postgraduate Diploma is formed by professionals in the field of Medicine and Biology with extensive experience in the field of the Microbiota and the multiple clinical benefits of its potentiation. Specifically, they have studied the therapeutic characteristics of its development in relation to respiratory diseases, allergies and intolerances. In this way, specialists will be able to keep up to date with the best, acquiring exhaustive knowledge about their strategies for success and the positive changes that the application of certain treatments with microorganisms can generate in patients.

The teaching team has actively participated in the design of the study plan, so students who graduate from this program will have first-hand knowledge of the latest advances that have been made in this field"

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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

Course Management | 15 tech



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

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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 Professo
- · 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

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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. 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. Uberos, José

- Neonatal Intensive Care Unit Clinical Assistant, San Cecilio Clinical Hospital
- Associate Professor of Pediatrics, University of Granada
- Associate Professor at the Faculty of Medicine at the University of Granada
- Vocal Bioethics Research Committee of the Province of Granada (Spain)
- Member of the Organizing Committee of the XIV Congress of the Spanish Society of Adolescent Medicine

Dr. Narbona López, Eduardo

- Professor of Pediatrics, University of Granada, Spain
- Speciality Neonatal Unit, San Cecilio University Hospital

Dr. López Vázquez, Antonio

* Specialist in Immunology in Central University Hospital of Asturias (HUCA)

Dr. López Martínez, Rocío

- Resident Internal Biologist of Clinical Immunology at the Central University Hospital of Asturias
- Degree in Biochemistry from the University of Murcia
- Master's Degree in Bioinformatics and Biostatistics from the Universitat Oberta de Catalunya and the University of Barcelona

Dr. Bueno García, Eva

- Pre-doctoral researcher in the research group of Immunosenescence of the Immunology Service of the Central University Hospital of Asturias (HUCA)
- Degree in Biology from the University of Oviedo
- * Master's Degree in Biomedicine and Molecular Oncology from the University of Oviedo

Dr. Verdú López, Patricia

- Degree in Medicine from the University of Oviedo
- Specialty of Allergology at the University Hospital Dr. Negrín in Las Palmas de Gran Canaria
- Professional Master's Degree in Esthetic and Anti-Aging Medicine at the Complutense University of Madrid

Dr. Rodríguez Fernández, Carolina

- Biologist
- Degree in Biology from the University of Oviedo

Dr. Solís Sánchez, Gonzalo

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

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Dr. Gabaldon Estevani, Toni

- Biologist
- * Co-Founder and Scientific Advisor (CSO) Microomics SL
- ICREA Research Professor and Group Leader of the Comparative Genomics Laboratory
- PhD in Biology, researcher at Centre for Genomic Regulation | CRG Bioinformatics and Genomics

Dr. Rioseras de Bustos, Beatriz

- Biologist
- Doctorate from the University of Oviedo. "Streptomyces development: regulation and industrial applications."
- Bachelor's Degree in Biology. University of Oviedo
- Immunology Resident at HUCA
- Master's Degree in Research in Neuroscience by the University of Oviedo

Dr. Fernández Madera, Juan

- Allergist
- Allergy Specialist
- Degree in Medicine

Dr. Losa Domínguez, Fernando

- Obstetrician-Gynecologist and Maternologist
- Expert in Menopause certified by the AEEM (Spanish Association for the Study of Menopause)
- Expert in Gynecoesthetics from the University of Barcelona

Dr. Alonso Arias, Rebeca

- * Specialist Immunology Physician at the Central University Hospital of Asturias (HUCA)
- Heads the Immunosenescence research group of the Central University Hospital of Asturias Immunology Service
- 1st National Award for Research in Sports Medicine
- * Doctorate in Biological Sciences from the Complutense University of Madrid
- Degree in Biology from the University of Oviedo

Dr. López López, Aranzazu

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

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. 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

This Postgraduate Diploma in Respiratory Microbiota and Allergies includes 450 hours of content, which are distributed in the syllabus, in real clinical cases and in additional high-quality material presented in different formats. Therefore, students will be able to obtain a certain degree of specialization from each module based on their needs and requirements. In addition, this 100% online program will allow you to access your course without limits or schedules, and from any device with internet connection.

The use of the Relearning methodology in the development of this program will allow you to update your knowledge in a natural way, without having to invest extra hours in memorizing"

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Module 1. Oral Microbiota and Respiratory Tract

- 1.1. Structure and Oral Ecosystems
 - 1.1.1. Main Ecosystems that are Found in the Oral Cavity. Characteristics and Composition of Each of Them. Nostrils, Nasopharynx and Oropharynx
- 1.2. Alterations of the Oral Microbial Ecosystem: Oral Dysbiosis. Relationship with Different Oral Disease States
 - 1.2.1. Cavities
 - 1.2.2. Halitosis
 - 1.2.3. Periodontal and Gingival Diseases
 - 1.2.4. Peri-Implant Diseases
 - 1.2.5. Other Infectious Diseases: Candida Albicans
- 1.3. Influence of External Agents in Oral Eubiosis and Dysbiosis. Hygiene
- 1.4. Structure of the Respiratory Tract and Composition of the Microbiota and Microbiome
 - 1.4.1. Upper Respiratory Tract (Nasopharynx, Middle Ear, Sinuses, and Tonsils)
 - 1.4.2. Lower Respiratory Tract (Trachea, Lungs, Bronchi, Bronchioles and Alveoli)
- 1.5. Factors that Regulate the Respiratory Microbiota
 - 1.5.1. Microbial Immigration
 - 1.5.2. Elimination of Microbes and the Reproduction Rates of its Members
- 1.6. Alteration of the Respiratory Tract Microbiota and its Relationship with Different Respiratory Tract Diseases
- 1.7. Therapeutic Manipulation of the Microbiome of the Oral Cavity in Prevention and Treatment of Related Diseases
- 1.8. Therapeutic Manipulation of the Microbiome of the Respiratory Tract in Prevention and Treatment of Related Diseases
- 1.9. Current Lines of Research and Clinical Applications



Structure and Content | 23 tech

Module 2. Microbiota and Immune System

- 2.1. Immune System Physiology: What is Immunity?
 - 2.1.1. Immune System Components
 - 2.1.1.1. Lymphoid Tissue
 - 2.1.1.2. Immune Cells
 - 2.1.1.3. Chemical Systems
- 2.2. Organs Involved in Immunity
 - 2.2.1. Primary Organs
 - 2.2.2. Secondary Organs
- 2.3. Innate, Non-Specific, or Natural Immunity
- 2.4. Acquired, Adaptive, or Specific Immunity
- 2.5. Nutrition and Lifestyle and their Interaction with the Immune System and the Microbiota
- 2.6. Functional Foods and their Effect on the Immune System
 - 2.6.1. Probiotics, Prebiotics, and Symbiotics
 - 2.6.2. Nutraceuticals and Functional Foods
- 2.7. Bidirectional Relationship Between Microbiota and the Neuroimmunoendocrine System
- 2.8. Microbiota, Immunity, and Nervous System Disorders: Anxiety, Depression, Autism, Schizophrenia, or Alzheimer's Disease
- 2.9. The Gut-Microbiota-Brain Axis
- 2.10. Current Lines of Research
- 2.11. Microbiota, Immunity, and Nervous System Disorders: Anxiety, Depression, Autism, Schizophrenia, or Alzheimer's Disease
- 2.12. The Gut-Microbiota-Brain Axis
- 2.13. Current Lines of Research

Module 3. Relationship between Intolerances/Allergies and Microbiota

- 3.1. Microbiota changes in Patients on Food Exclusion Diets
 - 3.1.1. Eosinophilic Esophagitis (EoE)
- 3.2. Microbiota Changes in Patients on Food Exclusion Diets: Tolerance to Dairy
 - 3.2.1. Lactose Intolerance
 - 3.2.2. Intolerant to Lactic Proteins: Caseins, Albumins, etc.
 - 3.2.3. People Allergic to Milk
- 3.3. Microbiota Changes in Patients on Food Exclusion Diets: Gluten
 - 3.3.1. Alteration of the Intestinal Microbiota in Patients with Gluten Intolerance
 - 3.3.2. Alteration of the Intestinal Microbiota in Celiac Patients
 - 3.3.3. Role of Probiotics and Prebiotics in the Recovery of the Microbiota in Gluten Intolerant and Celiac Patients
- 3.4. Microbiota and Biogenic Amines
- 3.5. Current Lines of Research



A program of the highest academic level designed by and for medical professionals who seek to continually update their knowledge in order to always offer the most innovative and accurate clinical service"

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"

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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.

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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:

 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.
- 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 28 | 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.

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.



Methodology | 29 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 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.



tech 30 | 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.

20%

15%

3%

15%

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.

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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.

20%

7%

3%

17%



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.



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 Respiratory Microbiota and Allergies 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"

tech 34 | Certificate

This **Postgraduate Diploma in Respiratory Microbiota and Allergies** c¿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 Respiratory Microbiota and Allergies

Official N° of hours: **450 h.**



technological university Postgraduate Diploma Respiratory Microbiota and Allergies » Modality: online » Duration: 6 months » Certificate: TECH Technological University » Dedication: 16h/week » Schedule: at your own pace » Exams: online

Postgraduate Diploma Respiratory Microbiota and Allergies

