

# Postgraduate Certificate Nutrigenetics





## Postgraduate Certificate Nutrigenetics

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

Website: [www.techtute.com/us/medicine/postgraduate-certificate/nutrigenetics](http://www.techtute.com/us/medicine/postgraduate-certificate/nutrigenetics)

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# 01

# Introduction

Nutrigenetics is an excellent ally of medicine in disease prevention through a diet adapted to the genetic particularities of each person. Its use, therefore, makes it possible to minimize the risks of contracting gastrointestinal pathologies in those who are predisposed to suffer them, this is why its mastery is essential for doctors to ensure the well-being of their patients. In this context, TECH has designed this 100% online and without leaving home program, to acquire a state-of-the-art health performance, through which the student will identify the SNPs that are related to the development of nutritional diseases or will manage the molecular basis of the brain-gut connection.





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*The Postgraduate Certificate in Nutrigenetics will allow you to handle the molecular and neurological bases of the brain-gut connection to address the circadian control of dietary intake"*

Nutrigenetics is a discipline that has established itself in the field of medicine in recent years due to the benefits it provides in the analysis of the influence that DNA has on the absorption of nutrients. Its use allows the design of dietary plans adapted to each person to prevent the acquisition of various intolerances or the development of obesity in those with a genetic tendency to these pathologies. For this reason, having a high level of skill in this nutritional field is essential for doctors who do not want to lag behind the advances in their profession.

For this reason, TECH has developed this program, which will enable this medical professional to broaden their knowledge of the relationships between different genetic variants and their mechanisms for absorbing nutrients in different ways and promoting disease prevention. Throughout this academic period, they will analyze the SNPs that are linked to the development of Diabetes Mellitus type II or to various pathologies of a cardiovascular nature. They will also be able to detect the main GWAS that are related to obesity.

Thanks to the 100% online methodology in which this Postgraduate Certificate is taught, the student will enjoy the possibility of achieving excellent learning without the need to make uncomfortable trips to study centers. Likewise, they will have at their disposal didactic resources accessible through different textual and multimedia formats, which will provide them with an education completely adapted to their educational and personal requirements.

This **Postgraduate Certificate in Nutrigenetics** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of case studies presented by experts in Nutritional Genomics and Precision Nutrition
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ The practical exercises where the self-evaluation process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ 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



*In only 6 weeks, you will significantly increase and update your knowledge in the field of Nutrigenetics"*

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*With this program, Identify the SNPs that are linked to the development of various cardiovascular pathologies in order to design a dietary plan aimed at preventing them in patients predisposed to suffer them”*

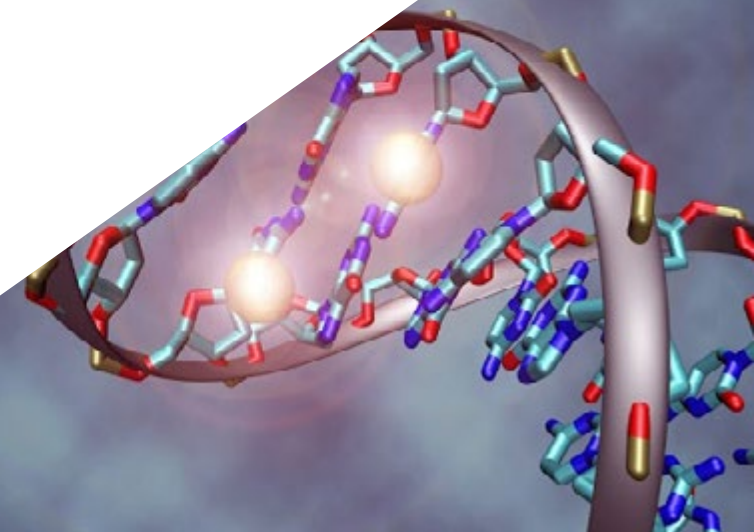
*The online system of this program will allow you to combine your personal life with an excellent learning experience.*

*Detect the main GWAS that are related to obesity through this Postgraduate Certificate.*

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

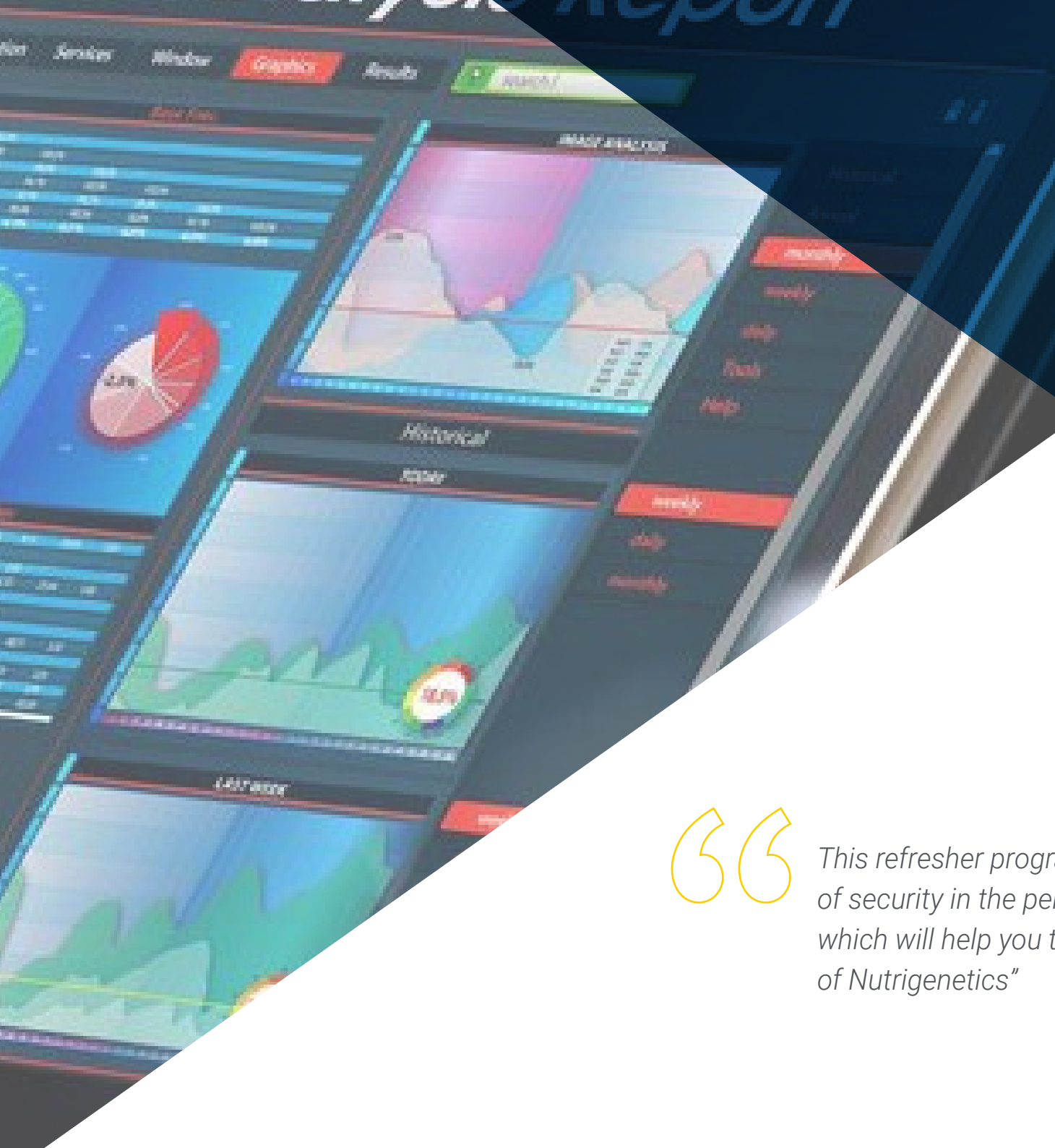


# 02 Objectives

The Postgraduate Certificate in Nutrigenetics has been created with the aim of providing students with the most relevant and innovative knowledge in this area so that they can approach their patients' diseases from a different perspective. In this sense, they will master the relationship between chronobiology and nutrition or identify the SNPs linked to circadian rhythms; all this, through the monitoring of a series of general and specific objectives that TECH has designed for this program.







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*This refresher program will generate a greater sense of security in the performance of your daily practice, which will help you to grow professionally in the area of Nutrigenetics”*



## General Objectives

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- ◆ Acquire theoretical knowledge of human population genetics
- ◆ Acquire knowledge of Nutritional Genomics and Precision Nutrition 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 Nutritional Genomics and Precision Nutrition can be applied
- ◆ Be able to assess individual response to nutrition and dietary patterns in order to promote health and prevent diseases
- ◆ Understand how nutrition influences gene expression in humans
- ◆ Learn about new concepts and future trends in the field of Nutritional Genomics and Precision Nutrition
- ◆ Adapt personalized dietary and lifestyle habits according to genetic polymorphisms
- ◆ Provide health professionals with all the up-to-date knowledge in the field of Nutritional Genomics and Precision Nutrition in order to know how to apply it in their professional activity
- ◆ Put all the updated knowledge in perspective. Where we are now and where we are going and where it is headed so that the student can appreciate the ethical, economic and scientific implications in the field





## Specific Objectives

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- ◆ Acquire the latest 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

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*Adopt in your daily practice  
the best skills in Nutrigenetics  
in only 180 hours”*

# 03

# Course Management

With the intention of providing a first class education to all its students, TECH has chosen the best experts in Genomic Nutrition to teach this program, who have extensive experience in this field of work. These professionals are responsible for developing all the teaching resources available to students during their academic period, so that all the knowledge they will assimilate will be fully applicable in their work experience.



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*The teachers of this Postgraduate Certificate actively practice in the area of Genomic Nutrition to provide you with the most updated didactic contents in this field"*

## International Guest Director

Dr. Caroline Stokes is a specialist in **Psychology** and **Nutrition**, with a doctorate and a habilitation in **Medical Nutrition**. After a distinguished career in this field, she leads the **Food and Health Research** group at the Humboldt University of Berlin. This team collaborates with the Department of Molecular Toxicology at the German Institute of Human Nutrition Potsdam-Rehbrücke. Previously, he has worked at the Medical School of Saarland University in Germany, the Cambridge Medical Research Council and the UK National Health Service.

One of her goals is to discover more about the fundamental role that **Nutrition** plays in improving the overall health of the population. To this end, he has focused on elucidating the effects of fat-soluble vitamins such as **A, D, E and K**, the **amino acid methionine**, lipids such as **omega-3 fatty acids** and **probiotics** for both the prevention and treatment of diseases, particularly those related to hepatology, neuropsychiatry and aging.

Her other lines of research have focused on plant-based diets for the prevention and treatment of diseases, including liver and psychiatric diseases. He has also studied the spectrum of **vitamin D** metabolites in health and disease. She has also participated in projects to analyze new sources of vitamin D in plants and to compare the **luminal** and **mucosal microbiome**.

In addition, Dr. Caroline Stokes has published a long list of scientific papers. Some of her areas of expertise are **Weight Loss, Microbiota** and **Probiotics**, among others. The outstanding results of her research and her constant commitment to her work have led her to win the **National Health Service Journal Award for the Nutrition and Mental Health Program** in the UK.



## Dr. Stokes, Caroline

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- ♦ Head of the Food and Health Research Group at the Humboldt University of Berlin, Germany
- ♦ Researcher at the German Institute of Human Nutrition Potsdam-Rehbruecke
- ♦ Professor of Food and Health at the Humboldt University of Berlin
- ♦ Scientist in Clinical Nutrition at the University of Saarland
- ♦ Nutrition Consultant at Pfizer
- ♦ PhD in Nutrition at the University of Saarland
- ♦ Postgraduate Diploma in Dietetics at King's College London, University of London
- ♦ Master's Degree in Human Nutrition from the University of Sheffield

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

## Management



### Dr. Konstantinidou, Valentini

- ♦ Dietitian-Nutritionist Specialist in Nutrigenetics and Nutrigenomics
- ♦ Founder of DNANutricoach
- ♦ Creator of the Food Coaching method to change eating habits
- ♦ Professor in Nutrigenetics
- ♦ Doctor in Biomedicine
- ♦ Dietitian- Nutritionist
- ♦ Food Technologist
- ♦ Accredited Life Coach of the British body IPAC&M
- ♦ Member of: American Society for Nutrition





# 04

# Structure and Content

The syllabus of this program has been designed with the premise of providing the student with the most advanced and updated knowledge and skills in the field of Nutrigenetics to enhance their professional development. All the didactic materials accessible during the duration of this program are available in supports such as the interactive summary, the complementary readings or the explanatory video, with the objective of offering the student and fully individualized learning.





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*This Postgraduate Certificate is developed through a 100% online methodology that will allow you to enjoy an excellent learning experience without leaving your home"*

## Module 1. Nutrigenetics I

- 1.1. Nutrigenetics Authorities and Organizations
  - 1.2.1. NUGO
  - 1.2.2. ISNN
  - 1.2.3. Evaluation Committees
- 1.2. GWAS I Studies
  - 1.2.1. Population Genetics - Design and Use
  - 1.2.2. Hardy-Weinberg Law
  - 1.2.3. Linkage Imbalance
- 1.3. GWAS II
  - 1.3.1. Allelic and Genotypic Frequencies
  - 1.3.2. Gene-Disease Association Studies
  - 1.3.3. Association Models ( Dominant, Recessive, Co-dominant)
  - 1.3.4. Genetic Scores
- 1.4. The Discovery of Nutrition-Related SNPs
  - 1.4.1. Key Studies-Design
  - 1.4.2. Main Results
- 1.5. The Discovery of SNPs Associated with Nutrition-Related Diseases (Diet-Depended)
  - 1.5.1. Cardiovascular Diseases
  - 1.5.2. Diabetes Mellitus Type II
  - 1.5.3. Metabolic Syndrome
- 1.6. Main Obesity-Related GWAS
  - 1.6.1. Strengths and Weaknesses
  - 1.6.2. The FTO Example
- 1.7. Circadian Control of Intake
  - 1.7.1. Gut-Brain Axis
  - 1.7.2. Molecular and Neurological Basis of the Brain-Gut Connection
- 1.8. Chronobiology and Nutrition
  - 1.8.1. Central Clock
  - 1.8.2. Peripheral Clocks
  - 1.8.3. Circadian Rhythm Hormones
  - 1.8.4. Intake Control (Leptin and Ghrelin)



- 1.9. SNPs Related to Circadian Rhythms
  - 1.9.1. Regulatory Mechanisms of Satiety
  - 1.9.2. Hormones and Intake Control
  - 1.9.3. Possible Pathways Involved

“*Assimilate the best knowledge regarding the relationship between chronobiology and nutrition through this program*”



# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





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*Discover Relearning, 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

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will 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 power 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 the physician's professional practice.



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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate 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.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This 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, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving 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 Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*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.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### 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.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents 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 and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in 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.



# 06 Certificate

The Postgraduate Certificate in Nutrigenetics guarantees students, in addition to the most rigorous and up-to-date education, access to a certificate issued by TECH Global University.





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

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

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

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

Title: **Postgraduate Certificate in Nutrigenetics**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



future  
health confidence people  
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institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development languages  
virtual classroom



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