Postgraduate Certificate

Microbiota and Intestinal Homeostasis

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Postgraduate Certificate
Microbiota and Intestinal Homeostasis

Course Modality: **Online**
Duration: **2 months.**
Endorsed by: **TECH Technological University**
6 ECTS credits
Hours **150 hours**
Website: www.techtitute.com/medicine/postgraduate-certificate/microbiota-intestinal-homeostasis

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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.

Improve your knowledge in Microbiota and Intestinal Homestasis through this program, where you will find the best teaching material with real clinical cases. Learn here about the latest advances in the specialty to be able to perform a quality medical practice"

Of all these, the most complicated, diverse and extensive is that associated with the digestive system: intestinal microbiota. These communities have a symbiotic and mutualistic behavior with human eukaryotic cells, are essential for the proper functioning of our body, maintain an important dialogue with the immune system and have homeostatic functions that condition our health.

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 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.

Our microbiota undergoes changes as a consequence of the influence of multiple factors, diet, lifestyle, pharmacological treatments..., generating alterations in this bacterial ecosystem; this abnormal interaction that the organism could have with it is related to certain processes: allergic, 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 Microbiota and Intestinal Homeostasis provides ease of access to information and the interest that microbiota-related topics generate among the general population. This makes it necessary for health professionals to be up to date on all scientific advances in order to offer the patient more accurate information on the subject.

Through this course you would be able to guide the patient to help them recover and maintain the bacterial balance in order to maintain a good state of health, in addition to collaborating in a positive way with the medical treatment indicated.

This **Postgraduate Certificate in Microbiota and Intestinal Homeostasis** contains the most complete and up-to-date scientific program on the market. The most important features of the course are:

- Practical cases presented by experts in Microbiota. 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 advances in the approach to problems related to microbiota and intestinal homeostasis.
- It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- Special emphasis on innovative methodologies.
- 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.

Update your knowledge through the Postgraduate Certificate in Microbiota and Intestinal Homeostasis"

This Postgraduate Certificate may be the best investment you can make when choosing a refresher program for two reasons: in addition to updating your knowledge in microbiota and intestinal homeostasis, you will obtain a Postgraduate Certificate certificate from TECH Technological University"

Increase your decision-making confidence by updating your knowledge through this program.

Make the most of the opportunity to learn about the latest advances in Microbiota and Intestinal Homeostasis and improve your patient care.

The teaching staff includes professionals from the field of gastroenterology who bring their experience to this training program, as well as renowned specialists belonging to 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 training program to train in real situations.

The design of this program is based on problem-based learning, by means of which the educator must try to solve the different professional practice situations that arise throughout the Postgraduate Certificate. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Microbiota and Intestinal Homeostasis with extensive teaching experience.

02

Objectives

The **Postgraduate Certificate in Microbiota and Intestinal Homeostasis** is aimed at facilitating the performance of a professional in their daily practice so that they can apply all this knowledge when treating their patients, with the motivation to provide the best medical care possible.

This Postgraduate Certificate is designed to update your knowledge of Microbiota and Intestinal Homeostasis, with the use of the latest educational technology, to contribute with quality and confidence to the decision making of these students"

General Objectives

- This course in Skin Microbiota fulfills a need of today's society, a quality and up-to-date training program that allows the use of microbiological therapy as a preventive or therapeutic tool towards maintaining health.
- Offer a comprehensive and broad view of the current state of the field of human microbiota, in its broadest 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 a high degree of importance is currently being given to the Microbiota and its interaction with many non-digestive, autoimmune pathologies or its relationship with the dysregulation of the immune system, the prevention of diseases, and as a support to other medical treatments.
- 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.

Specific Objectives

- Update and clarify general and key terms for a full understanding of the subject such as Microbiome, Metagenomics, Microbiota, Symbiosis, Dysbiosis, etc.
- Study the microbial communities that coexist in symbiosis with humans, learning more about their structure and functions and how these communities can be altered due to factors such as diet, lifestyle, etc.
- Delve into the knowledge of the Intestinal Microbiota as the main axis of the Human Microbiota and its interrelation with the rest of the body, its study methods, and its applications in clinical practice to maintain a good state of health.
- Understand the relationship between intestinal pathologies: SIBO, irritable bowel syndrome (IBS), Crohn's disease, etc. and intestinal dysbiosis.
- Learn how to manage the different intestinal infections caused by viruses, bacteria, parasites, fungi modulating the altered intestinal microbiota.
- Delve into how drugs designed for humans can have a negative impact on the gut microbiota, in addition to the known impact of antibiotics.
- Know in depth the safety profile of Probiotics, given that although their use has spread in recent years thanks to their proven efficacy, both for the treatment and prevention of certain diseases, this does not mean that they do not generate adverse effects and potential risks.

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Course Management

The program includes in its teaching staff renowned experts in Microbiota and Intestinal Homeostasis, who contribute their work experience to this training course. In addition, other specialists of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary manner.

Learn the latest advances in procedures in the field of Microbiota and Intestinal Homeostasis from renowned professionals"

Management

Fernández Montalvo, Mª Ángeles

- 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
- 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
- Expert in the current use of Nutricosmetics and Nutraceuticals in general.
- Expert 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

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

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

Fernández Montalvo, Mª Ángeles
- Biochemist-Nutritionist-Phytotherapist head of the Natural life Nutrition and Integral Medicine Center
- Manager of Parapharmacy and director of several nutrition training courses

Fernández Madera, Juan
- Degree in Medicine
- Allergy Specialist

Dr. Gonzalez Rodríguez, Silvia P
- PhD in Medicine and Surgery from the University of Alcalá de Henares. Gynecology Specialist.
- Medical Subdirector, Research Coordinator and Clinical Chief of the Menopause and Osteoporosis Unit at the Velázquez Medical Cabinet (Madrid)

Dr. Lombó Burgos, Felipe
- PhD in Biology from the University of Oviedo and now a professor at the same university

Dr. López López, Aranzazu
- PhD in Biological Sciences. Researcher in oral microbiology at FISABIO foundation
- Public Health Research Center of Valencia

Dr. Méndez García, Celia
- PhD in Microbiology from the University of Oviedo Research at Novartis Laboratories (Boston)

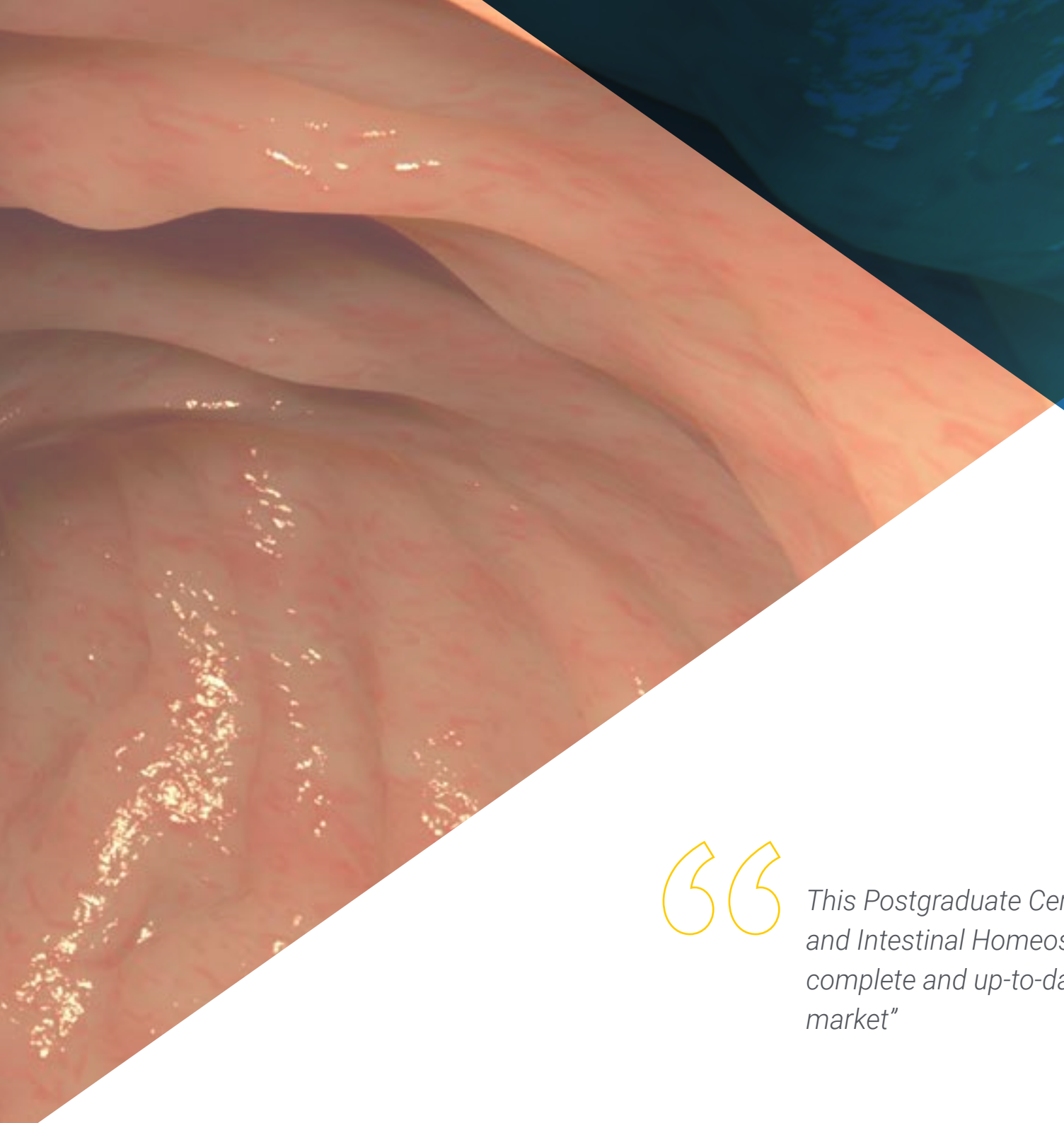
Dr. Solís Sánchez, Gonzalo
- Neonatologist at the Hospital Universitario Central de Asturias (HUCA)
- Researcher, Associate Professor of the University of Oviedo

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

05

Structure and Content

The structure of the contents has been designed by a team of professionals from the best educational centers, universities, and companies on a national level, aware of the relevance of current specialization in order to intervene in the training and support of students, and committed to quality teaching through New Educational Technologies.



This Postgraduate Certificate in Microbiota and Intestinal Homeostasis contains the most complete and up-to-date scientific program on the market"

Module 1. Gut Microbiota I. Intestinal homeostasis

1.1. Gut Microbiota Studies.
  1.1.1. MetaHIT, META-BIOME, MyNewGut, Human Microbiome Projects.
1.2. Microbiota Composition:
  1.2.1. Protective Microbiota (Lactobacillus, Bifidobacterium, Bacteroides)
  1.2.2. Immunomodulatory Microbiota (Enterococcus faecalis and Escherichia coli)
  1.2.3. Mucoprotective or Muconutritive Microbiota (Faecalibacterium prausnitzii and Akkermansia muciniphila)
  1.2.4. Microbiota with Proteolytic or Proinflammatory Activities (E. coli Biovare, Clostridium, Proteus, Pseudomonas, Enterobacter, Citrobacter, Klebsiella, Desulfovibrio, Bilophila)
  1.2.5. Fungal Microbiota (Candida, Geotrichum).
1.3. Digestive System Physiology. Composition of the Microbiota in the Different Parts of the Digestive Tract. Resident Flora and Transient or Colonizing Flora. Sterile Areas in the Digestive Tract.
  1.3.1. Esophageal Microbiota
    1.3.1.1. Healthy Individuals
    1.3.1.2. Patients (Gastric Reflux, Barrett's Esophagus, etc.)
  1.3.2. Gastric Microbiota
    1.3.2.1. Healthy Individuals
    1.3.2.2. Patients (Gastric Ulcer, Gastric Cancer, MALT, etc)
  1.3.3. Gallbladder Microbiota
    1.3.3.1. Healthy Individuals
    1.3.3.2. Patients (Cholecystitis, Cholelithiasis, etc.)
  1.3.4. Small Intestine Microbiota
    1.3.4.1. Healthy Individuals
    1.3.4.2. Patients (Inflammatory Bowel Disease, Irritable Bowel Syndrome, etc.)
  1.3.5. Colon Microbiota
    1.3.5.1. Healthy Individuals. Enterotypes
    1.3.5.2. Patients (Inflammatory Bowel Disease, Crohn's Disease, Colon Carcinoma, Appendicitis, etc..
1.4. Gut Microbiota Functions: Metabolic. Nutritional and Trophic. Protective and Barrier. Immunological
  1.4.1. Interrelationships Between the Intestinal Microbiota and Distant Organs (Brain, Lung, Heart, Liver, Pancreas, etc.)
1.5. Intestinal Mucosa and Mucosal Immune System.
  1.5.1. Anatomy, Characteristics, and Functions (MALT, GALT, and BALT System)
1.6. What is Intestinal Homeostasis? The Role of Bacteria in Intestinal Homeostasis.
  1.6.1. Effects on Digestion and Nutrition.
  1.6.2. Defense Stimulation, Hindering Colonization by Pathogenic Microorganisms.
  1.6.3. Production of Vitamin B and K.
  1.6.4. Production of Short Chain Fatty Acids (Butyric, Propionic, Acetic, etc.)
  1.6.5. Production of Gases (Methane, Carbon Dioxide, Molecular Hydrogen). Properties and Functions.
  1.6.6. Lactic Acid.

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

05

Methodology

This training program 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.

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 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. Specialists learn better, faster, 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, trying to recreate the real conditions in professional medical 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:

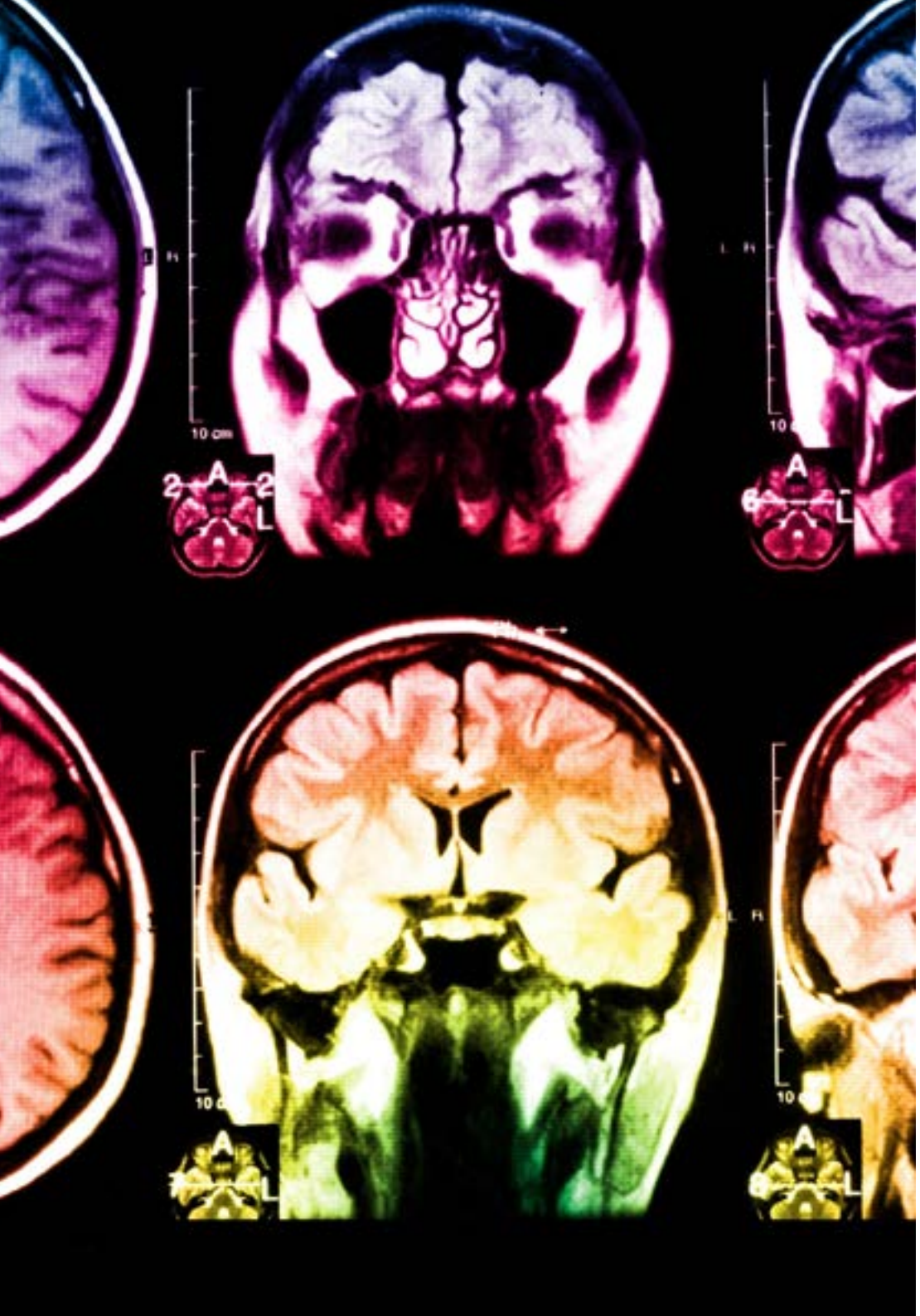
1. Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts 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.

The physician 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 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning 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 (we learn, unlearn, forget, and re-learn). Therefore, 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 produced specifically for the course by the specialists who teach the course, so that the teaching content is highly specific and precise.

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.

Latest Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. 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.

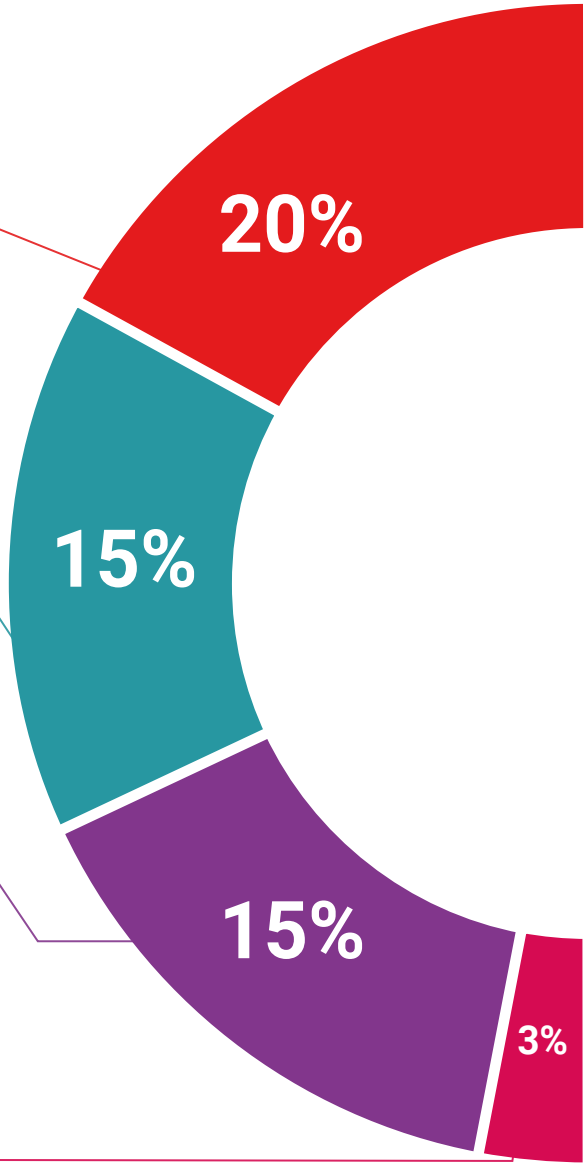
Interactive Summaries

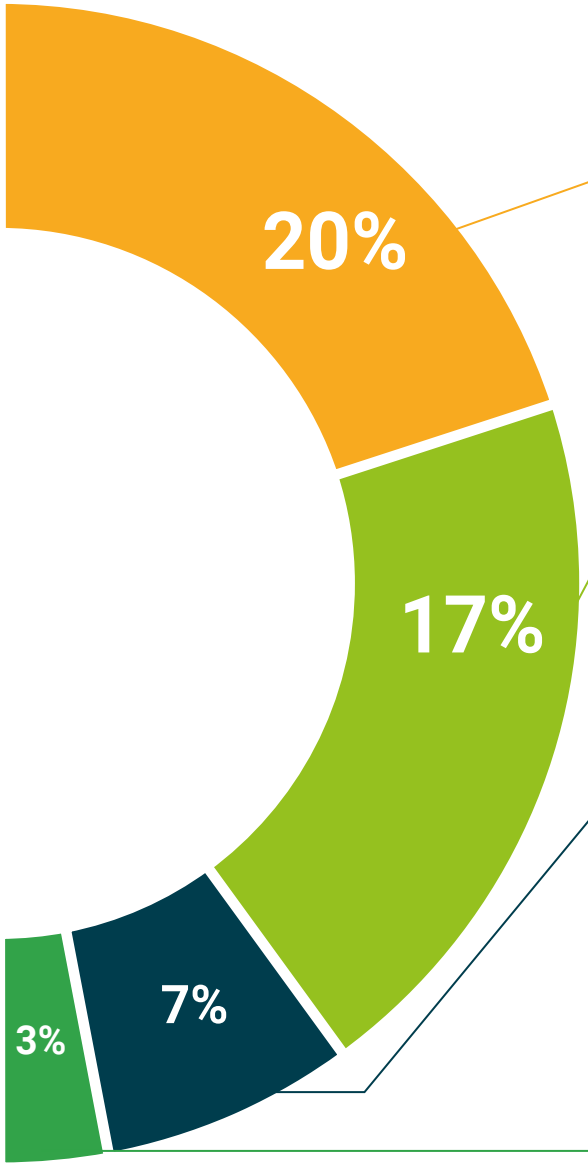
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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 Intestinal Homeostasis** guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by **TECH Technological University.**

Successfully complete this training and receive your diploma without the hassle of travel or paperwork"

This **Postgraduate Certificate in Microbiota and Intestinal Homeostasis** contains the most complete and up-to-date scientific program on the market"

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** by tracked mail.

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

Title: **Postgraduate Certificate in Microbiota and Intestinal Homeostasis**

ECTS: 6

Nº Hours: **150**


tech technological university

Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Microbiota and Intestinal Homeostasis

This is a qualification awarded by this University, with 6 ECTS credits and equivalent to 150 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 diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

Postgraduate Certificate
Microbiota and Intestinal Homeostasis

Course Modality: **Online**
Duration: **2 months.**
Endorsed by: **TECH Technological University**
6 ECTS credits
Hours **150 hours**

Postgraduate Certificate

Microbiota and Intestinal Homeostasis

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