

Hybrid Executive Master's Degree Human Microbiota for Nursing



Hybrid Executive Master's Degree Human Microbiota for Nursing

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

Credits: 60 + 4 ECTS

Website: www.techtute.com/us/nursing/hybrid-professional-master-degree/hybrid-professional-master-degree-human-microbiota-nursing

Index

01

Introduction

p. 4

02

Why Study this Hybrid
Professional Master's Degree?

p. 8

03

Objectives

p. 12

04

Skills

p. 18

05

Course Management

p. 22

06

Structure and Content

p. 34

07

Clinical Internship

p. 42

08

Study Methodology

p. 48

09

Certificate

p. 56

01

Introduction

The latest scientific discoveries on human bacterial flora have given way to new protocols to control or influence the diseases generated by these microorganisms. Nursing professionals must keep abreast of these advances in order to be able to implement new methods of care. However, these professionals find it difficult to keep up to date because few educational programs fit their schedules and professional needs. In this context, TECH presents a program with a hybrid methodology, composed of two distinct phases. The first one devotes 1,800 hours to the theoretical study of advances in Microbiota. The second consists of an intensive, and on-site internship of 3 weeks in a hospital center of great prestige in the evolution of this health area.



“

Update your practical skills and theoretical knowledge about gut, genitourinary, and skin bacterial flora with this program designed by TECH to meet your needs"

With the scientific and technological evolution in the field of health, discoveries about the Human Microbiota constantly occur. At the same time, these advances have contributed to the appearance of new procedures to control or influence the development of pathologies caused by some of these microorganisms. In the case of the bacterial flora of the skin, for example, new and better therapeutic strategies have appeared for the intervention of Psoriasis and Atopic Dermatitis. Despite all these advances, nursing professionals find it difficult to keep up with them. This is due to the fact that most educational programs do not delve into the practical applications of the new care protocols derived from this health research. For this reason, the demand from professionals in the sector is for qualifications that help them to update their skills quickly, flexibly, and in line with their needs.

In this context, TECH has devised a Hybrid Professional Master's Degree of the highest demand and quality. It has been conceived to provide the student with the most recent Nursing procedures regarding the intervention of patients with bacterial flora-related conditions. The program implements an innovative methodology, divided into two fundamental phases. The first stage will be 100% online and will include 10 comprehensive Masterclasses delivered by a pioneer in scientific research related to the Human Microbiota. An International Guest Director renowned for his active practice and specialized findings.

In the second educational period, the nurse will develop a first level clinical practice, from a hospital facility with optimal health care equipment. These care tools are in line with the latest scientific evidence for the care of patients with diseases generated by microorganisms. The internship, with an on-site and intensive nature, will have a duration of 3 weeks and, at all times, will be supervised by leading experts. At the same time, an assistant tutor will be in charge of monitoring all academic progress and inserting dynamic assignments throughout the program.

This **Hybrid Professional Master's Degree in Human Microbiota for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ Development of more than 100 clinical cases presented by nursing professionals with expertise in Human Microbiota
- ◆ Its graphic, schematic and practical contents provide scientific and assistance information on those medical disciplines that are essential for professional practice
- ◆ Presentation of practical workshops on procedures, diagnosis, and treatment techniques in critical patients
- ◆ An algorithm-based interactive learning system for decision making in the clinical situations presented
- ◆ Practical clinical guides on approaching different disorders
- ◆ 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
- ◆ Furthermore, you will be able to carry out a clinical internship in one of the best hospital centers



A comprehensive program that integrates 10 exclusive Masterclasses, delivered by a prestigious International Guest Director, completely dedicated to the research of the Human Microbiota”

“*Through 1,920 hours of study, this Hybrid Professional Master's Degree guarantees the graduate an up-to-date, high-quality program that will help them to manage the most complex equipment and care protocols currently used to treat Microbiota diseases*”

In this Hybrid Professional Master's Degree, with a vocational nature and blended learning modality, the program is aimed at updating nursing professionals who require a high level of qualification. The content is based on the latest scientific evidence and is organized in a didactic way to integrate theoretical knowledge into nursing practice. The theoretical-practical elements allow professionals to update their knowledge and help them to make the right decisions in patient care.

Thanks to the multimedia content, developed with the latest educational technology, nursing professionals will benefit from situated and contextual learning, i.e., a simulated environment that will provide immersive learning 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 throughout the program. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

With this Hybrid Professional Master's Degree, you will analyze rigorously up-to-date educational modules under the careful supervision of the best teaching faculty.

The clinical practices of this program to be carried out in an on-site and intensive way, will allow the nurse to develop skills in a direct way in the assistance of patients with real diseases.



02

Why Study this Hybrid Professional Master's Degree?

Nursing professionals often find it difficult to keep up to date with the latest research on the Human Microbiota. This is because most of the syllabus in the educational market does not delve into the most innovative procedures and techniques required for a student to stand out in this field of care. For this reason, TECH provides a learning methodology, pioneer in its type, where the keys to this subject are collected in two distinct phases. In the first stage, the program will be taught 100% online from a platform with theoretical materials and multimedia resources of great didactic value. This will be followed by an intensive practical internship in a prestigious hospital center, where the graduate will receive personalized guidance from top-level experts.



“

Get the most up-to-date nursing competences for the control of diseases related to the Gut Microbiota through the contents of this program provided by the world's best online university"

1. Updating from the latest technology available

For the control of diseases related to the Human Microbiota, nursing professionals now have better and more advanced assistive technologies. At the same time, this equipment has generated an important contribution in terms of the development of therapeutic methods and protocols in the hands of these professionals. Thanks to this Hybrid Professional Master's Degree, the student will examine all of them and will be up to date in an exhaustive and rigorous manner.

2. Gaining in-depth knowledge from the experience of top specialists

The large team of professionals that will accompany the nurse throughout the practical period is a first-class guarantee and an unprecedented guarantee of updating. With a specifically designated tutor, the student will be able to see real patients in a modern environment, which will allow them to incorporate into their practice the most effective procedures and approaches to pathologies related to the Human Microbiota.

3. Entering first-class clinical environments

TECH carefully selects all available centers for Internship Programs of this Hybrid Professional Master's Degree. As a result, the nurse will have guaranteed access to a prestigious clinical environment. In this way, you will update your skills in a demanding, rigorous, and exhaustive sector, always applying the latest theses and scientific postulates in its work methodology.





4. Combining the best theory with state-of-the-art practice

The educational market is plagued by educational programs that are poorly adapted to the daily work of the nurse in terms of Human Microbiota. Those programs are not compatible with the student's professional and personal lives. For this reason, TECH offers a learning model that combines the theoretical study of these procedures with a 3-week intensive clinical practice.

5. Expanding the boundaries of knowledge

TECH offers the possibility of doing your Nursing internship in a prestigious international hospital. Those facilities, located in different cities, are adjusted to the requirements and professional needs of each student. In this way, TECH, the world's largest digital university, provides an intensive update in accordance with the most complex international standards in this area of care.

“

You will have full practical immersion at the center of your choice”

03 Objectives

This program has been designed to provide the student with a rigorous, demanding, and exhaustive update on the role of nurses in diseases related to the Human Microbiota. To this end, the program uses the most innovative content and provides them 100% online, on a study platform with no predefined schedules or timetables. At the same time, this Hybrid Professional Master's Degree includes an Internship Program where the student will handle the latest technological resources and protocols for the benefit of real patients, from a hospital center of international renown.



“

With TECH, you will be up to date on the most important advances in Human Microbiota research and delve into nursing protocols that have been up to date based on the most recent findings in this health area”



General Objective

- The general objective of this Hybrid Professional Master's Degree is provide nursing personnel with the most up-to-date therapeutic techniques that intervene in the balance of the Human Microbiota and all those factors that can alter it. Through the latest scientific evidence, the student will analyze non-digestive pathologies of autoimmune nature or their relationship with immune system dysregulation. In addition, you will examine the actions you should take to face these problems from your professional profile, obtaining a global vision of how it is possible to influence the bacterial flora of people. At the same time, this program assumes the challenge of stimulating graduates to pursue continuous learning and research.





Specific Objectives

Module 1. Microbiota. Microbiome. Metagenomics

- ◆ Update and clarify general and key terms for a full understanding of the subject such as Microbiome, Metagenomics, Microbiota, Symbiosis, Dysbiosis
- ◆ Enhance knowledge of how drugs designed for humans can have a negative impact on the gut Microbiota, in addition to the known impact of antibiotics

Module 2. Gut Microbiota I. Intestinal homeostasis

- ◆ 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.
- ◆ Understand the relationship between intestinal pathologies: SIBO, Irritable Bowel Syndrome (IBS), Crohn's disease, and intestinal dysbiosis.

Module 3. Gut Microbiota II. Intestinal Dysbiosis

- ◆ Delve into the knowledge of the Gut Microbiota as the main influence on the Human Microbiota and the rest of the body, how to study it, and its importance in clinical practice to maintain a good state of health
- ◆ Learn how to manage the different intestinal infections caused by viruses, bacteria, parasites, fungi affecting the intestinal microbiota.

Module 4. Microbiota in Neonatology and Pediatrics

- ◆ Delve into the most influential factors of the intestinal microbiota of the mother, both in childbirth and in the gestation period itself
- ◆ Delve in the clinical applications of probiotics and prebiotics in the pediatric patient

Module 5. Oral Microbiota and Respiratory Tract

- ◆ Study the mechanisms by virtue of which Probiotics are postulated as preventive in the formation of dental caries and periodontal diseases.
- ◆ Acquire an in-depth knowledge of all the oral and respiratory structure and the ecosystems that live in them, seeing how an alteration of these ecosystems has a direct relationship with many associated pathologies.

Module 6. Microbiota and Immune System

- ◆ Delve into the bidirectional relationship between Microbiota and Neuroimmunological System and study in depth the intestine-microbiota-brain axis and all the pathologies that are generated in its imbalance.
- ◆ Analyze the role of nutrition and lifestyle with the interaction between the immune system and Microbiota.

Module 7. Skin Microbiota

- ♦ Study the factors that regulate the type of bacterial flora in the skin
- ♦ Know the methods of approach to triggered skin diseases

Module 8. Genitourinary Tract Microbiota

- ♦ Analyze the main microorganisms that cause urinary tract infections and their relationship with the alteration of the microbiota in men and women
- ♦ An in-depth look at the role of probiotics in the prevention of the main infections of the genitourinary tract

Module 9. The Relationship between Intolerances/Allergies and the Microbiota

- ♦ Know how a negative change in our microbiota can lead to food intolerances and allergies
- ♦ Delve into the changes in the microbiota in patients with food exclusion diets such as gluten

Module 10. Probiotics, Prebiotics, Microbiota, and Health

- ♦ Have thorough knowledge of the safety profile of probiotics, since, although their use has become more widespread in recent years thanks to their proven efficacy, both for the treatment and prevention of certain diseases, this does not exempt them from generating adverse effects and potential risks
- ♦ Analyze the various clinical applications of probiotics and prebiotics in areas such as urology, gynecology, gastroenterology and immunology





“

This program will update your nursing practice, allowing you to acquire practical skills to regulate and control the bacterial flora on the skin of patients with severe infections”

04 Skills

After passing both stages of this Hybrid Professional Master's Degree, the nursing professional will have practical skills that are highly demanded in the healthcare field. In addition, you will be able to handle new generation therapeutic technologies, implement procedures and other manual care that will guarantee the patients under your care a quality recovery, according to the most specialized medical criteria.



“

With the help of this program, you will master the most current applications of probiotic safety profiles, detecting adverse reactions with efficiencies that you will report to the primary care physician responsible for clinical care"



General Skills

- Understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the field of study
- Integrate knowledge and face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities related to the application of their knowledge and judgments
- Communicate conclusions to specialized and non-specialized audiences in a clear and unambiguous manner
- Acquire the learning skills that will enable further studying in a largely self-directed or autonomous manner



Don't miss the opportunity to update your skills in the therapeutic control of urinary bacterial flora and enroll now in this Hybrid Professional Master's Degree"





Specific Skills

- ♦ Give a global vision of the Human Microbiota, so that the professional has a deeper knowledge of this community of microorganisms that coexist with us and the functions they perform in our body
- ♦ Know the type, importance, and functions of the intestinal Microbiota in all patients, but particularly in pediatrics, as well as its relationship with digestive and non-digestive diseases
- ♦ Understand how there are many factors that can alter the balance of this human ecosystem, leading us to a state of illness
- ♦ Knowing what factors can help maintain the balance of this ecosystem to maintain a good state of health
- ♦ Update and expand knowledge with special education and interest in Probiotic Therapy, Prebiotic Therapy and the latest advances in this field, such as fecal transplantation, the current situation and future development pathways, as the main tools we have to optimize the functions of the Microbiota and its future projection

05

Course Management

TECH has assembled a faculty of excellence for this Hybrid Professional Master's Degree. Its professors have extensive experience in health care, through which they have implemented the most innovative health care procedures for the care of patients with different pathologies of the Microbiota. Those professionals have taken on the challenge of developing the program's syllabus based on their most up-to-date experiences. The result is a modern syllabus that covers the most common ailments caused by human bacterial flora and how a highly competent nurse should deal with these ailments.





“

Throughout 1,800 hours of learning, the professors of this program will be at your disposal to clarify doubts and concepts of interest”

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.

In addition, Dr. Sokol began his **medical studies** at the 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 **Gut Microbiota**. Throughout his career, he also broadened his horizons by specializing 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 investigates **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
- 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
- PhD in Microbiology at the Université Paris-Sud
- Postdoctoral stay at the Massachusetts General Hospital, Harvard University Medical School
- Degree in Medicine, Hepatology and Gastroenterology at Paris Cité University

“

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

Guest Directors



Dr. Sánchez Romero, María Isabel

- ♦ Area Specialist in the Microbiology Department of the Puerta de Hierro Majadahonda University Hospital
- ♦ PhD in Medicine and Surgery from the University of Salamanca
- ♦ Medical Specialist in Clinical Microbiology and Parasitology
- ♦ Member of the Spanish Society of Infectious Diseases and Clinical Microbiology
- ♦ Technical Secretary of the Madrid Society of Clinical Microbiology



Dr. Portero Azorín, MARÍA Francisca

- ♦ Acting Head of the Microbiology Service at the Puerta de Hierro Majadahonda University Hospital
- ♦ Specialist in Microbiology and Clinical Parasitology at the Puerta de Hierro University Hospital
- ♦ Doctorate in Medicine from the Autonomous University Madrid
- ♦ Postgraduate in Clinical Management by Gaspar Casal Foundation.
- ♦ Research stay at the Presbyterian Hospital of Pittsburg through a FISS scholarship



Dr. Alarcón Cavero, Teresa

- Biologist Specialist in Microbiology from La Princesa University Hospital
- Head of Group 52 of the Research Institute of 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

- Head of Patient Safety at the Microbiology Department of the Puerta de Hierro Majadahonda University Hospital.
- Area Specialist in the Microbiology Department of the Puerta de Hierro Majadahonda University Hospital of Madrid
- Collaborator Department of Preventive Medicine and Public Health and Microbiology Autonomous University of Madrid
- Ph.D. in Pharmacy from the Complutense University of Madrid



Dr. López Dosil, Marcos

- ♦ Area Specialist in Microbiology and Parasitology at San Carlos Clinical University Hospital.
- ♦ Specialist Physician of the Microbiology and Parasitology Department of the Hospital de Móstoles
- ♦ Master's Degree in Infectious Diseases and Antimicrobial Treatment from CEU Cardinal 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



Anel Pedroche, Jorge

- ♦ Facultative Area Specialist. Microbiology Department. Puerta de Hierro University Hospital.
- ♦ Degree in Pharmacy from the Complutense University of Madrid.
- ♦ Course in Interactive Sessions on Hospital Antibiotherapy by MSD
- ♦ Updating course on infection in hematologic patients by Puerta del Hierro Hospital.
- ♦ Attendance at the XXII Congress of the Spanish Society of Infectious Diseases and Clinical Microbiology.

Management



Ms. Fernández Montalvo, María Ángeles

- ♦ Head of Naintmed- Integrative Nutrition and Medicine
- ♦ Director of the Master's Degree in Human Microbiota at CEU University.
- ♦ Parapharmacy Manager, Nutrition and Natural Medicine professional at Natural Life Parapharmacy.
- ♦ Degree in Biochemistry from the University of Valencia
- ♦ Diploma in Natural and Orthomolecular Medicine
- ♦ Postgraduate in Food, Nutrition and Cancer: prevention and treatment.
- ♦ Master's Degree in Integrative Medicine from CEU University
- ♦ Specialist Degree in Nutrition, Dietetics and Diet Therapy
- ♦ Expert in Vegetarian, Clinical, and Sports Nutrition
- ♦ Expert in the current use of Nutricosmetics and Nutraceuticals in general.

Professors

Dr. Rioseras de Bustos, Beatriz

- ♦ Microbiologist and renowned researcher
- ♦ Member of the Biotechnology of Nutraceuticals and Bioactive Compounds Research Group (Bionuc) of the University of Oviedo.
- ♦ Member of the Microbiology Area of the Department of Functional Biology.
- ♦ Collaborator of the Southern Denmark University
- ♦ Doctorate in Microbiology from the University of Oviedo.
- ♦ Master's Degree in Neuroscience Research from the University of Oviedo

Dr. Gabaldon Estevani, Toni

- ♦ IRB and BSC senior group leader
- ♦ Co-founder and Scientific Advisor (CSO) of Microomics SL
- ♦ ICREA Research Professor and Group Leader of the Comparative Genomics Laboratory
- ♦ Doctor of Medical Sciences, Radboud University Nijmegen.
- ♦ Corresponding Member of the Royal National Academy of Pharmacy of Spain.
- ♦ Member of the Spanish Young Academy

Dr. Uberos, José

- ♦ Head of section in the Neonatology area of the San Cecilio Clinical Hospital of Granada
- ♦ Specialist in Pediatrics and Child Care
- ♦ Associate Professor of Pediatrics, University of Granada
- ♦ Vocal Bioethics Research Committee of the Province of Granada (Spain)
- ♦ Coeditor of the Signs and Symptoms Journal
- ♦ Professor Antonio Galdo Award. Society of Pediatrics of Eastern Andalusia
- ♦ Editor of the Journal of the Pediatric Society of Eastern Andalusia (Bol. SPAO)
- ♦ Doctor of Medicine and Surgery
- ♦ Degree in Medicine from the University of Santiago de Compostela
- ♦ Member of the Board of the Pediatric Society of Eastern Andalusia

Dr. López Martínez, Rocío

- ♦ Physician in the area of Immunology at the Vall d'Hebron Hospital
- ♦ Internal Biologist in Immunology at Central University Hospital of Asturias
- ♦ Member of the Immunotherapy Unit at the Clinic Hospital of Barcelona
- ♦ PhD in Biomedicine and Molecular Oncology at the University of Oviedo
- ♦ Master's Degree in Biostatistics and Bioinformatics, Open University of Catalonia

Ms. Bueno García, Eva

- ♦ Predoctoral researcher in Immunosenescence at 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
- ♦ Molecular biology and immunology courses



Dr. Narbona López, Eduardo

- ◆ Speciality Neonatal Unit, San Cecilio University Hospital
- ◆ Advisor to the Department of Pediatrics, University of Granada
- ◆ Member of: Pediatric Society of Western Andalusia and Extremadura, Andalusian Association of Primary Care Pediatrics

Dr. López Vázquez, Antonio

- ◆ Immunology at the Central University Hospital of Asturias
- ◆ Collaborator of the Carlos III Health Institute
- ◆ Advisor of Aspen Medical
- ◆ Doctor of Medicine, University of Oviedo

Dr. Gonzalez Rodríguez, Silvia Pilar

- ◆ Deputy Medical Director, Research Coordinator and Clinical Chief of the Menopause and Osteoporosis Unit at Medical Office Velázquez
- ◆ Specialist in Gynecology and Obstetrics at HM Medical Office Velázquez
- ◆ Medical Expert at Bypass Comunicación en Salud, SL
- ◆ Key Opinion Leader of several international pharmaceutical laboratories
- ◆ Doctor in Medicine and Surgery from the University of Alcalá de Henares, specializing in Gynecology
- ◆ Specialist in Mastology by the Autonomous University of Madrid
- ◆ Master's Degree in Sexual Orientation and Therapy from the Sexological Society of Madrid
- ◆ Master's Degree in Climacteric and Menopause from the International Menopause Society
- ◆ Postgraduate Diploma in Epidemiology and New Applied Technologies from the UNED (Spanish Distance Learning University)
- ◆ University Diploma in Research Methodology from the Foundation for the Training of the Medical Association and the National School of Health of the Carlos III Health Institute

Ms. Rodríguez Fernández, Carolina

- ◆ Biotechnology Researcher at Adknomia Health Research
- ◆ Master in Clinical Trials Monitoring by ESAME Pharmaceutical Business School.
- ◆ Master's Degree in Food Biotechnology from the University of Oviedo
- ◆ University Expert in Digital Teaching in Medicine and Health by CEU Cardenal Herrera University

Dr. Lombó Burgos, Felipe

- ◆ PhD in Biology and Head of the BIONUC Research Group, University of Oviedo
- ◆ Head of the BIONUC Research Group, University of Oviedo
- ◆ Former Director of the Research Support Area of the AEI Project
- ◆ Member of the Microbiology Area of the University of Oviedo
- ◆ Co-author of the research 'Biocidal nanoporous membranes with inhibitory activity of biofilm formation at critical points in the production process of the dairy industry'
- ◆ Head of the study '100% natural acorn-fed ham against inflammatory intestinal diseases'
- ◆ Speaker III Congress of Industrial Microbiology and Microbial Biotechnology

Ms. Suárez Rodríguez, Marta

- ◆ Gynecologist specialized in Senology and Breast Pathology
- ◆ Researcher and University Professor
- ◆ PhD in Medicine and Surgery from the Complutense University of Madrid
- ◆ Degree in Medicine and Surgery from the Complutense University of Madrid
- ◆ Master's Degree in Senology and Breast Pathology from the Autonomous University of Barcelona

Dr. Álvarez García, Verónica

- ♦ Assistant Physician of the Digestive Area at the Río Hortega University Hospital
- ♦ Specialist in Digestive System at the Central Hospital of Asturias
- ♦ Speaker at the XLVII Congress SCLECARTO
- ♦ Bachelor's Degree in Medicine and Surgery
- ♦ Digestive System Specialist

Dr. Fernández Madera, Juan Jesus

- ♦ Allergologist at HUCA
- ♦ Former Head of the Allergology Unit, Monte Naranco Hospital, Oviedo
- ♦ Allergology Service, Central University Hospital of Asturias
- ♦ Member of: Alergonorte Board of Directors, SEAIC Rhinoconjunctivitis Scientific Committee, Medicinatv.com Advisory Committee

Dr. Méndez García, Celia

- ♦ Research Biomedical at Novartis Laboratories Boston
- ♦ Doctorate in Microbiology from the University of Oviedo
- ♦ Member of the North American Society for Microbiology

Dr. Losa Domínguez, Fernando

- ♦ Gynecologist at the Sagrada Familia Clinic of HM Hospitals
- ♦ Doctor in private practice in Obstetrics and Gynecology in Barcelona
- ♦ Expert in Gynecoesthetics by the Autonomous University of Barcelona
- ♦ Member of: Spanish Association for the Study of Menopause, Spanish Society of Phytotherapeutic Gynecology, Spanish Society of Obstetrics and Gynecology, Board of the Menopause Section of the Catalan Society of Obstetrics and Gynecology





Dr. López López, Aranzazu

- ◆ Specialist in Biological Sciences Researcher
- ◆ Researcher at Fisabio Foundation
- ◆ Assistant Researcher at the University of the Balearic Islands
- ◆ PhD in Biological Sciences from the University of the Balearic Islands

Dr. Alonso Arias, Rebeca

- ◆ Director of the Immunosenescence research group of the HUCA Immunology Service
- ◆ Specialist Immunology Physician at the Central University Hospital of Asturias
- ◆ Numerous publications in international scientific journals
- ◆ Research work on the association between the microbiota and the immune system
- ◆ 1st National Award for Research in Sports Medicine, 2 occasions

Dr. Verdú López, Patricia

- ◆ Medical Specialist in Allergology at the Beata María Ana Hospital of Hermanas Hospitalarias
- ◆ Physician specializing in Allergology at Inmunomet Health and Integral Wellness Center
- ◆ Research physician in Allergology at San Carlos Hospital
- ◆ Specialist in Allergology at the University Hospital Dr. Negrín in Las Palmas of Gran Canaria
- ◆ Degree in Medicine from the University of Oviedo
- ◆ Master's Degree in Aesthetics and Antiaging Medicine at Complutense University of Madrid

06

Structure and Content

This TECH syllabus has the most up-to-date knowledge on the Human Microbiota. In this way, Nursing professionals will be able to update their competencies to comprehensively assist patients suffering from diseases related to intestinal, oral, or genitourinary tract microorganisms. The syllabus also delves into the bacterial flora of the skin and all the factors that regulate it. In addition, it delves into the different allergies and intolerances that may be related to this class of pathogens. For the learning of all these contents, graduates will have at their disposal theoretical materials and multimedia resources of great didactic value. Furthermore, they will be taught 100% online with first-class pedagogical methods such as Relearning.



“

100% online and interactive: this is the TECH platform where you will find the most up-to-date theoretical materials related to the study of the Human Microbiota for Nursing”

Module 1. Microbiota. Microbiome. Metagenomics

- 1.1. Definition and Relationship Between Them
- 1.2. Composition of the Microbiota: Types, Species and Strains
 - 1.2.1. Groups of Microorganisms that Interact with Humans: Bacteria, Fungi, Viruses, and Protozoa
 - 1.2.2. Key Concepts: Symbiosis, Commensalism, Mutualism, Parasitism
 - 1.2.3. Autochthonous Microbiota
- 1.3. Different Human Microbiota. General Overview of Eubiosis and Dysbiosis
 - 1.3.1. Gastrointestinal Microbiota
 - 1.3.2. Oral Microbiota
 - 1.3.3. Skin Microbiota
 - 1.3.4. Respiratory Tract Microbiota
 - 1.3.5. Urinary Tract Microbiota
 - 1.3.6. Reproductive System Microbiota
- 1.4. Factors that Influence Microbiota Balance and Imbalance
 - 1.4.1. Diet and Lifestyle. Gut-Brain Axis
 - 1.4.2. Antibiotic Therapy
 - 1.4.3. Epigenetic-Microbiota Interaction. Endocrine Disruptors
 - 1.4.4. Probiotics, Prebiotics, Symbiotics. Concepts and Overviews
 - 1.4.5. Fecal Transplant, Latest Advances

Module 2. Gut Microbiota I. Intestinal Homeostasis

- 2.1. Gut Microbiota Studies
 - 2.1.1. Projects MetaHIT, Meta-Biomed, MyNewGut, Human Microbiome Project
- 2.2. Microbiota Composition
 - 2.2.1. Protective Microbiota (*Lactobacillus*, *Bifidobacterium*, *Bacteroides*)
 - 2.2.2. Immunomodulatory Microbiota (*Enterococcus faecalis* and *Escherichia coli*)
 - 2.2.3. Mucoprotective or Muconutritive Microbiota (*Faecalibacterium prausnitzii* and *Akkermansia muciniphila*)
 - 2.2.4. Microbiota with Proteolytic or Proinflammatory Activities (*E. coli* Biovare, *Clostridium*, *Proteus*, *Pseudomonas*, *Enterobacter*, *Citrobacter*, *Klebsiella*, *Desulfovibrio*, *Bilophila*)
 - 2.2.5. Fungal Microbiota (*Candida*, *Geotrichum*)

- 2.3. 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
 - 2.3.1. Esophageal Microbiota
 - 2.3.1.1. Healthy Individuals
 - 2.3.1.2. Patients (Gastric Reflux, Barrett's Esophagus, etc.)
 - 2.3.2. Gastric Microbiota
 - 2.3.2.1. Healthy Individuals
 - 2.3.2.2. Patients (Gastric Ulcer, Gastric Cancer, MALT, etc)
 - 2.3.3. Gallbladder Microbiota
 - 2.3.3.1. Healthy Individuals
 - 2.3.3.2. Patients (Cholecystitis, Cholelithiasis, etc.)
 - 2.3.4. Small Intestine Microbiota
 - 2.3.4.1. Healthy Individuals
 - 2.3.4.2. Patients (Inflammatory Bowel Disease, Irritable Bowel Syndrome, etc.)
 - 2.3.5. Colon Microbiota
 - 2.3.5.1. Healthy Individuals. Enterotypes
 - 2.3.5.2. Patients (Inflammatory Bowel Disease, Crohn's Disease, Colon Carcinoma, Appendicitis, etc..)
- 2.4. Gut Microbiota Functions: Metabolic. Nutritional and Trophic. Protective and Barrier. Immunological
 - 2.4.1. Interrelationships Between the Gut Microbiota and Distant Organs (Brain, Lung, Heart, Liver, Pancreas, etc.)
- 2.5. Intestinal Mucosa and Mucosal Immune System
 - 2.5.1. Anatomy, Characteristics, and Functions (MALT, GALT, and BALT System)
- 2.6. What is Intestinal Homeostasis? Role of Bacteria in Intestinal Homeostasis
 - 2.6.1. Effects on Digestion and Nutrition
 - 2.6.2. Defence Stimulation, Hindering Colonization by Pathogenic Microorganisms
 - 2.6.3. Production of Vitamin B and K
 - 2.6.4. Production of Short Chain Fatty Acids (Butyric, Propionic, Acetic, etc.)
 - 2.6.5. Production of Gases (Methane, Carbon Dioxide, Molecular Hydrogen). Properties and Functions
 - 2.6.6. Lactic Acid



Module 3. Gut Microbiota II. Intestinal Dysbiosis

- 3.1. What is Intestinal Dysbiosis? Consequences
- 3.2. Intestinal Barrier. Physiology. Function. Intestinal Permeability and Hyperpermeability. Relationship between Intestinal Dysbiosis and Intestinal Hyperpermeability
- 3.3. Relationship of Intestinal Dysbiosis and Other Types of Disorders: Immunological, Metabolic, Neurological and Gastric (*Helicobacter Pylori*)
- 3.4. Consequences of the Alteration of the Intestinal Ecosystem and its Relationship to Functional Digestive Disorders
 - 3.4.1. Inflammatory Bowel Disease IBD
 - 3.4.2. Chronic Inflammatory Bowel Diseases: Crohn's Disease. Ulcerative Colitis
 - 3.4.3. Irritable Bowel Syndrome (IBS) and Diverticulitis
 - 3.4.4. Intestinal Motility Disorders. Diarrhea. Diarrhea Caused by *Clostridium Difficile*. Constipation
 - 3.4.5. Digestive Disorders and Nutrient Malabsorption Problems: Carbohydrates, Proteins, and Fats
 - 3.4.6. Markers of Intestinal Inflammation: Calprotectin. Eosinophil Cationic Protein (ECP). Lactoferrin. Lysozyme.
 - 3.4.7. Leaky Gut Syndrome. Permeability Markers: Alpha-1 Antitrypsin. Zonulin. Tight Junctions and their Main Function.
- 3.5. Alteration of the Intestinal Ecosystem and its Relationship with Intestinal Infections
 - 3.5.1. Viral Intestinal Infections
 - 3.5.2. Bacterial Intestinal Infections
 - 3.5.3. Intestinal Infections due to Parasites
 - 3.5.4. Fungal Intestinal Infections. Intestinal Candidiasis.
- 3.6. Composition of the Gut Microbiota in the Different Stages of Life
 - 3.6.1. Variation in Gut Microbiota Composition from the Neonatal-Early Childhood Stage to Adolescence. "Unstable Period"
 - 3.6.2. Composition of the Gut Microbiota Microbiota in Adulthood. "Stable Period"
 - 3.6.3. Gut Microbiota Composition in the Elderly "Unstable Stage". Aging and Microbiota
- 3.7. Nutritional Modulation of Intestinal Dysbiosis and Hyperpermeability: Glutamine, Zinc, Vitamins, Probiotics, Prebiotics
- 3.8. Techniques for Quantitative Analysis of Microorganisms in Feces
- 3.9. Current Lines of Research

Module 4. Microbiota in Neonatology and Pediatrics

- 4.1. Mother-Child Symbiosis
- 4.2. Influencing Factors on the Gut Microbiota of the Mother during Pregnancy and during Birth. Influence of the Type of Delivery on the Microbiota of the New-born
- 4.3. Type and Duration of Breastfeeding, Influence on the Infant's Microbiota
 - 4.3.1. Breast Milk: Composition of the Breast Milk Microbiota. Importance of Breastfeeding in the New-born's Microbiota
 - 4.3.2. Artificial Breastfeeding. Use of Probiotics and Prebiotics in Infant Milk Formulas
- 4.4. Clinical Applications of Probiotics and Prebiotics in Pediatric Patients
 - 4.4.1. Digestive Diseases: Functional Digestive Disorders, Diarrhea, Necrotizing Enterocolitis. Intolerances
 - 4.4.2. Non-digestive Pathologies: Respiratory and ENT, Atopic Diseases, Metabolic Diseases. Allergies
- 4.5. Influence of Antibiotic and other Psychotropic Treatment on the Microbiota of the Infant
- 4.6. Current Lines of Research

Module 5. Oral Microbiota and Respiratory Tract

- 5.1. Structure and Oral Ecosystems
 - 5.1.1. Main Oral Ecosystems
 - 5.1.2. Key Points
- 5.2. Main Ecosystems that are Found in the Oral Cavity. Characteristics and Composition of Each of Them. Nostrils, Nasopharynx and Oropharynx
 - 5.2.1. Anatomical and Histological Features of the Oral Cavity
 - 5.2.2. Nasal Fossa
 - 5.2.3. Nasopharynx and Oropharynx
- 5.3. Alterations of the Oral Microbial Ecosystem: Oral Dysbiosis. Relationship with Different Oral Disease States
 - 5.3.1. Characteristics of Oral Microbiota
 - 5.3.2. Oral Diseases
 - 5.3.3. Recommended Measures to Reduce Dysbiotic Processes
- 5.4. Influence of External Agents in Oral Eubiosis and Dysbiosis. Hygiene
 - 5.4.1. Influence of External Agents in Oral Eubiosis and Dysbiosis
 - 5.4.2. Oral Symbiosis and Dysbiosis
 - 5.4.3. Predisposing Factors to Oral Dysbiosis

- 5.5. Structure of the Respiratory Tract and Composition of the Microbiota and Microbiome
 - 5.5.1. Upper Respiratory Routes
 - 5.5.2. Lower Respiratory Routes
- 5.6. Factors that Regulate the Respiratory Microbiota
 - 5.6.1. Metagenomics
 - 5.6.2. Hypothesis of Hygiene
 - 5.6.3. Viroma
 - 5.6.4. Microbiome or Fungiome
 - 5.6.5. Probiotics in Bronchial Asthma
 - 5.6.6. Diet
 - 5.6.7. Prebiotics
 - 5.6.8. Bacterial Translocation
- 5.7. Alteration of the Respiratory Tract Microbiota and its Relationship with Different Respiratory Tract Diseases
 - 5.7.1. Pathogenesis and Clinical Manifestations of Upper Respiratory Tract Infections
 - 5.7.2. Pathogenesis and Clinical Manifestations of Upper Respiratory Tract Infections
- 5.8. Therapeutic Manipulation of the Microbiome of the Oral Cavity in Prevention and Treatment of Diseases Related to it
 - 5.8.1. Definition of Probiotics, Prebiotics, and Symbiotics
 - 5.8.2. Application for Oral Cavity Probiotic
 - 5.8.3. Probiotic Strains Used in the Mouth
 - 5.8.4. Action in Relation to Oral Diseases
- 5.9. Therapeutic Manipulation of the Microbiome of the Respiratory Tract in Prevention and Treatment of Related Diseases
 - 5.9.1. Efficacy of Probiotics for the Treatment of Respiratory Tract Disease: Gut-Lung-Respiratory Axis
 - 5.9.2. Use of Probiotics for the Treatment of Rhinosinusitis
 - 5.9.3. Use of Probiotics for the Treatment of Otitis
 - 5.9.4. Use of Probiotics for the Treatment of Upper Respiratory Infections
 - 5.9.5. Use of Probiotics in Rhinitis and Allergic Bronchial Asthma
 - 5.9.6. Probiotics to prevent lower respiratory tract infections
 - 5.9.7. Studies with Lactobacilli
 - 5.9.8. Studies with Bifidobacteria

- 5.10. Current Lines of Research and Clinical Applications
 - 5.10.1. Transfer of Fecal Material
 - 5.10.2. Extraction of Nucleic Acids
 - 5.10.3. Sequencing Methods
 - 5.10.4. Strategies for Microbiota Characterization
 - 5.10.5. Metataxonomy
 - 5.10.6. Metataxonomy of the Active Fraction
 - 5.10.7. Metagenomics
 - 5.10.8. Metabolomics

Module 6. Microbiota and Immune System

- 6.1. Immune System Physiology
 - 6.1.1. Immune System Components
 - 6.1.1.1. Lymphoid Tissue
 - 6.1.1.2. Immune Cells
 - 6.1.1.3. Chemical Systems
 - 6.1.2. Organs Involved in Immunity
 - 6.1.2.1. Primary Organs
 - 6.1.2.2. Secondary Organs
 - 6.1.3. Innate, Non-Specific, or Natural Immunity
 - 6.1.4. Acquired, Adaptive, or Specific Immunity
- 6.2. Nutrition and Lifestyle
- 6.3. Functional Foods (Probiotics and Prebiotics), Nutraceuticals, and Immune System
 - 6.3.1. Probiotics, Prebiotics, and Symbiotics
 - 6.3.2. Nutraceuticals and Functional Foods
- 6.4. Bidirectional Relationship between Microbiota and Neuroimmunoendocrine System
- 6.5. Microbiota, Immunity and Nervous System Disorders
- 6.6. The Gut-Microbiota-Brain Axis
- 6.7. Current Lines of Research

Module 7. Skin Microbiota

- 7.1. Skin Physiology
 - 7.1.1. Structure of the Skin: Epidermis, Dermis, and Hypodermis
 - 7.1.2. Functions of the Skin
 - 7.1.3. Microbial Composition of the Skin

- 7.2. Factors that Regulate the Type of Bacterial Flora in the Skin
 - 7.2.1. Sweat Glands, Sebaceous Glands, Desquamation
 - 7.2.2. Factors that Alter the Ecology of the Skin and its Microbiota
- 7.3. Skin Immune System. Epidermis; Essential Element of our Defences
 - 7.3.1. Epidermis; Essential Element of our Defences
 - 7.3.2. Elements of the Cutaneous Immune System: Cytosines, Keratinocytes, Dendritic Cells, Lymphocytes, Antimicrobial Peptides
 - 7.3.3. Influence of the Skin Microbiota on the Skin Immune System. *Staphylococcus Epidermidis*, *Staphylococcus Aureus*
- 7.4. Alteration of the Normal Cutaneous Microbiota (Dysbiosis) and Alteration of the Barrier Function
 - 7.4.1. Impaired Barrier Function
- 7.5. Triggered Skin Diseases
 - 7.5.1. Psoriasis (*Streptococcus Pyogenes*)
 - 7.5.2. Acne Vulgaris
 - 7.5.3. Atopic Dermatitis
 - 7.5.4. Rosacea
- 7.6. Influence of the use of Probiotics in the Prevention and Treatment of Different Skin Diseases
- 7.7. Current Lines of Research

Module 8. Genitourinary Tract Microbiota

- 8.1. Physiology of the Genitourinary Tract in Men and Women
- 8.2. Microorganisms Causing Genitourinary Infections
 - 8.2.1. Enteric Bacteria, Generally Gram-Negative Aerobic Bacteria: *E. Coli*, Enterobacteria. *Klebsiella* or *Proteus Mirabilis* or *Pseudomonas Aeruginosa*
 - 8.2.2. Gram-Positive Bacteria: *Staphylococcus Saprophyticus*, etc.
- 8.3. Vaginal Microbiota and its Modification with Age
 - 8.3.1. Infant Age
 - 8.3.2. Fertile Age
 - 8.3.3. Adult Age (Menopause)

- 8.4. Alteration of the Vaginal Homeostasis and its Relationship with Infectious Pathologies
 - 8.4.1. Infectious Vaginitis
 - 8.4.1.1. Chlamydia
 - 8.4.1.2. Bacterial Vaginosis
 - 8.4.1.3. Vaginal Candidiasis
 - 8.4.1.4. Vaginitis Trichomoniasis
 - 8.4.1.5. Viral Vaginitis
 - 8.4.2. Non-Infectious Vaginitis
- 8.5. Probiotics in the Prevention of Major Genitourinary Tract Infections
- 8.6. Current Lines of Research

Module 9. The Relationship between Intolerances/Allergies and the Microbiota

- 9.1. Microbiota Changes in Patients on Food Exclusion Diets
 - 9.1.1. Eosinophilic Esophagitis (EoE)
- 9.2. Changes in the Microbiota in Patients with Food Exclusion Diets: Intolerance to Dairy Products (Lactose, Milk Proteins: Caseins, Albumins, Others)
 - 9.2.1. Lactose Intolerance
 - 9.2.2. Intolerant to Lactic Proteins: Caseins, Albumins, etc.
 - 9.2.3. People Allergic to Milk
- 9.3. Alteration and Recovery of the Gut Microbiota in Patients with Gluten Intolerance and Celiac Disease
 - 9.3.1. Alteration of the Gut Microbiota in Patients with Gluten Intolerance
 - 9.3.2. Alteration of the Gut Microbiota in Celiac Patients
 - 9.3.3. Role of Probiotics and Prebiotics in the Recovery of the Microbiota in Gluten Intolerant and Celiac Patients
- 9.4. Microbiota and Biogenic Amines
- 9.5. Current Lines of Research



Module 10. Probiotics, Prebiotics, Microbiota, and Health

- 10.1. Probiotics
- 10.2. Prebiotics
- 10.3. Clinical Applications of Probiotics and Prebiotics in Gastroenterology
- 10.4. Clinical Applications of Endocrinology and Cardiovascular Disorders
- 10.5. Clinical Applications of Probiotics and Prebiotics in Urology
- 10.6. Clinical Applications of Probiotics and Prebiotics in Gynecology
- 10.7. Clinical Applications of Probiotics and Prebiotics in Immunology
- 10.8. Clinical Applications of Probiotics and Prebiotics in Nutritional Diseases
- 10.9. Clinical Applications of Probiotics and Prebiotics in Neurological Diseases
- 10.10. Clinical Applications of Probiotics and Prebiotics in Critically Ill Patients
- 10.11. Dairy Products as a Natural Source of Probiotics and Prebiotics
- 10.12. Safety and Legislation in the Use of Probiotics

“*Relearning, TECH's didactic method of excellence, will guarantee you a fast and flexible mastery of the complex contents of this Hybrid Professional Master's Degree*”



07

Clinical Internship

After completing the theoretical and online phase of this Hybrid Professional Master's Degree, the nurse will be able to extend their update with an intensive presental internship. This clinical internship is designed to enable the student to apply methodologies and daily work tools in the care of patients with serious complications.



“

This program will give you access to the most up-to-date care tools and therapeutic methods for nursing professionals from a hospital of the highest prestige"

The internship program period of this qualification will have an extension of 120 didactic hours. These learning journeys will be distributed from Monday to Friday, for a total of 3 weeks. During this time, nurses will have access to cutting-edge assistive technologies and will implement new generation procedures and care. These techniques will be applied directly, on real patients, under the supervision of leading experts.

In addition, students will be advised by an assistant tutor. This pedagogical figure will be in charge of inserting tasks of varying complexity throughout the program. In addition, they will be in charge of expanding the graduate's competencies with dynamic work actions.

The practical teaching will be carried out with the accompaniment and guidance of teachers and other fellow trainees who facilitate teamwork and multidisciplinary integration as transversal skills for medical practice (learning to be and learning to relate).

The procedures described below will be the basis of the specialization, and their realization will be subject to the center's own availability, its usual activity and workload, the proposed activities being the following:



Receive specialized education in an institution that can offer you all these possibilities, with an innovative academic program and a human team that will help you develop your full potential"





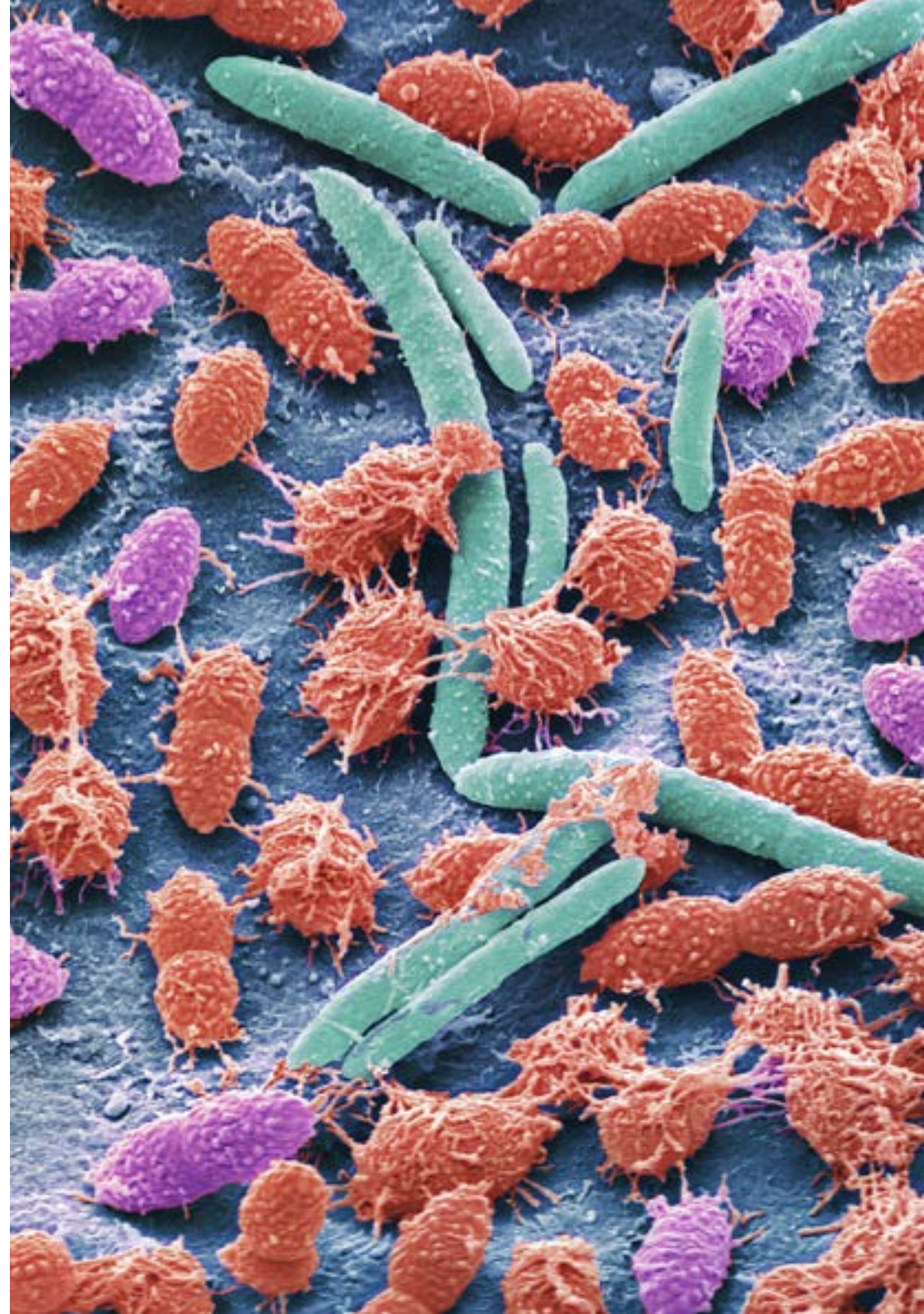
Module	Practical Activity
Gut microbiota from the field of Nursing	Detect and notify the doctor about problems in a patient's intestinal microbiota after studying his diet and lifestyle
	Apply therapeutic interventions, according to medical recommendations, for different intestinal infections caused by viruses, bacteria or parasites, using medical strategies based on the latest scientific evidence
	Understand the interactions of some pharmaceutical drugs against intestinal bacterial pathologies in order to prevent adverse reactions
Microbiota of the skin from the field of Nursing	Support the specialist in the identification of cutaneous diseases that has occurred as a result of an imbalance in the bacterial flora of the patient
	Manage laser therapeutic technologies against cutaneous pathologies triggered by the most modern methods, according to specialized medical criteria
	Collect biopsy samples and other skin analyses to contribute to the diagnosis of viral or bacterial pathologies
Nursing procedures for intolerances and allergies linked to alterations of the Microbiota	Monitor and control the diet of patients with intolerance to dairy products
	Administer and monitor the consumption of probiotics and prebiotics to promote microbiota recovery in patients with gluten intolerance
Latest trends in probiotics and prebiotics for Nursing	Monitor probiotic treatments for patients presenting with various urological or gynecological problems
	Care for the elderly, using probiotics and prebiotics as a method of preventing various diseases
	Recognize the symptoms resulting from autoimmune diseases and notify the doctor in case of those discomforts.

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the Internship Program period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



“

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

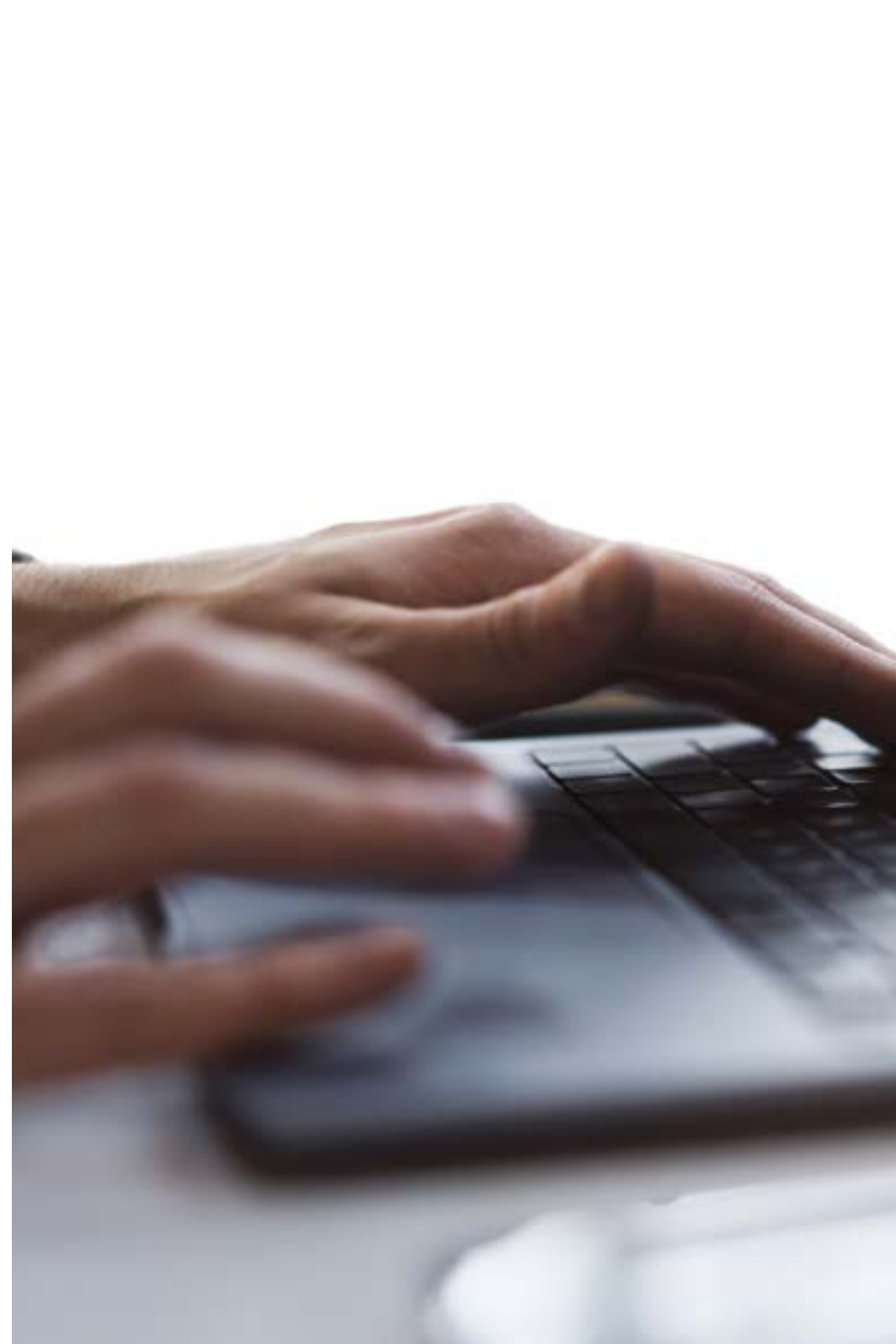
The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist. The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes
(which you might not be able to attend)”*



The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.



A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

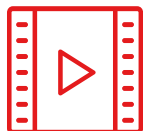
The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.



As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

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.



Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



Interactive Summaries

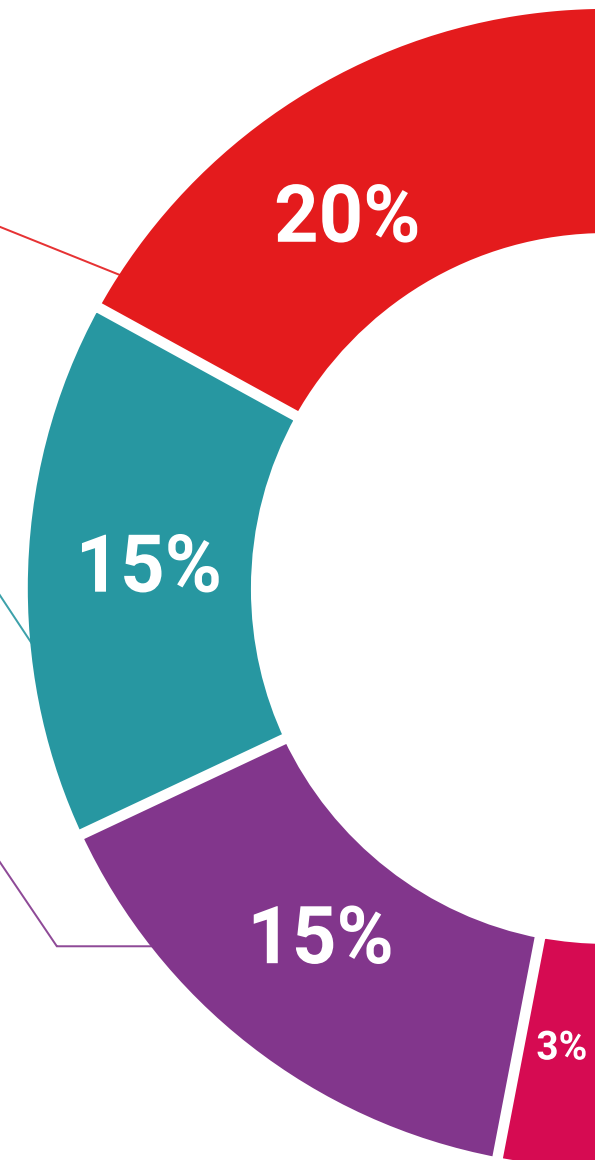
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

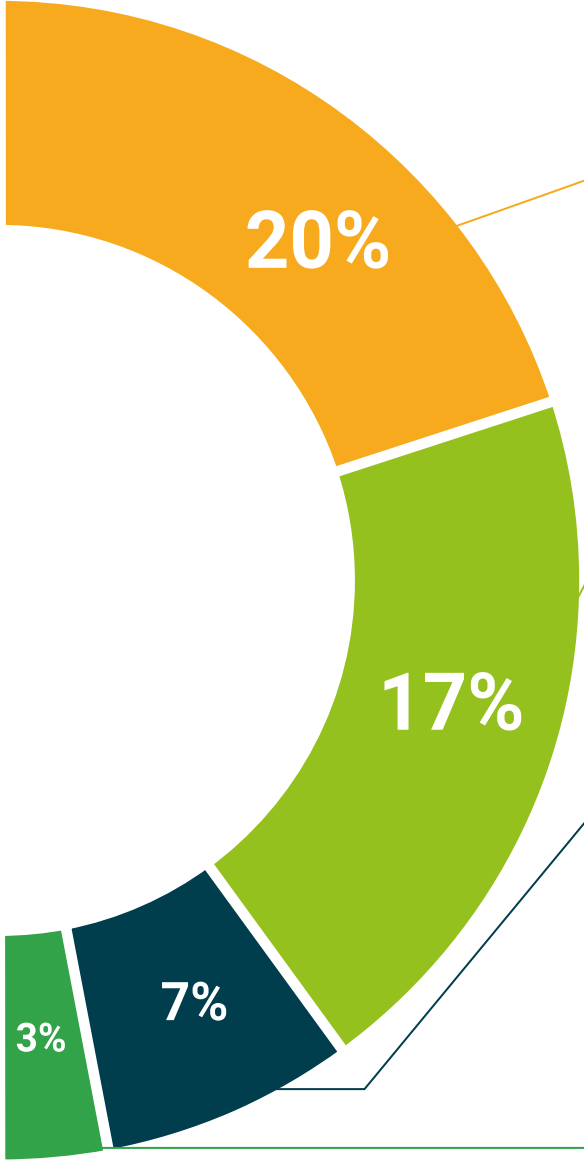
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.



Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



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 for 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.



09

Certificate

The Hybrid Professional Master's Degree in Human Microbiota for Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree diploma issued by TECH Global University.



“

*Successfully complete this program
and receive your university qualification
without having to travel or fill out
laborious paperwork”*

This private qualification will allow you to obtain a **Hybrid Professional Master's Degree diploma in Human Microbiota for Nursing** 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** private qualification, 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: **Hybrid Professional Master's Degree in Human Microbiota for Nursing**

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

tech global university

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

Hybrid Professional Master's Degree in Human Microbiota for Nursing

This is a private qualification of 120 hours of duration equivalent to 64 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

Dr. Pedro Navarro Illana
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: APWORD230 techsite.com/certificates

Hybrid Professional Master's Degree in Human Microbiota for Nursing

Subject type	ECTS
Compulsory (CO)	64
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
Total	64

Year	Subject	ECTS	Type
1º	Microbiota, Microbiome, Metagenomics	6	CO
1º	Gut Microbiota I. Intestinal Homeostasis	6	CO
1º	Gut Microbiota II. Intestinal Dysbiosis	6	CO
1º	Microbiota in Neonatology and Pediatrics	6	CO
1º	Oral Microbiota and Respiratory Tract	6	CO
1º	Microbiota and Immune System	6	CO
1º	Skin Microbiota	6	CO
1º	Genitourinary Tract Microbiota	6	CO
1º	The Relationship between Intolerances/Allergies and the Microbiota	6	CO
1º	Probiotics, Prebiotics, Microbiota, and Health	6	CO

Dr. Pedro Navarro Illana
Dean

tech global university

*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.



Hybrid Executive Master's Degree

Human Microbiota for Nursing

Modality: Hybrid (Online + Clinical Internship)

Duration: 12 months

Certificate: TECH Global University

Credits: 60 + 4 ECTS

Hybrid Executive Master's Degree

Human Microbiota for Nursing