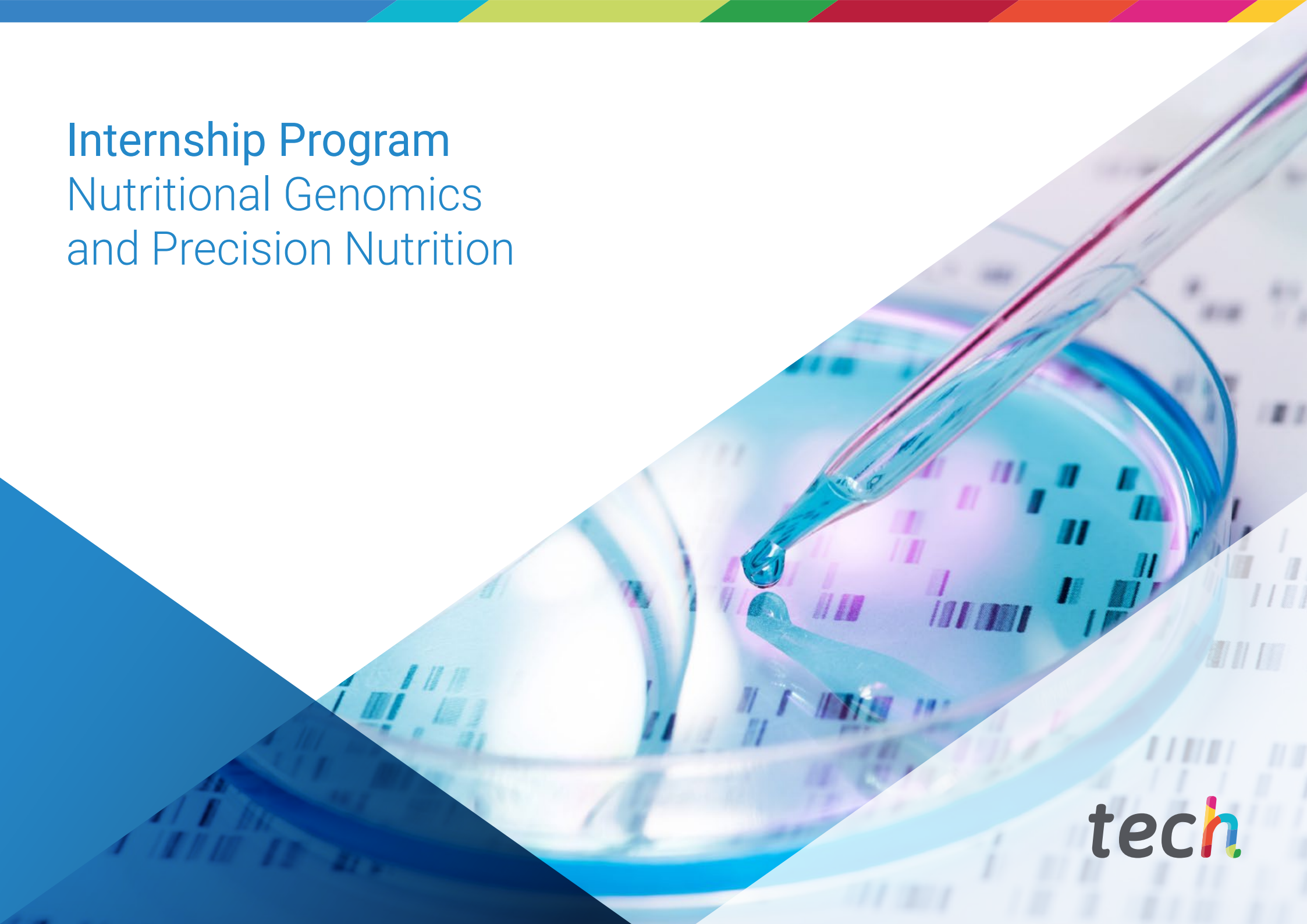


Internship Program Nutritional Genomics and Precision Nutrition



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Internship Program
Nutritional Genomics
and Precision Nutrition

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01 Introduction

Current scientific and technological developments have made it possible to understand in detail how nutrition influences gene expression in humans. As a result, experts in this discipline have been able to develop increasingly personalized dietary plans. In this regard, it is essential to keep abreast of the most recent studies in areas such as susceptibility genes and polymorphisms related to diseases such as Diabetes. For this reason, TECH puts in the hands of the physician this qualification that implements the practical learning of this specialty. This innovative academic modality is made up of an intensive stay in a renowned hospital center where the professional will practice the most advanced praxis for this discipline.



Throughout this Internship Program, you will get up to date in relation to genetic analysis of patients with special nutritional requirements in order to make more accurate medical decisions"





Science and technology have evolved considerably in recent years, and with them, new applications related to the field of Genomic and Precision Nutrition. This discipline has made great strides in the analysis of specific genetic polymorphisms that can be affected by unhealthy eating habits and lifestyles. For this reason, and with the premise of having a preventive impact in this health field, experts are increasingly designing personalized dietary plans according to the genetic characterization of each patient. At the same time, maintaining a constant update on these aspects can be challenging for specialists who continually seek programs that are more practical than theoretical.

Based on these requirements, TECH has designed this internship program, which consists of an intensive and immersive stay in a hospital facility of international prestige. The clinical practice will be spread over 3 weeks, in 8-hour days, from Monday to Friday. During this period, the specialist will have access to the most modern resources and assistance strategies in the field of Genomic and Precision Nutrition. In this way, they will update their skills on how to manage them with greater rigor and involve them more effectively in their daily care work.

Likewise, all practical training will be supervised by an assistant tutor. This educational figure will be in charge of assessing the professional's progress and inserting new dynamics in the form of tasks of varying complexity. Also, they will be able to work with prestigious experts, members of the internship center's staff, who will share their most important advanced experiences. Thus, you will achieve excellence in a rapidly expanding healthcare field and apply its advantages to your daily practice. in an exceptional way.

02

Why Study an Internship Program?

This study program allocates, like no other degree in the pedagogical panorama, 120 hours of exclusive practical learning to a face-to-face and intensive stay. This educational process will take place in a first class hospital center, to which the specialists will be transferred in order to have in their hands the most sophisticated working technologies and the most modern assistance protocols. Also during this degree, they will be able to share experiences with a prestigious team of experts who will contribute to the progressive, exhaustive and immersive evolution of their knowledge and skills.



Thanks to TECH you will learn about the latest developments in the interaction of specific genes with different nutritional elements according to the most updated genomic criteria"

1. Update from the latest technology available

The sequencing of human DNA and other scientific and technological advances have led to the development of much more precise technological tools to carry out the advances in Genomic Nutrition. For this reason, TECH offers its graduates the direct and immersive learning of its techniques and applications in a 100% practical, face-to-face and immersive learning program of only 3 weeks of duration.

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

With this program, TECH wants to provide health professionals with the most modern experiences in relation to Nutritional Genomic and Precision Nutrition. To this end, it offers them a practical and face-to-face stay with the best experts in the specialty. In addition, it has created the figure of the adjunct tutor, responsible for coordinating the learning and development of new skills during the course.

3. Enter first-class clinical environments

TECH maintains close ties with leading centers all over the world. In particular, it has coordinated this Internship Program with several prestigious institutions related to Nutritional Genomic and Precision Nutrition. These entities will host the physicians and provide them with access to the most innovative technologies and highly qualified healthcare personnel.



4. Putting the acquired knowledge into daily practice from the very first moment

Although there are many programs available in the educational environment in the field of Nutritional Genomics and Precision Nutrition, none of them emphasizes the updating of the physician in a 100% practical way. Thus, TECH provides a unique educational program, where the direct approach to real patients is a priority from the very first moment and the development of complex care skills.

5. Expand the boundaries of knowledge

TECH has a wide network of agreements and contacts that help you choose, for this Internship Program, the most competitive institutions on the international scene. Thus, the doctor will complete this first level face-to-face stay, in centers located in different latitudes, where they will apply the main procedures and technologies with which the sector innovates today.

“

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

03 Objectives

The objective is to bring specialists up to date with the highest academic rigor and the most recent scientific evidence. At the same time, it guarantees the assimilation of the main innovations in the field of Nutritional Genomics and Precision Nutrition in a 100% direct, face-to-face, intensive and immersive way. This way, the graduate will acquire the most complete skills to exercise a more exhaustive and adequate professional praxis to the new times.



General Objectives

- Acquire theoretical knowledge of human population genetics and also of genomic and precision nutrition in order to be able to apply it in clinical practice
- Learn about the trajectory of this innovative field and the key studies that contributed to its development
- Know in which pathologies and conditions of human life Genomic and Precision Nutrition can be applied
- Assess individual response to nutrition and dietary patterns in order to promote health and disease prevention





Specific Objectives

- Present definitions necessary to follow the thread of the following modules
- Explain relevant points of human DNA, nutritional epidemiology, scientific method
- Analyze key studies in Genomic Nutrition
- Understand the techniques used in Nutritional Genomics Studies
- Master the latest advances in omics and bioinformatics techniques
- Acquire the necessary knowledge to correctly design experimental studies in the fields of nutrigenomics and nutrigenetics
- Delve into statistical models for clinical studies in humans
- Examining state-of-the-art knowledge on population genetics
- Understand how the basis for the interaction between Genetic Variability and Diet is generated
- Introducing the advanced Circadian Control System and Central and Peripheral Clocks
- Present the key polymorphisms to date related to human nutrition and metabolic processes that the professional needs to know and those related to complex diseases
- Value the key studies that support these polymorphisms and the debate, in the cases that exist
- Deepen in the new leading concepts of Nutrigenetic research
- Delve into the differences between Nutrigenetics and Nutrigenomics
- Evaluate genes related to metabolic processes affected by nutrition
- Know the Principles of Metabolomics and Proteomics
- Investigate the microbiota as a tool for preventive and personalized nutrition
- Explore the fundamentals of the relationship between epigenetics and nutrition
- Present and analyze how MicroRNAs are involved in genomic nutrition and its other applications for society
- Reflect and Analyze Past and Present Cases and Anticipate Future Market Developments in the Field of Genomic Nutrition



You will learn, through this program, the most advanced aspects of Nutrigenetics and Nutrigenomics to predict diseases such as Diabetes and Obesity"

04

Educational Plan

This program consists of a practical, on-site and intensive internship, with a duration of 120 hours. In order to carry out this academic preparation the doctor will have to travel to a renowned hospital institution from Monday to Friday until completing 3 weeks. During this period, they will have access to the latest technology in this field of care and will be able to put it to work for the benefit of real patients. You will also be able to work with leading experts and you will be supported and supervised by a highly regarded and supervision of a highly renowned adjunct tutor.

In this completely Internship Program proposal, the activities are aimed at developing and perfecting the competencies necessary for the provision of health care in areas and conditions requiring a high level of qualification, and are oriented to the specific training for the exercise of the activity, in an environment of patient safety and high professional performance.

It is undoubtedly an opportunity to learn by working in the innovative hospital of the future where real-time health monitoring of patients is at the heart of the digital culture of its professionals. This is a new way of understanding and integrating healthcare processes, and turns a reference center into the ideal teaching scenario for this innovative experience in the improvement of professional skills.

Practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow trainees that facilitate teamwork and multidisciplinary integration as cross-cutting skills for the praxis of each area of competence (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the internship, and their implementation is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:



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
Techniques Laboratory for Nutritional Genomics and Precision Nutrition	Extract and sequence DNA from patients with severe metabolic conditions or nutrient absorption problems or nutrient absorption problems to assess their causes
	Introducing omics technologies and their biomarkers to study the metabolic behavior of patients with nutritional requirements
	Use Microfluidic Cards to cannulate and address DNA microarrays in search of gene or genomic expression of a nutritional condition
	Correctly interpret and analyze biostatistical results collected in the genetic analysis of patients with special nutritional requirements for more accurate medical decision making
New perspectives of Nutrigenomics	Provoke the interaction of specific genes with different nutritional elements
	Generate and monitor changes in cellular metabolism and metabolic profiles, oriented to prevent, alleviate and/or improve the prognosis of different diseases in which the nutritional factor constitutes an important element in their etiopathogenesis
	Develop individualized dietary recommendations in order to increase the efficacy of nutritional plans
Nutrigenetics and its main advances	Examine the specific polymorphisms that anticipate the possible obesity of the patient and to act on them.
	Identify genes that express addiction conditioning and address them through individualized strategies for each patient.
	Recognize the genetic polymorphisms related to Type II Diabetes and to establish a specific diet and lifestyle for the patient against this disease
	Verify the genes that show evidence of food allergy or intolerance and to influence the patient to consciously avoid its ingestion.
Advanced products that favor Precision Nutrition	Indicate to patients with vitamin deficiencies antioxidant supplements based on algae, which demonstrate similar biological functions to vitamin E.
	Understand how specific foods have changed the patient's gene expression as in the case of higher salt intake in patients who are beginning to suffer from of Hypertension
	Rapidly detect new nutrients with similar benefits to other nutrients that are frequently ingested
	Predict responses to new nutrients or foods in patients with specific dietary pathologies

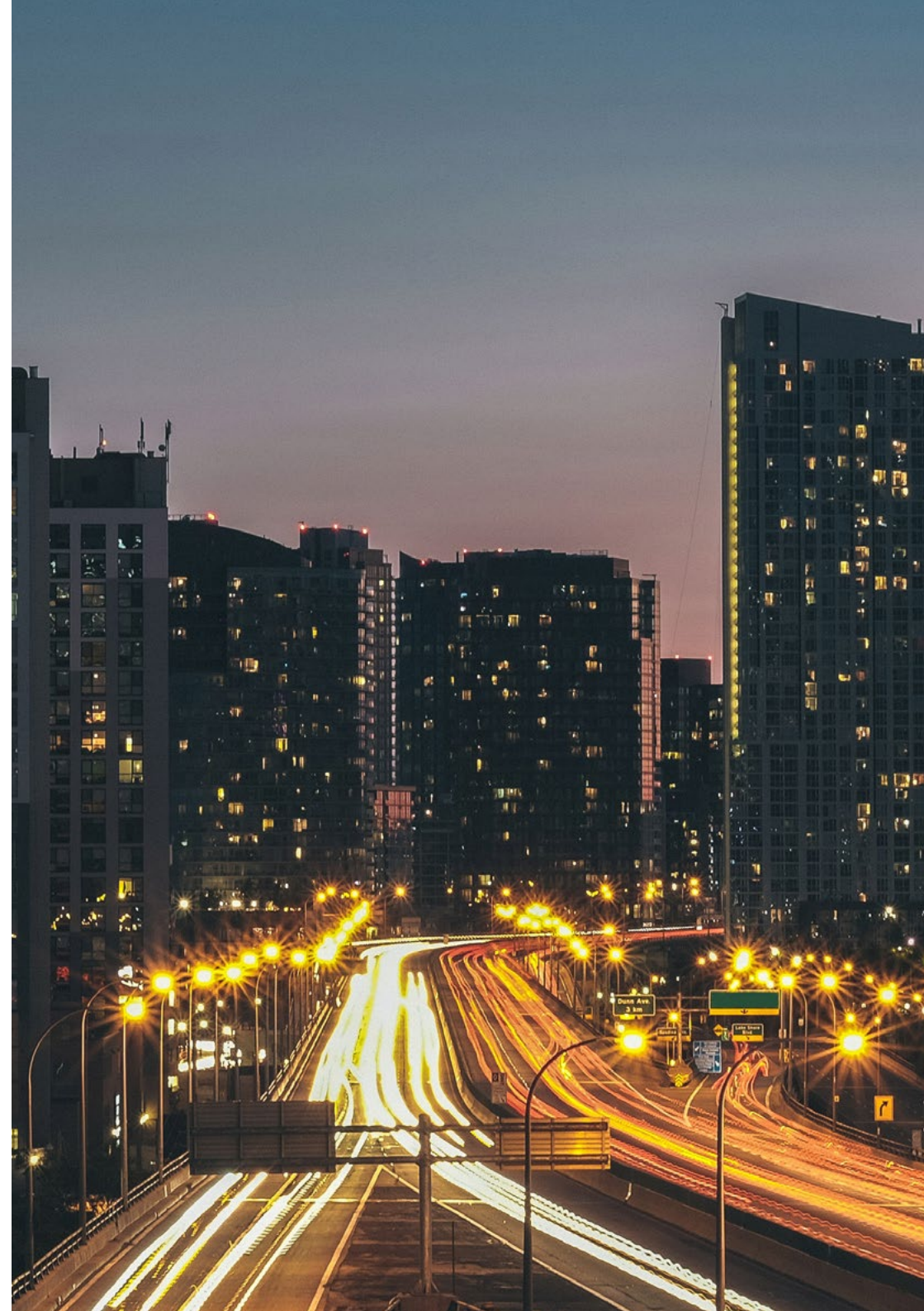
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Where Can I Do the Internship Program?

TECH has arranged for this Internship Program to be carried out in centers located in different geographic enclaves. This way, it aims to provide the physician with access to the most prestigious and rigorous facilities in the field of Nutritional Genomics and Precision Nutrition. At the same time, it has ensured that these institutions have at their disposal a team of highly experienced experts who will be in charge of helping the medical professional to expand his or her scientific and research capacity in a face-to-face and intensive manner.



Enroll in this Internship Program and learn, together with great experts, in an institution equipped with the latest technological resources in the field of Nutritional Genomics and Precision Nutrition"





The student will be able to do this program at the following centers:



Medicine

Hospital HM Regla

Country	City
Spain	León

Address: Calle Cardenal Landázuri, 2,
24003, León

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Update on Psychiatric Treatment in Minor Patients



Medicine

Hospital HM Nou Delfos

Country	City
Spain	Barcelona

Address: Avinguda de Vallcarca, 151,
08023 Barcelona

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Aesthetic Medicine
- Clinical Nutrition in Medicine



Medicine

Hospital HM Nuevo Belén

Country	City
Spain	Madrid

Address: Calle José Silva, 7, 28043, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- General and Digestive System Surgery
- Clinical Nutrition in Medicine



Medicine

Policlínico HM Distrito Telefónica

Country	City
Spain	Madrid

Address: Ronda de la Comunicación,
28050, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Optical Technologies and Clinical Optometry
- General and Digestive System Surgery



Medicine

Policlínico HM Gabinete Velázquez

Country	City
Spain	Madrid

Address: C. de Jorge Juan, 19, 1° 28001,
28001, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Clinical Nutrition in Medicine
- Aesthetic Plastic Surgery



Medicine

Policlínico HM Las Tablas

Country	City
Spain	Madrid

Address: C. de la Sierra de Atapuerca, 5,
28050, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Nursing in the Traumatology Department
- Diagnosis in Physiotherapy



Medicine

Policlínico HM Moraleja

Country	City
Spain	Madrid

Address: P.º de Alcobendas, 10, 28109,
Alcobendas, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Rehabilitation Medicine in Acquired Brain Injury Management



Medicine

Policlínico HM Sanchinarro

Country	City
Spain	Madrid

Address: Av. de Manoteras, 10,
28050, Madrid

Network of private clinics, hospitals and specialized centers
distributed throughout Spain.

Related internship programs:

- Nutritional Genomics and Precision Nutrition

06

General Conditions

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 Internship Program, 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 Internship Program, 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 Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. 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 Internship Program 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.

07 Certificate

This **Internship Program in Nutritional Genomics and Precision Nutrition** contains the most complete and up-to-date program in the professional and academic landscape.

After the student has passed the assessments, they will receive their corresponding Internship Program diploma issued by TECH Technological University via tracked delivery*.

The certificate issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Nutritional Genomics and Precision Nutrition**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Total Hours: **120 h. of professional practice**





Internship Program
Nutritional Genomics
and Precision Nutrition

Internship Program Nutritional Genomics and Precision Nutrition

A woman in a white lab coat and blue gloves is holding a small vial in a laboratory setting. In the background, a computer monitor displays a software interface with a list of samples on the right, including 'culture_01' through 'culture_03', 'zoom_01' through 'zoom_03', 'analyze_01' through 'analyze_03', 'icu_004_mia', and 'flu_001_m'. The interface also features a DNA double helix graphic and a chromatogram plot at the bottom. The image is overlaid with a large blue diagonal graphic on the left and bottom-left, and a white diagonal graphic on the bottom-right.

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