

Postgraduate Certificate Microbiota and Immune System in Pharmacy





Postgraduate Certificate

Microbiota and Immune System in Pharmacy

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/pharmacy/postgraduate-certificate/microbiota-immune-system-pharmacy

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01

Introduction

Scientific research in the field of Microbiota has been booming in recent decades, aimed both at the study of its characteristics and its impact on our health. The study of Human Microbiota opens the door to the knowledge of multiple diseases, especially the so-called functional diseases, with the microbiome being researchers' main workhorse. Aware of this, TECH professionals have designed this Postgraduate Certificate aimed at training Pharmacists to be able to understand Microbiota, its relevance to our Immune System and our health. All this will make them much more competent professionals, prepared to work in Research or in Pharmacy with greater guarantees of success.





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Scientific evidence has demonstrated the importance of Microbiota in our Immune System. Dive into this training and learn every aspect about this topic”

Abundant scientific evidence has linked the respiratory microbiome to its potential impact on various pathological conditions in recent years. All this has given rise to new therapeutic strategies aimed at controlling and regulating this ecosystem. The study of this ecosystem is a field that is rapidly advancing scientifically, and it is universally accepted that to achieve an adequate state of health it is also necessary to have a "healthy" Microbiota

Microbiota undergoes changes as a consequence of the influence of multiple factors, diet, lifestyle and pharmacological treatments generating, among others, which alter the bacterial ecosystem and may cause abnormal interaction with the organism, and it is related to certain processes: allergies, acute and chronic intestinal diseases, obesity and metabolic syndrome, neurological diseases, dermatitis and other alterations in the dermis, and even some types of cancer

Consequently, this Postgraduate Certificate in Microbiota and Immune System in Pharmacy focuses on providing Pharmacists with the necessary information to understand the involvement of our bacterial system in the maintenance of our immune system and to generally understand our Microbiota, its Eubiosis and Dysbiosis, and related problems

Furthermore, during the training, the aspects that trigger balance or imbalance in the Microbiota and the use of Probiotics and Prebiotics as a treatment for imbalances will be discussed in depth. Likewise, the launch on the market of various drugs with very specific strains for very specific problems and diseases related to problems in the microbial system will also be studied

This Postgraduate Certificate includes cutting-edge contents, gathered from the latest advances in the study of microbiota and how it relates to the immune system. All this makes it necessary for Pharmacy professionals to be up to date with all the advances in this field, in order to offer the patient more precise information on the subject, guiding them to recover and maintain bacterial Eubiosis through specific drugs that help them achieve a good state of health and to positively contribute to the recommended medical treatment

This **Postgraduate Certificate in Microbiota and Immune System in Pharmacy** comprises the most complete and up-to-date scientific program on the market. The most important features of the course are:

- ♦ Practical cases presented by Microbiota experts
- ♦ 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
- ♦ Latest developments in Microbiota
- ♦ It contains practical exercises where the self-evaluation process can be carried out to improve learning
- ♦ Special focus on innovative methodologies in Microbiota
- ♦ All of this will be complemented by 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



Improve your knowledge of Microbiota and the Immune System through this program, where you will find the best teaching material with real case studies"

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You will receive a Postgraduate Certificate from one of the most important Spanish-speaking institutions, TECH Global University”

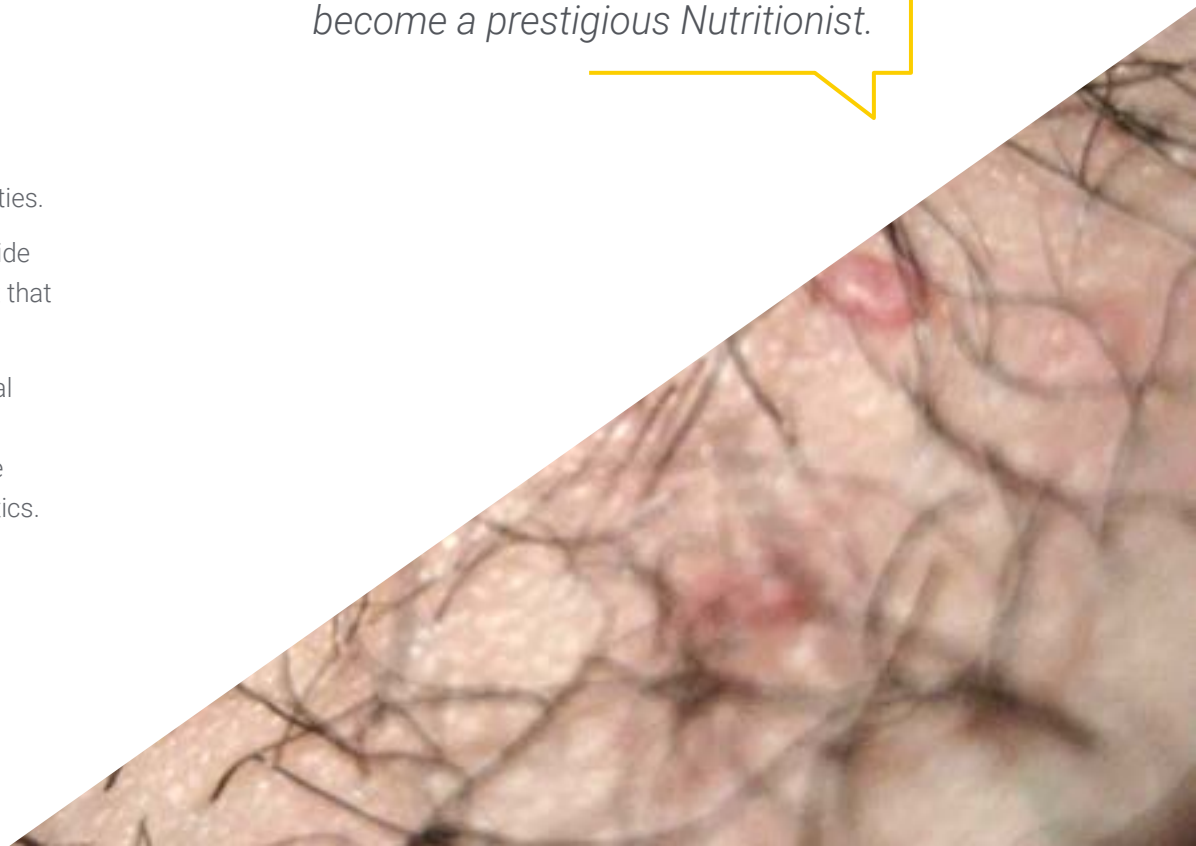
The program includes, in its teaching staff, professionals belonging to the field of medicine and pharmacy, who bring to this training the experience of their work, in addition to recognized specialists from prestigious reference societies and Universities.

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 professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be supported by an innovative interactive video system created by renowned and experienced experts in Microbiotics.

The Postgraduate Certificate allows training through simulated environments, which provide immersive learning programed to train for real situations.

Our educational training is 100% online, ideal to upgrade your skills and become a prestigious Nutritionist.



02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the professional can practically and rigorously master the study of Microbiotics in daily professional practice. Consequently, the Postgraduate Certificate in Microbiota and Immune System in Pharmacy responds to the continuous professional demand for quality training in this area, serving as a means for them to use microbiological therapy drugs as a preventive or therapeutic tool for their customers.





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TECH employs the latest educational technology to provide you with in-depth training in Microbiota, diet and the Immune System”



General Objective

- This Postgraduate Certificate fulfills a need in today's society, a quality and updated training program that allows for the use of microbiological therapy as a preventive or therapeutic tool for health maintenance
- It offers a comprehensive and global view of the current state of the field of Human Microbiota, in its broadest sense, and the importance of its balance as a direct effect on our health, including the multiple factors that influence it positively and negatively
- Arguments based in scientific evidence show how Microbiota and its interaction with many non-digestive pathologies of autoimmune nature, or its relation with the dysregulation of the immune system, its capacity for disease prevention and as a support to other medical treatments, are all currently being given a privileged position
- Promote work strategies based on the integral approach of the patient as a reference model, not only focusing on the symptomatology of the specific disease, but also looking at its interaction with the microbiota and how it may be influencing it
- Encourage professional stimulus through continuing education and research

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Specific Objectives

- ◆ Become acquainted with immune system physiology
- ◆ Understand the implication of nutrition and lifestyle and their interaction with the immune system and the microbiota
- ◆ Grasp the bidirectional relation between Microbiota and the neuroimmunoendocrine system
- ◆ Understand Microbiota involvement in triggering nervous system diseases such as anxiety, depression, schizophrenia and others
- ◆ Understand the functioning of the bowel-brain Microbiota
- ◆ Delve deeper into the current lines of research on the subject

03

Course Management

The program's teaching staff includes leading specialists in Human Microbiota and other related areas, who bring their years of work experience to this training program. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner. All of which aims at providing Pharmacists with the most complete educational information and contents so that they can practice their profession with greater guarantees of success and serve their customers well, having full knowledge of the functioning of their Microbiota and its relevance to the immune system, and thus offering them solutions much more adapted to their characteristics.





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Only the best professionals for the best University. Don't miss the opportunity to study with the best”

International Guest Director

Dr. Harry Sokol is internationally recognized in the field of Gastroenterology for his research on the gut microbiota. With more than 2 decades of experience, he has established himself as a true scientific authority thanks to his numerous studies on the role of microorganisms in the human body and their impact on chronic inflammatory bowel diseases. In particular, his work has revolutionized medical understanding of this organ, often referred to as the “second brain.”

Among Dr. Sokol’s contributions, he and his team have opened a new line of advances on the bacterium *Faecalibacterium prausnitzii*. In turn, these studies have led to crucial discoveries about its anti-inflammatory effects, opening the door to revolutionary treatments.

In addition, the expert is distinguished by his commitment to the dissemination of knowledge, whether by teaching academic programs at the Sorbonne University or by publishing works such as the comic book *The Extraordinary Powers of the Belly*. His scientific publications appear continuously in world-renowned journals and he is invited to specialized congresses. At the same time, he carries out his clinical work at the Saint-Antoine Hospital (AP-HP/University Hospital Federation IMPEC/Sorbonne University), one of the most renowned hospitals in Europe.

On the other hand, Dr. Sokol began his medical studies at Paris Cité University, showing early on a strong interest in health research. A chance meeting with the eminent Professor Philippe Marteau led him to Gastroenterology and the enigmas of the Intestinal Microbiota. Throughout his career, he also broadened his horizons by training in the United States, at Harvard University, where he shared experiences with leading scientists. Upon his return to France, he founded his own team where he researches on Fecal Transplantation, offering state-of-the-art therapeutic innovations.



Dr. Sokol, Harry

- Director of Microbiota, Gut and Inflammation at Sorbonne University, Paris, France
- Specialist Physician at the Gastroenterology Department of the Saint-Antoine Hospital (AP-HP), Paris, France
- Group Leader at the Institut Micalis (INRA)
- Coordinator of the Center of Microbiome Medicine of Paris FHU
- Founder of the pharmaceutical company Exeliom Biosciences (Nextbiotix)
- President of the Fecal Microbiota Transplantation Group
- Medical Specialist in different hospitals in Paris
- Doctorate in Microbiology at the Université Paris-Sud
- Postdoctoral Fellowship at the Massachusetts General Hospital, Harvard University Medical School
- Degree in Medicine, Hepatology and Gastroenterology at Université Paris Cité



Thanks to TECH, you will be able to learn with the best professionals in the world"

Management



Fernández Montalvo, Mª Ángeles

- ♦ Degree in Biochemistry from the University of Valencia
- ♦ Specialist Degree in Nutrition, Dietetics, and Diet Therapy
- ♦ Specialist Degree in Microbiological Food Analysis
- ♦ Specialist Degree in Nutrition, Food, and Cancer. Prevention and Treatment
- ♦ Specialist Degree in Vegetarian, Clinical, and Sports Nutrition
- ♦ Specialist in food intolerances and the study of the intestinal microbiota
- ♦ Numerous courses on Intestinal Microbiota, methods of analysis, and applications
- ♦ Diploma in Natural and Orthomolecular Medicine
- ♦ Specialist Degree in the current use of Nutricosmetics and Nutraceuticals in general
- ♦ Specialist Degree in point-of-sale management in Pharmacies and Parapharmacies
- ♦ Member of the Spanish Society of Probiotics and Prebiotics (SEPyP)
- ♦ Member of the Spanish Society of Dietetics (SEDCA)
- ♦ Member of the Spanish Society of Nutrition (SEÑ)

Professors

Dr. Lombó Burgos, Felipe

- ♦ Doctor in Biology from the University of Oviedo
- ♦ Full professor at the University of Oviedo

Dr. López López, Aranzazu

- ♦ Ph.D. in Biological Sciences
- ♦ Researcher in oral microbiology at the FISABIO Foundation
- ♦ Public Health Research Center of Valencia

Dr. Méndez García, Celia

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

Dr. Gonzalez Rodríguez, Silvia P

- ♦ PhD in Medicine and Surgery from the University of Alcalá de Henares, specialty in Gynecology
- ♦ Deputy Medical Research Coordinator and Clinical Chief of the Menopause and Osteoporosis Unit at the Velázquez Medical Cabinet (Madrid)

Dr. Álvarez García, Verónica

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

Dr. Solís Sánchez, Gonzalo

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

Dr. Suárez Rodríguez, Marta

- ♦ Neonatologist at the Central University Hospital of Asturias (HUCA)
- ♦ Researcher and Professor in the Professional Master's Degree in Early Care and the Professional Master's Degree in Critical Care Nutrition 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

Dr. Fernández Madera, Juan José

- ♦ Degree in Medicine
- ♦ Specialist in Clinical Allergology and Immunology
- ♦ Specialist in Sports Medicine

04

Structure and Content

The structure of the contents has been designed by a team of professionals from the best hospital centers and universities in the country, who are aware of the relevance of up-to-date training to be able to prevent, detect, and treat pathologies related to alterations in human microbiota, and are committed to quality teaching through new educational technologies. All of which is aimed at training Pharmacists to be much more competent and prepared to offer treatments that help and favor the microbiome and the immune system of their patients.



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Experts at TECH have designed the most complete and updated educational program on the market to train Pharmacists for success”

Module 1 Microbiota and the Immune System

- 1.1. Immune System Physiology
- 1.2. Nutrition and Lifestyle: Immune System and Microbiota Interaction
- 1.3. Functional Foods (Probiotics and Prebiotics), Nutraceuticals, and the Immune System
- 1.4. Bidirectional Relationship between Microbiota and Neuroimmunoendocrine System
- 1.5. Microbiota, Immunity and Nervous System Disorders: Anxiety, Depression, Autism, Schizophrenia, or Alzheimer's disease
- 1.6. The Gut-Microbiota-Brain Axis
- 1.7. Current Lines of Research





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A unique, key, and decisive training experience to boost your professional development”

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.





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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. Pharmacists learn better, more quickly 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. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, attempting to recreate the actual conditions in a pharmacist's professional practice.

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Did you know that this method was developed in 1912 at Harvard for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Pharmacists who follow this method not only achieve the assimilation of concepts, but also develop their mental capacity through exercises to evaluate real situations and apply their 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. 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



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.

Pharmacists 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.



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 115,000 students with unprecedented success, in all clinical specialties, regardless of the surgical load. Our pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years old.

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). Hence, 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 teaching material is created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate

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



Video Techniques and Procedures

We bring you closer to the latest techniques, to the newest educational advances, to the forefront of current pharmaceutical care 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

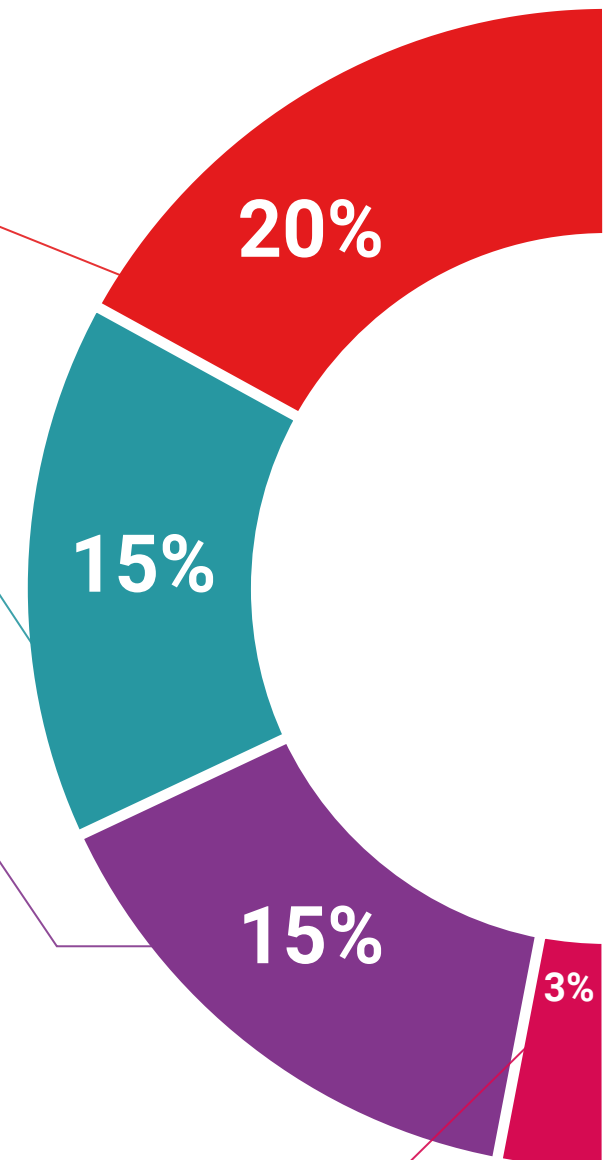
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge

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 & Re-testing

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 Microbiota and Immune System in Pharmacy** guarantees, in addition to the most rigorous and updated specialization, access to a Certificate issued by **TECH Global University**.



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

This program will allow you to obtain your **Postgraduate Certificate in Microbiota and Immune System in Pharmacy** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Certificate in Microbiota and Immune System in Pharmacy**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development languages
virtual classroom



Postgraduate Certificate

Microbiota and Immune System in Pharmacy

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Postgraduate Certificate

Microbiota and Immune System in Pharmacy

