# Postgraduate Certificate
## Nutrigenomics


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# Postgraduate Certificate

## Nutrigenomics

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

Website: **www.techtitute.com/us/medicine/postgraduate-certificate/nutrigenomics**

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# Introduction

In recent years, Nutrigenomics has acquired a notorious relevance as a mechanism to modify genes and prevent diseases through nutrition. Its positive impact on health has led more and more people to choose to seek medical experts in this area to promote their well-being, thereby promoting an excellent avenue of work for these professionals. For this reason, this program has been designed to enable students to increase their knowledge of the impact of micro and macronutrients on gene expression or the identification of genes linked to lipid metabolism, in order to improve their health skills 100% online and without leaving home.

*Identify, with this qualification, the genes that are linked to lipid metabolism in order to undertake their possible modification through nutrition"*

Scientific advances have led to analyses aimed at detecting the genetic particularities of each person and, therefore, establishing dietary guidelines focused on modifying this DNA to improve the prevention of various types of pathologies. In this sense, many cardiovascular diseases or obesity can be avoided through the variations generated by different foods in the genes. Therefore, given the benefits and the capacity for individualization that Nutrigenomics provides, mastering its most relevant concepts is crucial for physicians who wish to provide detailed attention to their patients in order to minimize the risks of contracting various pathologies.

Given this situation, TECH has promoted the creation of this Postgraduate Certificate, through which the medical professional will enhance their knowledge regarding the impact of different types of food and nutrients in the alteration of the DNA of each person. During 6 weeks of intensive learning, they will analyze the role played by the bioactive components of food in gene expression or detect the influence of the relevant and widespread Mediterranean diet on it. Likewise, students will identify genes related to insulin sensitivity or the development of arteriosclerosis.

Thanks to the 100% online methodology in which this program is developed, the student will achieve efficient learning through the development of their own study schedules. In addition, this program is taught by leading experts in the field of Genomic Nutrition, which is why all the knowledge that you will assimilate will preserve a full professional applicability in your daily life.

This **Postgraduate Certificate in Nutrigenomics** 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
- Practical exercises where self-assessment can be used 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

*The Postgraduate Certificate in Nutrigenomics will allow you to analyze the role played by the different bioactive components of the diet in gene expression"*

*Study through innovative didactic resources in various textual and multimedia formats to optimize your learning"*

*Detect the influence of the Mediterranean diet on the gene expression of each person through this TECH program.*

*Place yourself, in just 6 weeks, at the forefront of the growing Nutrigenomics sector.*

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

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed 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 purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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# Objectives

This Postgraduate Certificate has been designed with the premise of providing the medical professional with the most relevant and up-to-date knowledge in the field of Nutrigenomics, a growing discipline to promote disease prevention. Throughout this program, you will analyze the impact of different nutrients on gene expression or observe the genes that influence metabolic processes. All this learning, ensure the achievement of these general and specific objectives.


*Incorporate into your daily practice the latest knowledge in the field of Nutrigenomics through this Postgraduate Certificate"*

## General Objectives

- 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 disease prevention
- 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 headed so that the student can appreciate the ethical, economic and scientific implications in the field



## Specific Objectives

- Delve into the differences between Nutrigenetics and Nutrigenomics
- Delve into The Effect of The Micro and The Macronutrients on Gene Expression
- Analyze the main studies carried out on gene expression
- Present and Analyze Genes related to Metabolic Processes affected by Nutrition

*Throughout this academic period, you will determine the influence of different nutrients on gene expression in each individual"*

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# Course Management

Thanks to TECH's untiring commitment to maintaining the high educational level characteristic of its programs, this program has a teaching team made up of excellent professionals active in the area of Genomic Nutrition, with experience in the modification of nutritional habits based on DNA. These experts are expressly responsible for creating all the didactic materials for this Postgraduate Certificate. For this reason, the contents offered to the student will be constantly up-to-date.

*In order to offer you the knowledge with the greatest applicability in your professional life, this program is designed and taught by the best experts in Genomic Nutrition"*

## 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

- 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

*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
- Lecturer in Nutrigenetics
- PhD in Biomedicine
- Dietitian- Nutritionist
- Food Technologist
- Accredited Life Coach of the British body IPAC&M
- Member of: American Society for Nutrition

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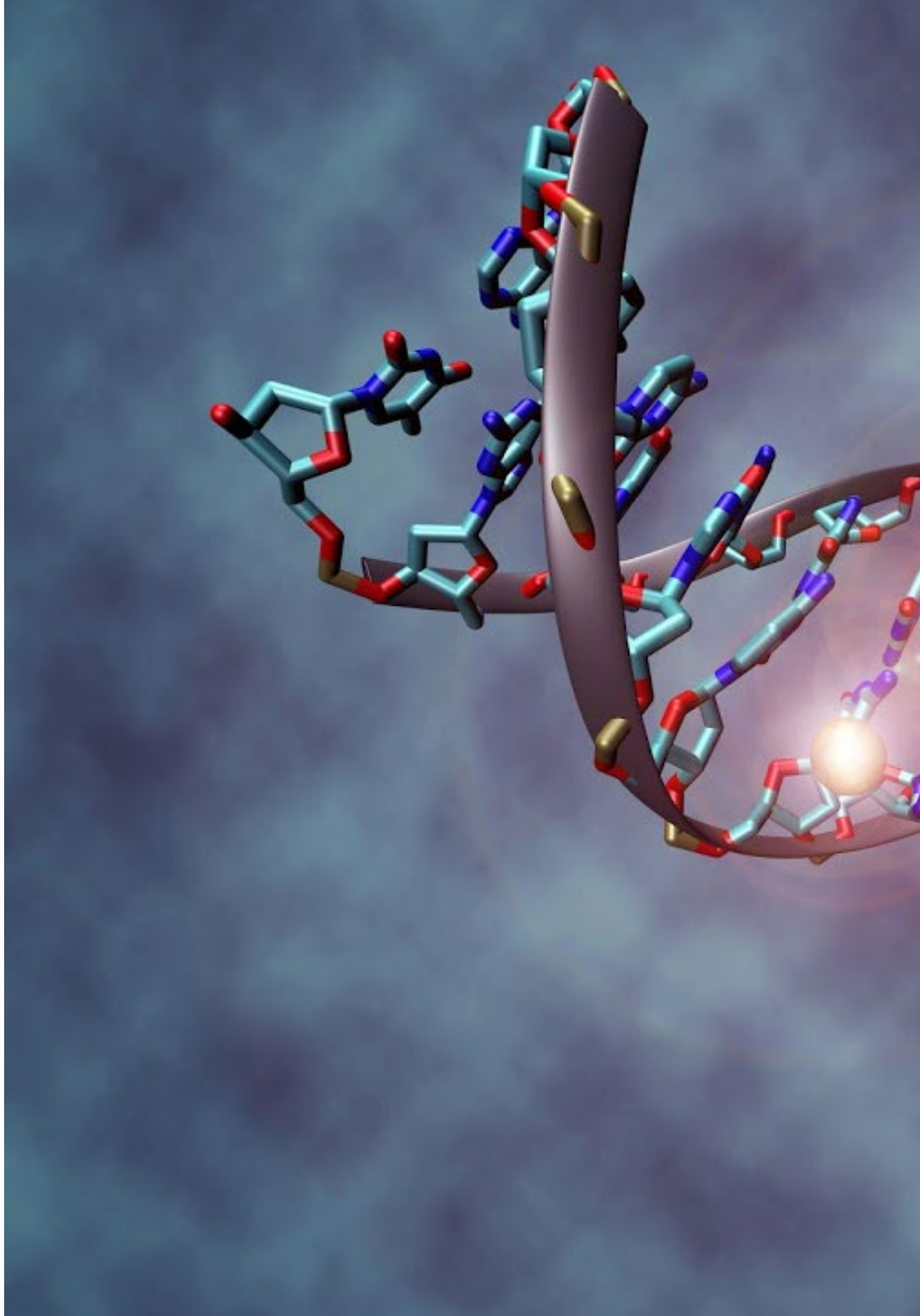
# Structure and Content

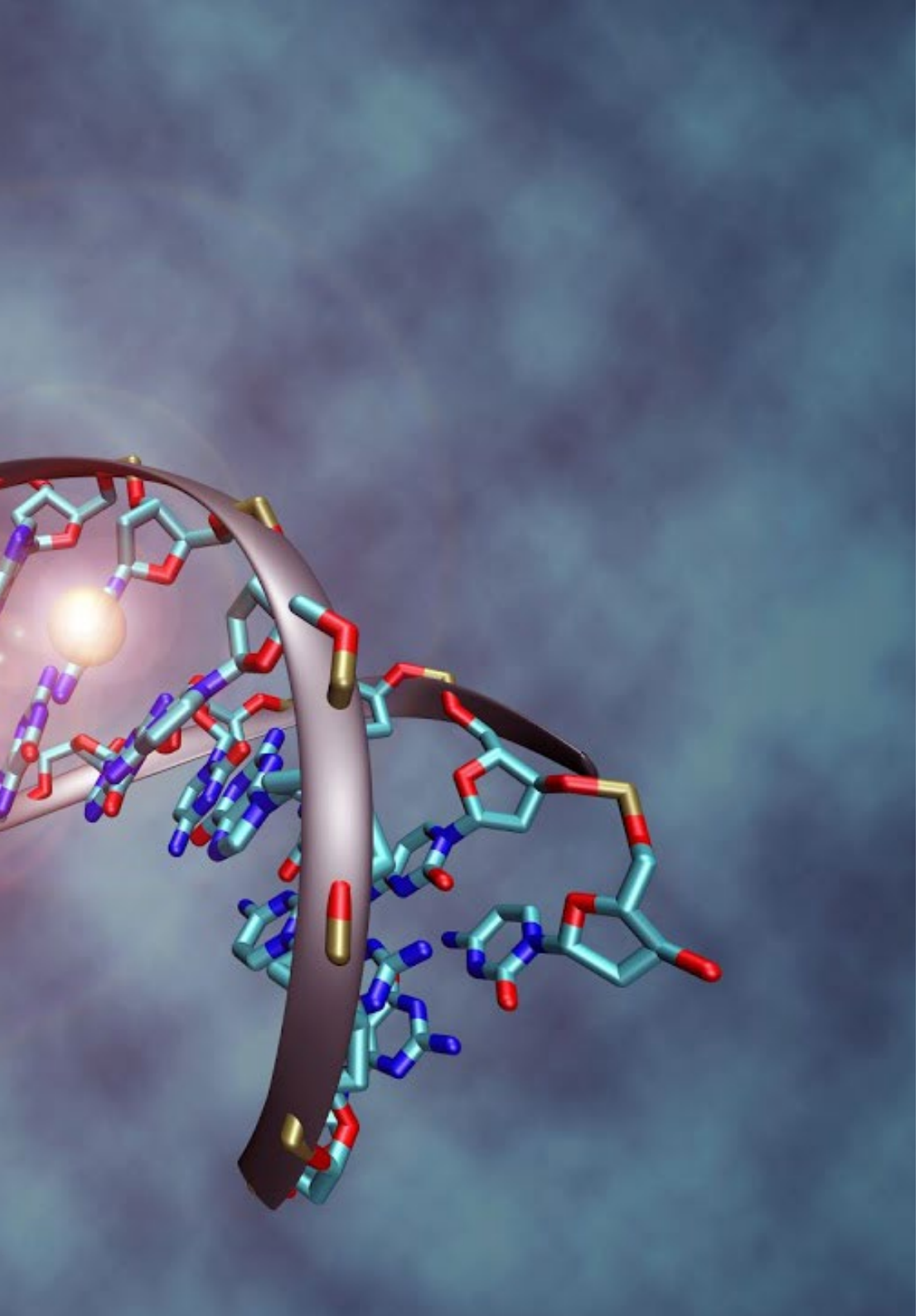
The syllabus of this program consists of 1 module through which the physician will expand his knowledge and competences in the field of Nutrigenomics to improve the prevention of diseases from a nutritional point of view. The didactic resources that will be available throughout this educational pathway are present in a large number of textual and multimedia supports that are different from each other. Due to this and driven by a 100% online methodology, the student will enjoy a resolute learning, accessible 24 hours a day.

*The Relearning system characteristic of this degree will allow you to learn at your own pace without depending on external conditioning factors"*

## **Module 1.** Nutrigenomics

1.1. Differences and Similarities with Nutrigenetics
1.2. Bioactive Components of Diet on Gene Expression
1.3. The Effect of Micro and Macronutrients on Gene Expression
1.4. The Effect of Dietary Patterns on Gene Expression
  1.4.1. The Mediterranean Diet Example
1.5. Main Studies in Gene Expression
1.6. Genes Related to Inflammation
1.7. Genes Related to Insulin Sensitivity
1.8. Genes related to Lipid Metabolism and Adipose Tissue Differentiation
1.9. Genes Related to Arteriosclerosis
1.10. Genes Related to the Myosceletal System





*Enroll now in this program to perfect your competences in the study of the impact of food on genes in only 180 hours"*

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# 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 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.

*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:**

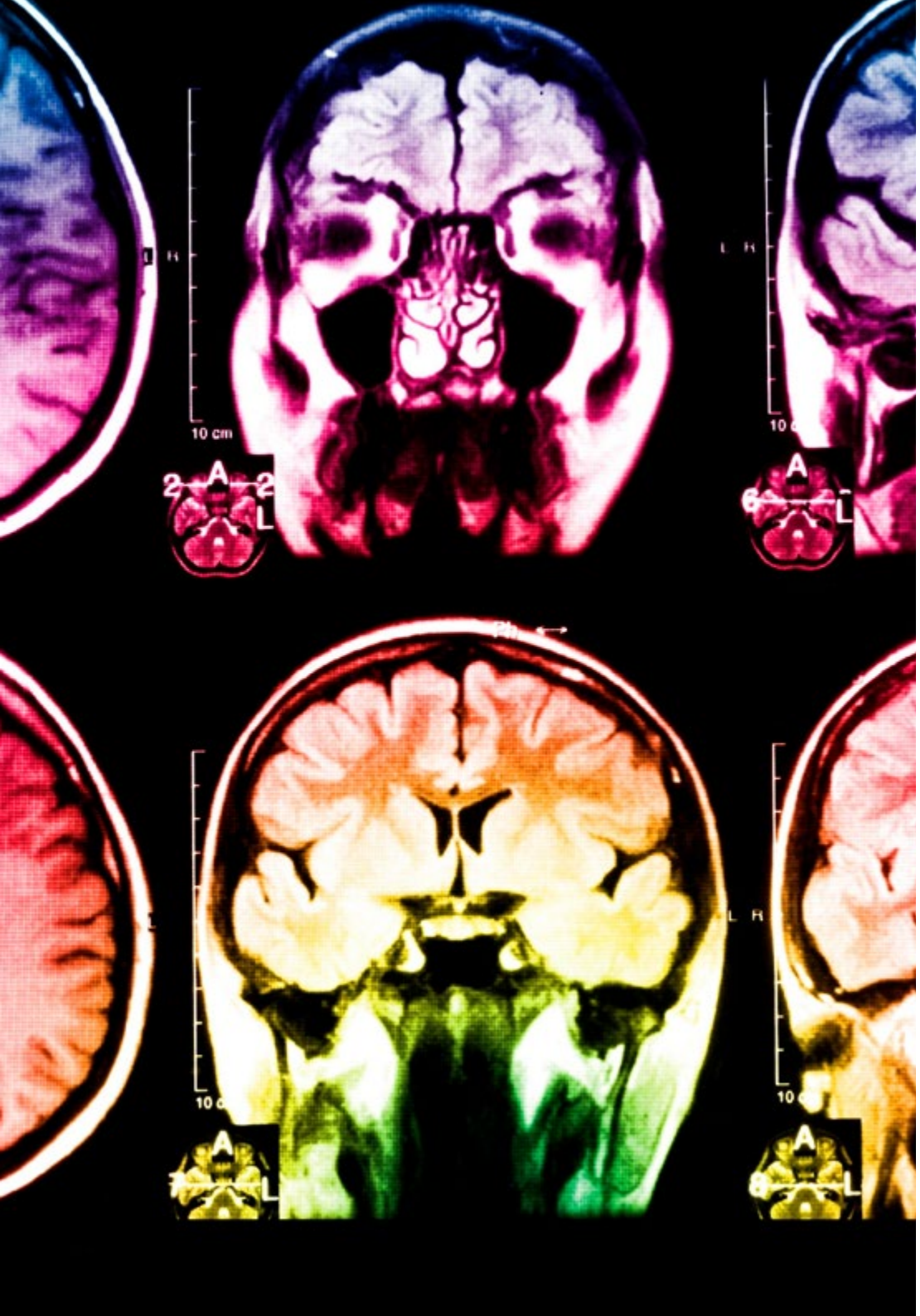
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

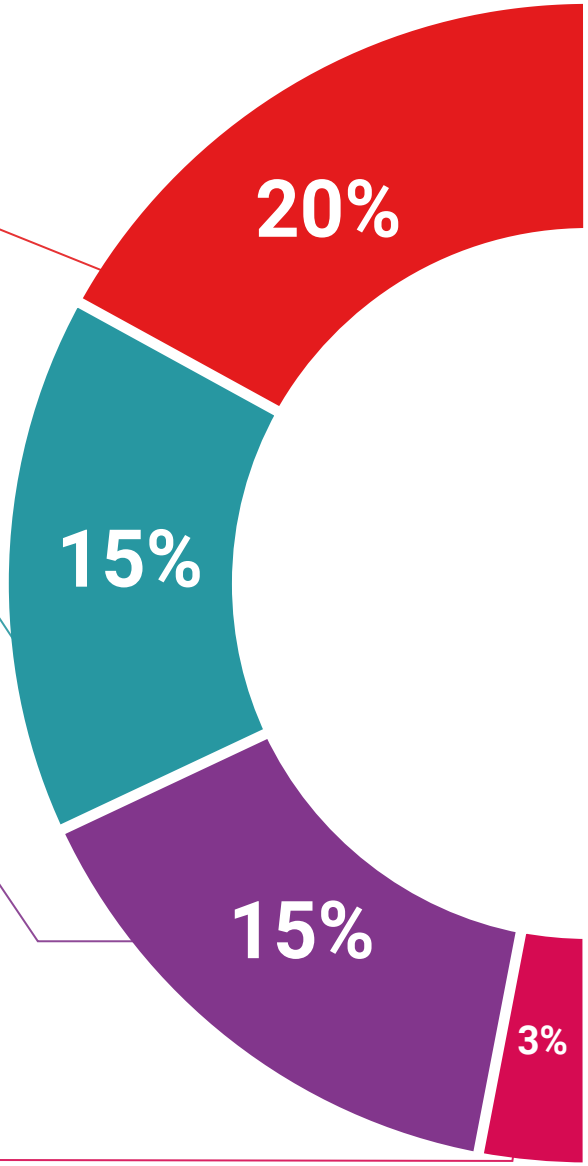
### Interactive Summaries

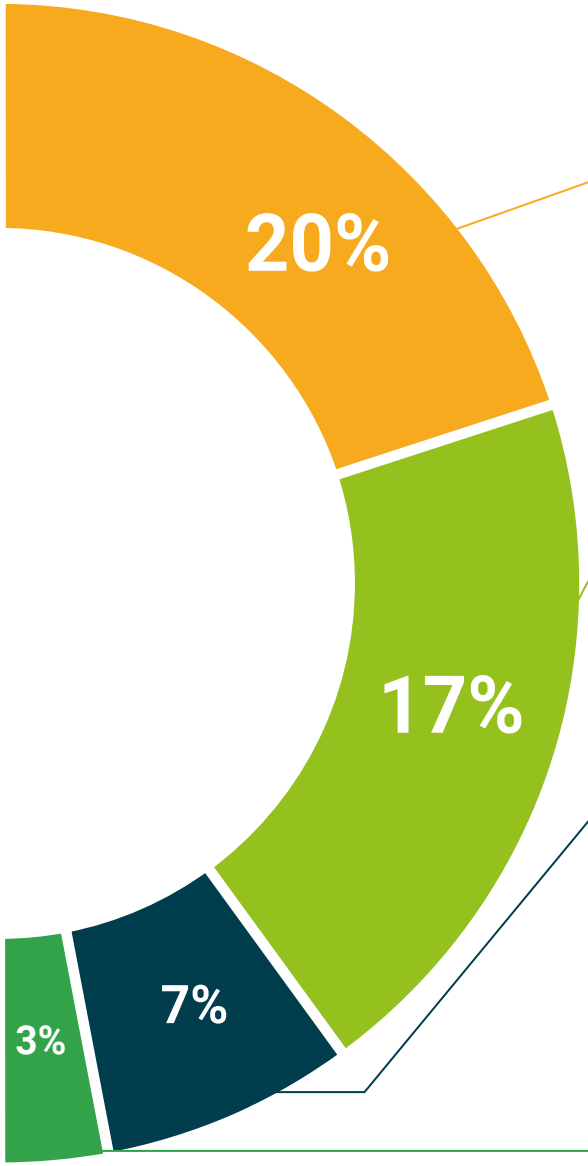
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.

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# Certificate

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

*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 Nutrigenomics** 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 Nutrigenomics**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**


tech global university

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

**Postgraduate Certificate in Nutrigenomics**

This is a program of 180 hours of duration equivalent to 6 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
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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