

Postgraduate Certificate Epigenetics





Postgraduate Certificate Epigenetics

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

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

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01

Introduction

The incessant advances in Epigenetics will allow the prevention of numerous diseases such as Dementia or Cancer to be addressed prematurely. These excellent benefits highlight the relevance of having highly qualified personnel in this scientific field, so TECH has responded to this situation by developing this program. Through it, the student will improve their skills in the analysis of MicroRNAs that determine the development of various diseases or in the use of methods of their detection and purification to raise their medical quality. Additionally, they will achieve this learning through a 100% online methodology, without the need to depend on uncomfortable pre-established schedules.



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Master, with this program, the latest methods to analyze MicroRNAs and detect a possible development of a pathology of various kinds"

Epigenetics is a scientific field that, after numerous advances in research, has reached a remarkable development in recent years. In this sense, its current lines of study are focused on its use in cancer as a method to predict the possible growth of the tumor and to optimize the evolution of the oncological patient. Its innumerable advantages in the approach of complex diseases make it possible that the future prospects of this discipline are excellent, offering physicians with high skills in its handling access to prestigious positions in the health care field.

For this reason, TECH has developed this Postgraduate Certificate, through which the medical professional will significantly enhance their knowledge in the area of Epigenetics to respond with solvency to all the present and future challenges of this scientific branch in continuous growth. Therefore, throughout this academic period, they will identify the MicroRNAs involved in metabolism or those related to the possible development of diseases such as obesity, diabetes and cardiovascular diseases. They will also handle gene variants that generate or destroy binding sites for MicroRNAs, observing exhaustively their results in different human pathologies.

Since this academic program is taught through a 100% online methodology, students will be able to perfectly combine excellent learning with their personal and professional duties. Additionally, this program has been expressly designed by experts who are actively practicing in the field of Nutritional Genomics, so all the knowledge that they will assimilate will be fully updated.

This **Postgraduate Certificate in Epigenetics** 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 the self-assessment 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



Analyze all gene variants that generate or destroy MicroRNA binding sites throughout this academic program"

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Enjoy self-paced learning through the modern Relearning system that TECH offers in this program"

Through didactic resources elaborated by experts in Nutritional Genomics, you will assimilate knowledge in Epigenetics that will favor your professional growth.

Combine your professional activity and your personal life with an excellent learning thanks to the study facilities that TECH puts at your disposal.

The program includes in its teaching staff professionals of the field who pour into this training the experience of their work, in addition to recognized 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, 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 Epigenetics has been created with the premise of providing students with the most updated knowledge in this discipline so that they can develop a rigorous and avant-garde medical practice. In this way, students will understand the role played by MicroRNAs in various diseases or their detection and purification methods. All this, preserved through the pursuit of these general and specific objectives.





DNA — is a nucleic acid that contains the genetic information (with the exception of RNA viruses). The DNA is a set of blueprints, like a recipe for proteins and RNA molecules, for structural purposes. The three major macromolecules

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Incorporate in your daily practice the most relevant developments in the field of Epigenetics"



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 prevent disease
- ◆ 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

- ◆ Explore the fundamentals of the relationship between epigenetics and nutrition
- ◆ Present and analyze how MicroRNAs are involved in Nutritional Genomics
- ◆ Identify the MicroRNA Detection and Purification Methods
- ◆ Analyze the Role of MicroRNAs in Diseases



Analyze the impact of MicroRNAs in the development of different diseases through this Postgraduate Certificate"

03

Course Management

With the idea in mind of providing the student with the highest quality education, TECH has selected for this program a faculty composed of the best experts in the field of Nutritional Genomics and Precision Nutrition. Additionally, the teaching resources to which they will have access during the duration of this program have been expressly developed by these professionals, so that all the contents they will provide them with will be in tune with the latest developments in this area.



A close-up photograph of a laboratory microscope with a petri dish in the foreground. The microscope has a lens labeled '4X'. The background is a blurred laboratory setting with blue and red elements. The image is overlaid with a large blue and white geometric shape that frames the text.

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This academic program is designed and taught by leading experts in the field of Nutritional Genomics to provide you with the most useful knowledge in this field"

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
- ◆ Doctorate 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 is made up of 1 module through which the student will increase both their knowledge and skills in the field of Epigenetics, reaching a first level praxis in the field of Nutritional Genomics. Likewise, the didactic materials available throughout this academic experience will be accessible in a wide variety of textual and interactive formats. In this way, the student will enjoy learning adapted to their study needs, in a completely online way and without leaving home.



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This Postgraduate Certificate, developed in a 100% online methodology, will allow you to broaden your knowledge in Epigenetics without depending on tight schedules"

Module 1. Epigenetics

- 1.1. History of Epigenetics - The Way I Eat, Inheritance for My Grandchildren
- 1.2. Epigenetics vs. Epigenomics
- 1.3. Methylation
 - 1.3.1. Examples of Folate and Choline, Genistein
 - 1.3.2. Examples of Zinc, Selenium, Vitamin A, Protein Restriction
- 1.4. Histone Modification
 - 1.4.1. Examples of Butyrate, Isothiocyanates, Folate and Choline
 - 1.4.2. Examples of Retinoic Acid, Protein Restriction
- 1.5. MicroRNA
 - 1.5.1. Biogenesis of MicroRNAs in Humans
 - 1.5.2. Mechanisms of Action-Regulating Processes
- 1.6. Nutrimiomics
 - 1.6.1. Diet-Modulated MicroRNAs
 - 1.6.2. MicroRNAs involved in Metabolism
- 1.7. Role of MicroRNAs in Diseases
 - 1.7.1. MicroRNA in Tumorigenesis
 - 1.7.2. MicroRNAs in Obesity, Diabetes and Cardiovascular Diseases
- 1.8. Gene Variants that Generate or Destroy Binding Sites for MicroRNAs
 - 1.8.1. Main Studies
 - 1.8.2. Results in Human Diseases
- 1.9. MicroRNA Detection and Purification Methods
 - 1.9.1. Circulating MicroRNAs
 - 1.9.2. Basic Methods Used





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Enroll in this program to access the most updated didactic contents on the market in Epigenetics”

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. 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, 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 Epigenetics 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 qualification without having to travel or fill out laborious paperwork”

This **Postgraduate Certificate in Epigenetics** contains the most complete and up-to-date scientific 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 Epigenetics**

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.



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