

# Postgraduate Certificate

## Nutrigenetics: Key Polymorphisms



## Postgraduate Certificate Nutrigenetics: Key Polymorphisms

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

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

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01

# Introduction

Increase your professional skills in the field of Nutrigenetics thanks to this specific program on Key Polymorphisms. A specific refresher program for pharmacists with which they will be able to advance in their daily work thanks to the help of the best teaching methodology.





Intolerance - Test

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*Knowledge of the latest developments in nutrigenetics is essential for any healthcare professional. With this Postgraduate Certificate, pharmacists will have access to the best possible specialization in this field”*

This course covers everything a pharmacist needs to know about Nutrigenetics and Key Polymorphisms. Therefore, the material is organized in the best possible way, allowing the professional to acquire all the knowledge needed, without leaving them with doubts or information gaps. It is the best program on the market because it offers students the opportunity to learn all the innovation in the field of Nutritional Genomics, 100% online.

Specifically, this specialization presents the Key Polymorphisms that exist, to date, related to human nutrition and metabolic processes. In addition, the main SNPs (Single Nucleotide Polymorphisms) that the professional will be able to use in their clinical practice are analyzed in depth and the key studies that provide scientific support for these SNPs are discussed.

The detailed presentation of each SNP, explaining the most relevant studies that would support the use of each SNP in future studies or in clinical practice is one of the strengths of this program.

This Postgraduate Certificate provides students with specific tools and skills to successfully develop their professional career in Nutritional Genomics and Precision Nutrition.

As it is an online Postgraduate Certificate, the student is not conditioned by fixed schedules or the need to move to another physical location, but instead, can access the contents at any time of the day, balancing their work or personal life with their academic life.

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

- ◆ The development of case studies presented by experts in Nutritional Genomics and Precision Nutrition.
- ◆ The graphic, schematic and eminently practical contents of the course are designed to provide all the essential information required for professional practice.
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Special emphasis on innovative methodologies in Nutrigenetics and Polymorphisms
- ◆ 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



*Better-prepared pharmacists means patients are better advised about their pathologies. Do not miss this opportunity and give your career a boost"*

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*This Postgraduate Certificate is the best investment you can make when choosing a refresher program due to its teaching and preparatory quality”*

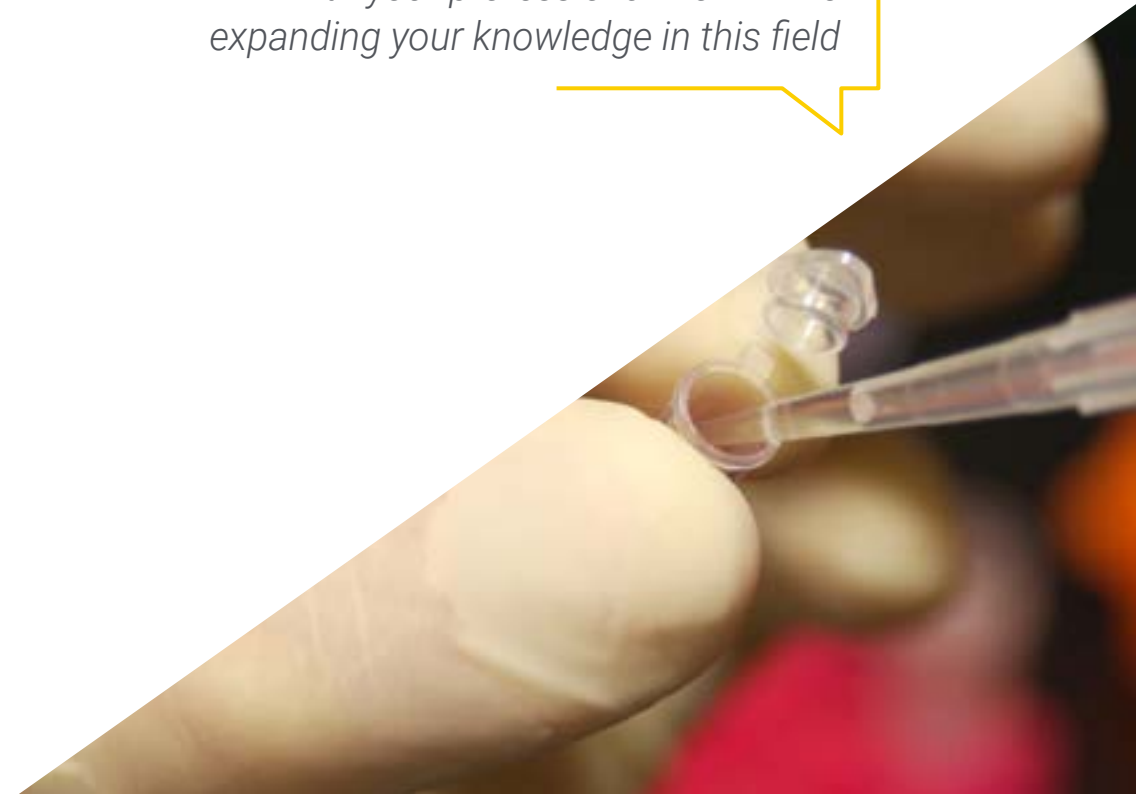
Its teaching staff includes professionals from the field of nutrition, who contribute their work experience to this program, as well as renowned specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive program to learn 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 during the academic year. For this, the professional will be assisted by an innovative interactive video system made by recognized experts in the Key Polymorphisms of Nutrigenetics and with great experience.

*This program offers teaching in simulated environments, which provides an immersive learning experience designed to prepare for real-life situations*

*This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work while expanding your knowledge in this field*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the pharmacist can master the study of Nutritional Genomics and Precision Nutrition in a practical and rigorous way.







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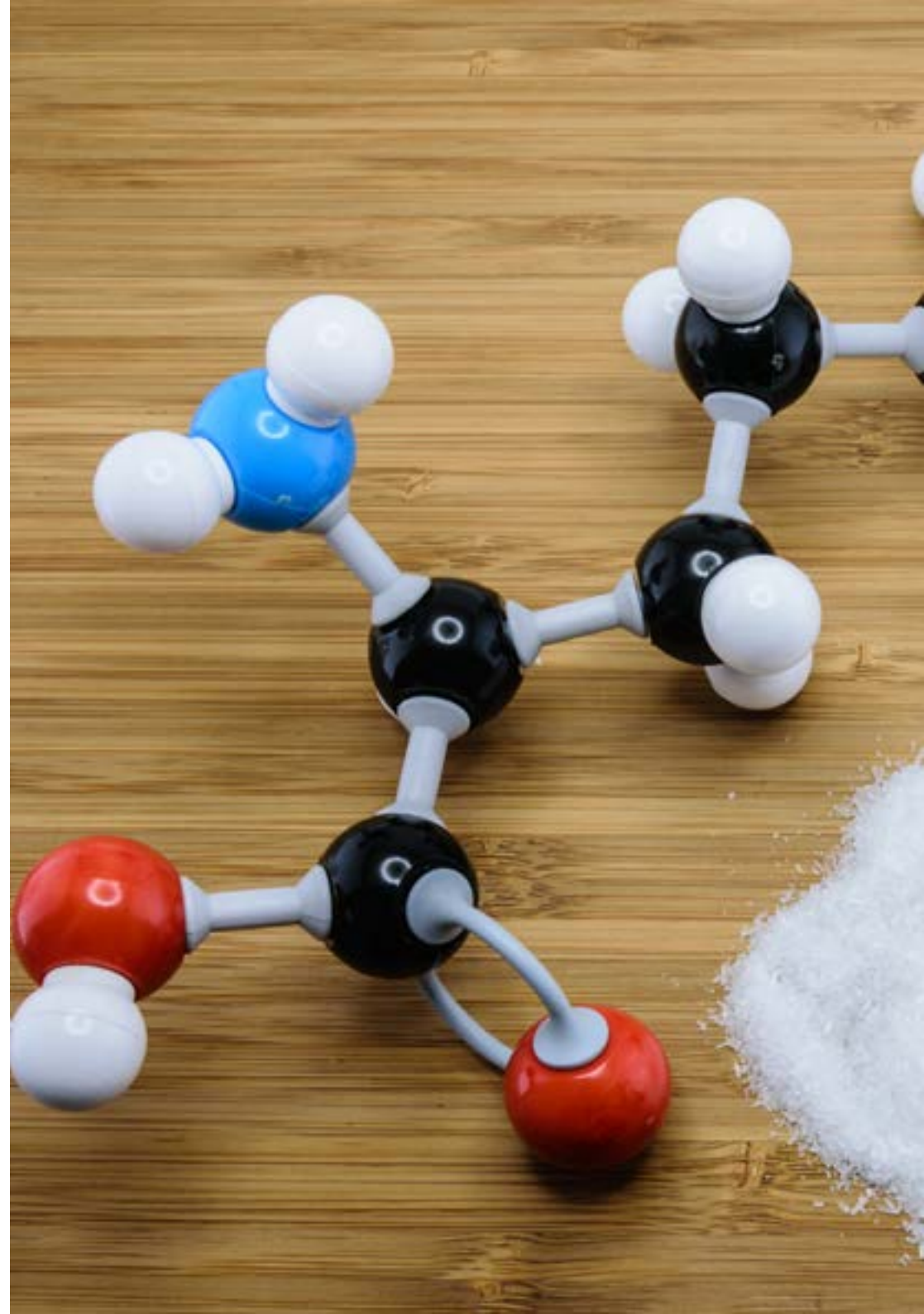
*Our goal is to help you achieve success in your profession and to that end we give you the opportunity to learn with the best”*



## 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 disease
- ◆ Learn 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 up-to-date knowledge into perspective. Where we are now and where we are headed so that the student can appreciate the ethical, economic and scientific implications in the field





## Specific Objectives

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- ◆ Present the key polymorphisms to date that are related to human nutrition and metabolic processes that the health practitioner needs to know about
- ◆ Analyze the key studies that support these polymorphisms and the debate, where it exists

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*Take the step and join one of the largest online universities in the world”*

03

# Course Management

The program includes in its teaching staff leading experts in Nutritional Genomics and Precision Nutrition for Pharmacists, who contribute the experience of their work to this program. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.



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*Leading professionals in the field have come together to teach you the latest advances in Nutrigenetics”*

## 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.



## Dra. 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

- ♦ PhD in Biomedicine
- ♦ Lecturer in Nutrigenetics
- ♦ Founder of DNANUTRICOACH@
- ♦ Dietitian- Nutritionist
- ♦ Food Technologist

## Professors

### Dr. García Santamarina, Sarela

- ♦ Dr. in Biomedical Research, Pompeu Fabra University, Barcelona, Spain, 2008-2013.
- ♦ Master's Degree in Molecular Biology of Infectious Diseases, London School of Hygiene & Tropical Medicine, London, UK, 2006-2007
- ♦ Master's Degree in Biochemistry and Molecular Biology, Autonomous University of Barcelona, Spain, 2003-2004
- ♦ Degree in Chemistry Major in Organic Chemistry, University of Santiago de Compostela, Spain, 1996-2001
- ♦ Postdoctoral Researcher EIPOD Marie Curie. Mentoring: Dr. Athanasios Typas, Dr. Peer Bork, and Dr. Kiran Patil. Project: "Effects of drugs on intestinal flora". European Molecular Biology Laboratory (EMBL), Heidelberg, Germany. Since 2018

### Mr. Anglada, Roger

- ♦ Graduate in Multimedia, Catalunya Open University (Universitat Oberta de Catalunya)
- ♦ Senior Technician in Analysis and Control, Institute of Secondary Education Narcís Monturiol, Barcelona
- ♦ Senior research support technician at the Genomics Service of the Pompeu Fabra University where he is responsible for the equipment and devices for sequencing and real-time PCR, providing support to users from different centers both in the design and interpretation of the results
- ♦ Co-author of several scientific publications since 2002. He combines his work with lectures and teaching both at Pompeu Fabra University and in different programs and courses





04

# Structure and Content

The structure of the contents has been designed by a team of professionals who know about the implications of education in daily practice, are aware of the relevance of gaining up-to-date knowledge in Nutritional Genomics and Precision Nutrition, and who are committed to quality teaching through new educational technologies.



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*We have the most complete and up-to-date scientific program on the market. We strive for excellence and for you to achieve it too”*

## Module 1. Nutrigenetics - Key Polymorphisms

- 1.1. Obesity-Related SNPs
  - 1.1.1. The Story of the "Obese Monkey"
  - 1.1.2. Appetite Hormones
  - 1.1.3. Thermogenesis
- 1.2. Vitamin-Related SNPs
  - 1.2.1. Vitamin D
  - 1.2.2. B Complex Vitamins
  - 1.2.3. Vitamin E
- 1.3. Exercise-Related SNPs
  - 1.3.1. Strength vs. Competition
  - 1.3.2. Sports Performance
  - 1.3.3. Injury Prevention/Recovery
- 1.4. Oxidative Stress/Detoxification-Related SNPs
  - 1.4.1. Genes Encoding Enzymes
  - 1.4.2. Anti-Inflammatory Processes
  - 1.4.3. Phases I&II of Detoxification
- 1.5. SNP related to Addictions
  - 1.5.1. Caffeine
  - 1.5.2. Alcohol
  - 1.5.3. Salt
- 1.6. SNP related to Flavor
  - 1.6.1. Sweet Taste
  - 1.6.2. Salty Taste
  - 1.6.3. Bitter Taste
  - 1.6.4. Acid Taste
- 1.7. SNP vs. Allergies vs. Intolerances
  - 1.7.1. Lactose
  - 1.7.2. Gluten
  - 1.7.3. Fructose
- 1.8. PESA Study





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*A unique, key and decisive  
experience to boost your  
professional development”*

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.





*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 be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly 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. Gervas, 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, attempting to recreate the actual conditions in a pharmacist'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. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their 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 Harvard case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*Pharmacists will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning*

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 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years.

*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 created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.



### Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.



### 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 unique multimedia content presentation training system 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, we will present you with real case developments in which the expert will guide you through focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



### Testing & 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 termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



### 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: Key Polymorphisms guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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*Successfully complete this program and receive your university certificate without travel or laborious paperwork”*

This **Postgraduate Certificate in Nutrigenetics: Key Polymorphisms** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Nutrigenetics: Key Polymorphisms**

Official N° of Hours: **150 h.**



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



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
classroom



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