



# Postgraduate Certificate

# Genitourinary Microbiota in Pharmacy

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Credits: 5 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/pharmacy/postgraduate-certificate/genitourinary-microbiota-pharmacy

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# tech 06 | Introduction

Abundant scientific evidence has demonstrated the role of the genitourinary microbiome in the appearance of several genital and urinary system pathologies. Likewise, this evidence has also brought to light new therapeutic strategies to control and regulate these environments. The study of this ecosystem is a field of rapid scientific progress, being already a universal truth that, in order to reach an adequate state of health, it is also necessary to have a "healthy" Microbiota.

Human 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 cuase 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.

This Postgraduate Certificate in Genitourinary Microbiota in Pharmacy focuses on providing Pharmacists with the necessary information on issues related to genital Microbiota and the urinary system, its Eubiosis and Dysbiosis, and related problems. This will enable you to cater for customers with this type of problem, offering them a therapeutic drug of better quality and having a much clearer idea of the state of their health.

Likewise, the use of Probiotics and Prebiotics, and the growing market launch of new pharmaceutical products with very specific strains for Genitourinary problems and diseases. All this content will make it possible for Pharmacy professionals to be prepared to offer effective solutions to customers with this type of pathology or infection, knowing how to guide them so that they can recover and maintain their microbiota and, consequently, promote a good state of health.

All this, in a 100% online training that allows Pharmacists to learn while continuing to perform the rest of their personal and professional activities. That way you are ensured to be up to date with the latest advances in genitourinary microbiotics, without neglecting other important things in your daily life.

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

- Practical cases presented by Genitourinary Microbiota in Pharmacy experts.
- b 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.
- **b** Latest developments in Genitourinary Microbiota in Pharmacy.
- **b** It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- b Special focus on innovative methodologies in Genitourinary Microbiota in Pharmacy.
- **b** All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments.
- b Content that is accessible from any fixed or portable device with an Internet connection



TECH experts make the latest knowledge on Genitourinary Microbiotics available with the aim of making you a first level Pharmacist"

# Introduction | 07 tech



This Postgraduate Certificate may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge of Genitourinary Microbiota in Pharmacy, you will obtain a university degree from 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.

The design of this Program focuses on Problem-Based Learning, by means of which the professional will have to try to solve the different situations of Professional Practice, which will be posed throughout the Program. The professional will be assisted by an innovative interactive video system created by renowned and experienced experts in sports nutrition.

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

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





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 Genitourinary Microbiotics in Pharmacy responds to the continuous professional demand for quality training in this field, serving as a vehicle to use microbiotic therapy as a means to treat genital and urinary diseases and as a preventive tool to maintain the health of customers who require your services due to a problem of this type.

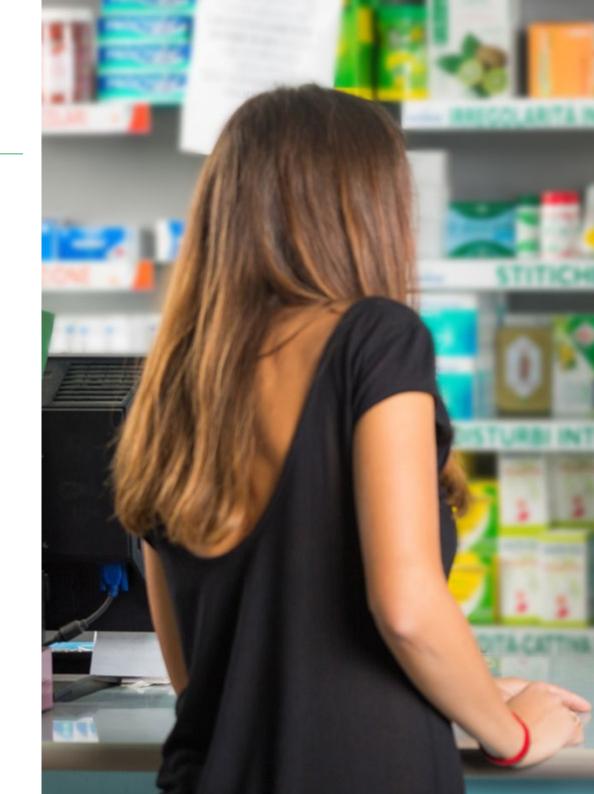


# tech 10 | Objectives



# **General Objective**

- **b** 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.
- b Offer a complete and wide vision of the current situation in the area 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.
- 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 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.
- b The program will promote work strategies based on the integral approach of the patient as a reference model, not only focusing on the symptomatology of the specific pathology, but also looking at its interaction with Microbiota and how the latter may be influencing it.
- **b** Encourage professional stimulation through continuous education and research





# **Specific Objectives**

# Module 1 Genitourinary Tract Microbiota

- **b** Know the physiology of the genitourinary tract in men and women and the microbial composition according to sex.
- **b** Deepen in the microorganisms causing genitourinary infections and their relationship with the alteration of the Microbiota
- **b** Know the vaginal Microbiota and its modification with age
- **b** Understand the factors that cause the alteration of vaginal homeostasis and its relationship with infectious pathologies.
- Know how to use probiotics in the prevention of the main infections of the genitourinary tract: UTI (Cystitis/Urethritis), Prostatitis, Pyelonephritis, Vaginal infections, and infertility
- b Delve into the current lines of research







# tech 14 | Course Management

## Management



# Fernández Montalvo, Mª Ángeles

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

## **Professors**

## Dr. Álvarez García, Verónica

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

### Dr. Díaz Martín, Juan José

- Pediatric gastroenterologist at the Central Hospital of Asturias (HUCA)
- b 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

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

## Dr. Gonzalez Rodríguez, Silvia P

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

## Dr. Lombó Burgos, Felipe

- $\, \flat \,$  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 FISABIO foundation
- Public Health Research Center of Valencia

### Dr. Méndez García, Celia

- **þ** Doctorate in Microbiology from the University of Oviedo.
- PRESEARCH at Novartis Laboratories (Boston).

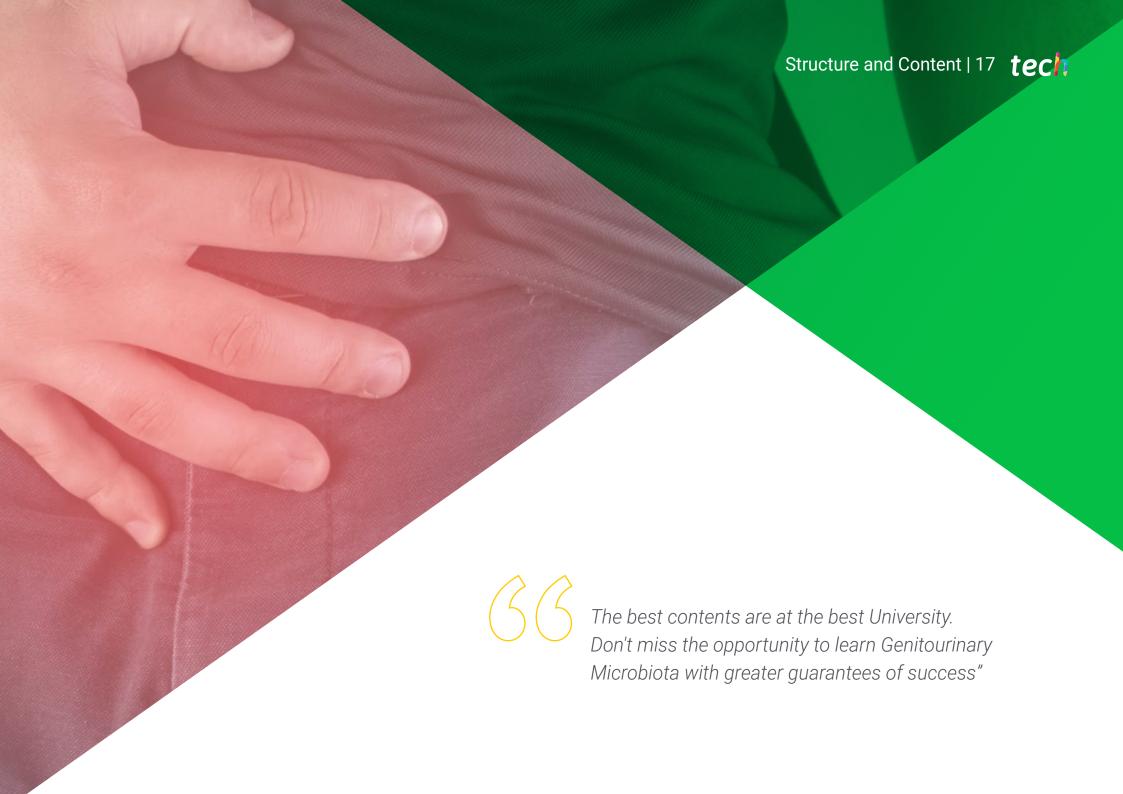
#### Dr. Solís Sánchez, Gonzalo

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

## Dr. Suárez Rodríguez, Marta

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





# tech 18| Structure and Content

## **Module 1** Genitourinary Tract Microbiota

- 1.1. Physiology of the Genitourinary Tract in Men and Women. Microbial Composition of the Genitourinary Tract and its Differentiation by Sex
- 1.2. Microorganisms Causing Genitourinary Infections Relationship with the Alteration of the Microbiota
- 1.3. Vaginal Microbiota and its Modification with Age
- 1.4. Alteration of the Vaginal Homeostasis and its Relation with Infectious Pathologies
- 1.5. Probiotics in the Prevention of the Main Genitourinary Tract Infections: UTI (Cystitis/Urethritis), Prostatitis, Pyelonephritis, Vaginal infections, and infertility
- 1.6. Current Lines of Research



# Structure and Content | 19 tech





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

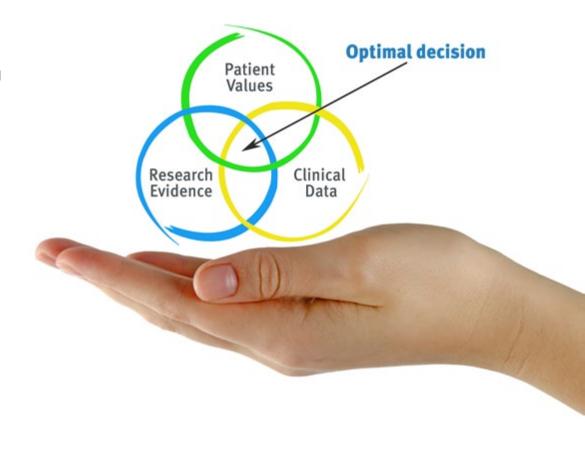


# tech 22 | Methodology

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





# Methodology | 25 tech

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

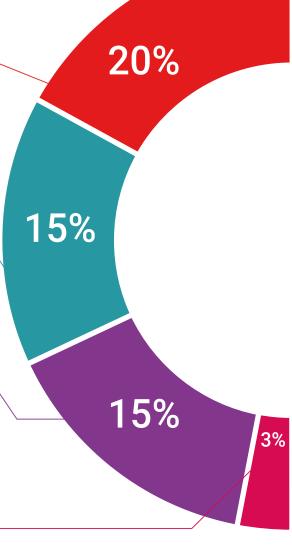
We bring you closer to the latest techniques, to the newest educational advances, to the forefront of current pharmaceutical care procedures. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many 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.

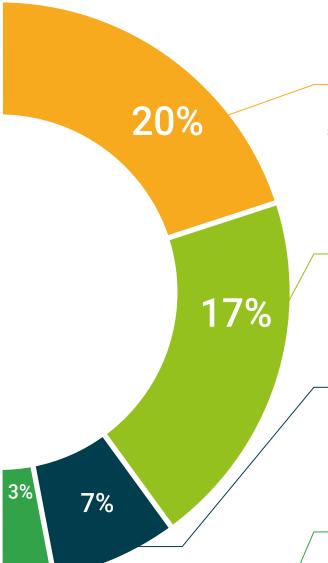
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".





#### **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**

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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.





# tech 30 | Certificate

This program will allow you to obtain your **Postgraduate Certificate in Genitourinary Microbiota 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 Genitourinary Microbiota in Pharmacy

Modality: online

Duration: 6 weeks

Accreditation: 5 ECTS



Mr./Ms. \_\_\_\_\_, with identification document \_\_\_\_\_ has successfully passed and obtained the title of:

#### Postgraduate Certificate in Genitourinary Microbiota in Pharmacy

This is a program of 150 hours of duration equivalent to 5 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



tech Postgraduate Certificate Genitourinary Microbiota in Pharmacy » Modality: online » Duration: 6 weeks » Certificate: TECH Global University

» Credits: 5 ECTS

» Exams: online

» Schedule: at your own pace

