Postgraduate Diploma

Nutrigenomics, Metabolomics and Epigenetics for Nursing

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Postgraduate Diploma

Nutrigenomics, Metabolomics and Epigenetics for Nursing

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

Website: **www.techtitute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-nutrigenomics-metabolomics-epigenetics-nursing**

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01

Introduction

Nutrition, as a therapeutic support, has recently benefited from advances in genetic research. Become an expert in nutrigenomics, metabolomics and epigenetics just like the leading specialists in the field and with the best teaching methodology. Don't hesitate any longer and join our community of students. It is the ideal way to learn how to perform specialized nutrition consultations for your patients.

Incorporate the latest advances in Nutrigenomics, Metabolomics and Epigenetics into your work and act as one of the most advanced healthcare practitioners in nursing.

Learn the main differences between nutrigenetics and nutrigenomics thanks to this highly didactic training"

This Postgraduate Diploma details everything a healthcare practitioner needs to know about genomic and precision nutrition, taking into account aspects related to nutrigenomics, metabolomics and epigenetics. Thus, the material is organized in such a way as to advance knowledge without leaving doubts or gaps in information. It is the best training on the market, because it offers the opportunity to know and learn online all the new developments in the field of genomic nutrition.

In this Postgraduate Diploma, the differences between nutrigenetics and nutrigenomics are explained in depth. Thus, the similarities and differences are explained, as well as the main nutrition-related gene expression studies in humans. In addition, the example of the Mediterranean diet as a dietary pattern is analyzed, and the studies of patterns and nutrients and their influence on the change of gene expression are explained.

On the other hand, the completion of this Postgraduate Diploma will help students to understand and deepen their understanding of the principles of metabolomics and proteomics. As such, the key techniques and main applications that metabolomics and proteomics could have in the field of nutrition are explained. In this sense, this Postgraduate Diploma presents state-of-the-art data on the microbiota for its application and use in clinical practice towards a more precise and individualized patient treatment.

Finally, it also explores the basis of the relationship between epigenetics and food, describing the differences between epigenetics and epigenomics, and presenting the scientific advances in these fields that are aligned with food, as well as how it can influence health and how it interacts with nutritional habits.

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

This **Postgraduate Diploma in Nutrigenomics, Metabolomics and Epigenetics for Nursing** 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 Genomic and Precision Nutrition.
- The graphic, schematic, and eminently practical contents with which they are created contain information that is indispensable for professional practice.
- Practical exercises where the self-assessment process can be carried out to improve learning.
- Special emphasis on innovative methodologies in nutrigenomics, metabolomics and epigenetics.
- Theoretical lessons, questions to for the experts, debate forums on controversial topics, and individual reflection assignments.
- Content that is accessible from any fixed or portable device with an Internet connection.

Get trained in the broad field of nutrigenomics, metabolomics and Epigenetics , and offer specialized care to your patients"

This Postgraduate Diploma is the best investment you can make in selecting a refresher program to get up to date with your knowledge in Nutrigenomics and Precision Nutrition.

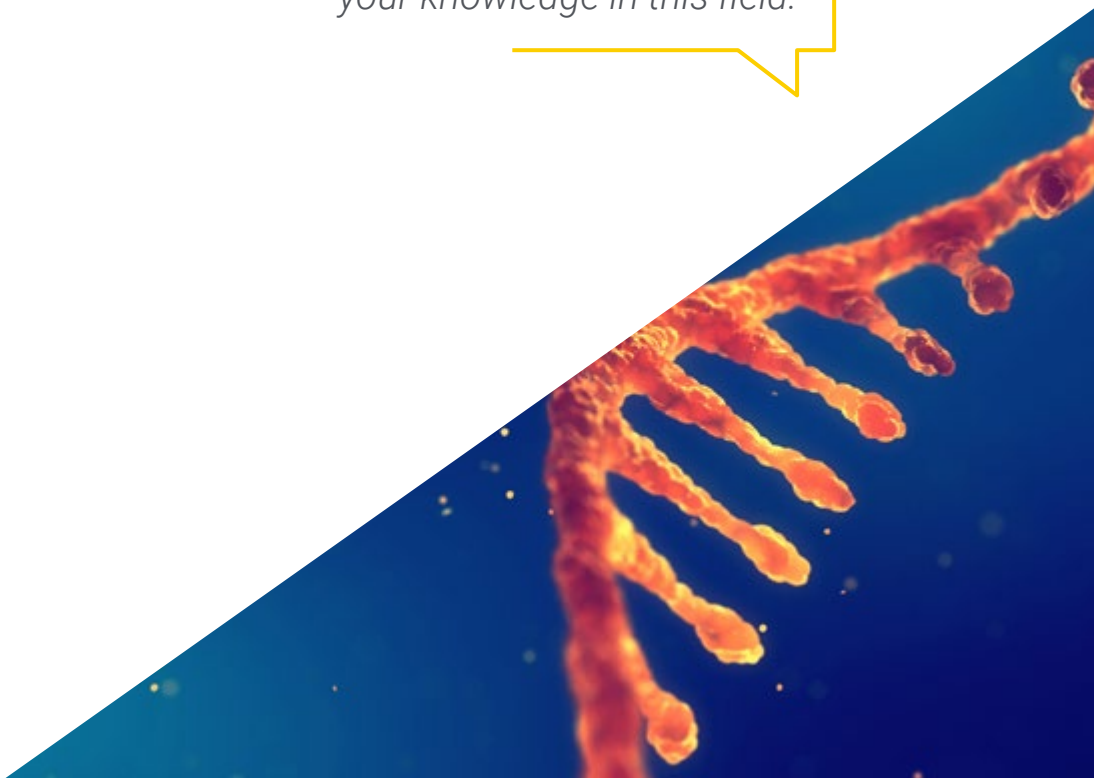
The Postgraduate Diploma allows training in simulated environments, which provide immersive learning programmed to train in real situations.

This 100% online Postgraduate Diploma will allow you to combine your studies with your professional work while increasing your knowledge in this field.

Its Teaching Staff includes Professionals belonging to the field of Nutrition, who contribute their work experience to this training, as well as renowned Specialists from Reference 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 training programmed to train 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 healthcare practitioner ill be assisted by an innovative Interactive Video System, developed by Renowned, and Experienced Experts in nutrigenomics, metabolomics and Epigenetics.



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Objectives

The main objective of the program is the development of theoretical and practical learning, so that the nursing practitioner can master the study of nutrigenomics, metabolomics and precision nutrition in a practical and rigorous way.

This refresher program will generate a sense of security in the performance of your daily practice, which will help you grow personally and professionally."

General Objectives

- Acquire theoretical knowledge of human population genetics..
- Acquire knowledge of genomic and precision nutrition to be able to apply it in practice.
- Learn the development of this novel field and the key findings that contributed to its development.
- Know in which pathologies and conditions of human life Genomic and Precision Nutrition can be applied..
- To evaluate individual response to nutrition and dietary patterns in order to promote health and disease prevention.
- Learn how nutrition influences gene expression in humans.
- Learn about new concepts and future trends in the field of Genomic and Precision Nutrition..
- Adapt personalized dietary and lifestyle habits according to genetic polymorphisms.
- Provide health professionals with all the updated knowledge in the field of Genomic and Precision Nutrition in order to know how to apply it in their professional activity..
- Put all the up to date 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

Module 1. Nutrigenomics.

- Understand in depth the differences between Nutrigenetics and Nutrigenomics
- Present and Analyze Genes related to Metabolic Processes affected by Nutrition..

Module 2. Metabolomics-Proteomics

- Know the Principles of Metabolomics and Proteomics
- Go in depth into the microbiota as a tool for preventive and personalized nutrition.

Module 3. Epigenetics

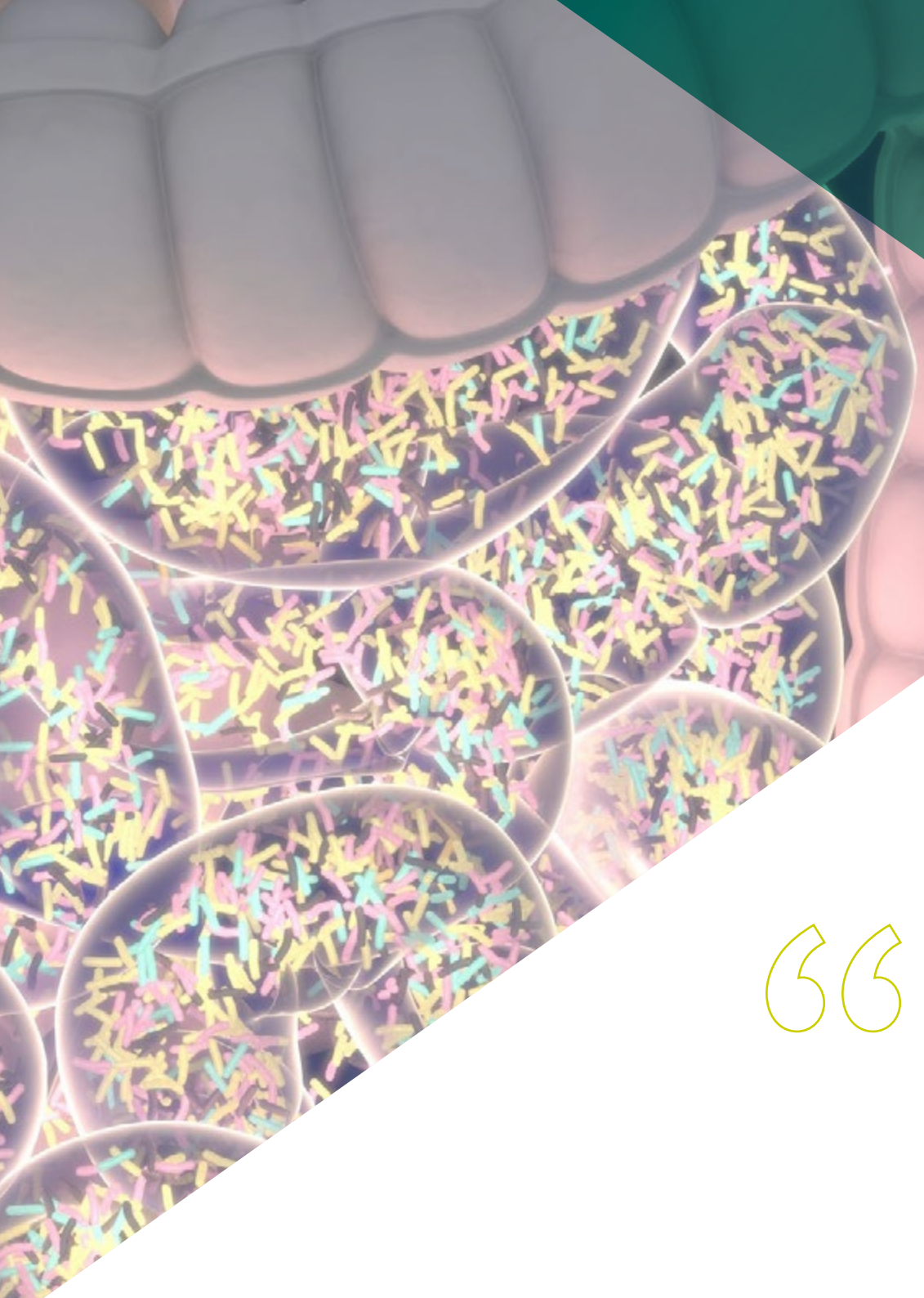
- Exploring the Basis of the Relationship between Epigenetics and Nutrition.
- Present and Analyze how MicroRNAs are Involved in Genomic Nutrition.

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

03

Course Management

The program's teaching staff includes leading Postgraduate Diplomas in Nutrigenomics and Precision Nutrition, who bring the experience of their work to this training. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.



The best professionals are qualified at the best university to help you progress your career."

Management

Dr. Konstantinidou, Valentini

- D. in Biomedicine.
- Lecturer in Nutrigenetics.
- Founder of DNANUTRICOACH®.
- Dietitian-Nutritionist.
- Food Technologist.

Professors

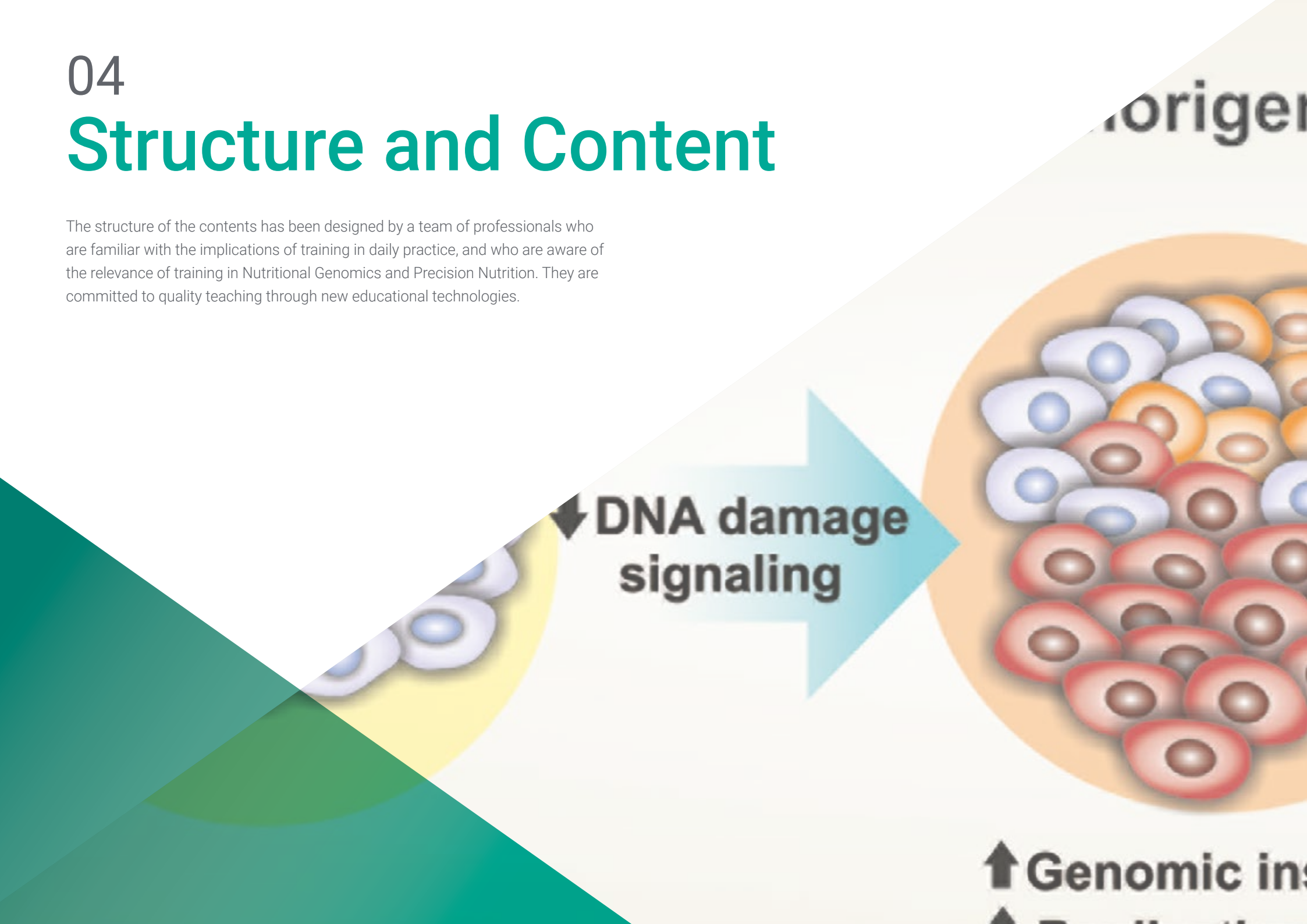
Dr. García Santamarina, Sarela

- D. in Biomedical Research Pompeu Fabra University, Barcelona, Spain. 2008-2013.
- Master´s in Molecular Biology of Infectious Diseases. London School of Hygiene & Tropical Medicine, London, United Kingdom. 2006-2007.
- Master's in Biochemistry and Molecular Biology. Autonomous University of Barcelona, Spain. 2003-2004.
- Degree in Chemistry. Specialty 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.

04

Structure and Content

The structure of the contents has been designed by a team of professionals who are familiar with the implications of training in daily practice, and who are aware of the relevance of training in Nutritional Genomics and Precision Nutrition. They are committed to quality teaching through new educational technologies.



We have the most complete and updated scientific program on the market. We strive for the excellence that we want you to achieve too"

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 Macro Nutrients 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

Module 2. Metabolomics-Proteomics

2.1. Proteomics
  2.1.1. Principles of Proteomics
  2.1.2. The Flow of Proteomics Analysis
2.2. Metabolomics
  2.2.1. Principles of Metabolomics
  2.2.2. Targeted Metabolomics
  2.2.3. Non-Targeted Metabolomics
2.3. The Microbiome/Microbiota
  2.3.1. Microbiome Data
  2.3.2. Human Microbiota Composition
  2.3.3. Enterotypes and Diet

2.4. Main Metabolomic Profiles
  2.4.1 Application to Disease Diagnosis
  2.4.2. Microbiota and Metabolic Syndrome
  2.4.3. Microbiota and Cardiovascular Diseases Effect of the Oral and Intestinal Microbiota
2.5. Microbiota and Neurodegenerative Diseases
  2.5.1. Alzheimer's Disease
  2.5.2. Parkinson's Disease
  2.5.3. ALS
2.6. Microbiota and Neuropsychiatric Diseases.
  2.6.1. Schizophrenia.
  2.6.2. Anxiety, Depression, Autism,
2.7. Microbiota and Obesity
  2.7.1. Enterotypes
  2.7.2. Current Studies and State of Knowledge.

Module 3. Epigenetics

3.1. History of Epigenetics - The way I feed my Grandchildren's Inheritance
3.2. Epigenetics vs Epigenomics
3.3. Methylation
  3.3.1. Examples of Folate and Choline, Genistein
  3.3.2. Examples of Zinc, Selenium, Vitamin A, Protein Restriction.
3.4. Histone Modification
  3.4.1. Examples of Butyrate, Isothiocyanates, Folate and Choline,
  3.4.2. Examples of Retinoic Acid, Protein Restriction

3.5. MicroRNA
- 3.5.1. Biogenesis of MicroRNAs in Humans.
- 3.5.2. Mechanisms of Action-Regulating Processes

3.6. Nutrimiromics
- 3.6.1. Diet-Modulated MicroRNAs
- 3.6.2. MicroRNAs involved in Metabolism

3.7. Role of MicroRNAs in Diseases
- 3.7.1. MicroRNA in Tumorogenesis
- 3.7.2. MicroRNAs in Obesity, Diabetes and Cardiovascular Diseases.

3.8. Gene Variants that Generate or Destroy Binding Sites for MicroRNAs
- 3.8.1. Main Studies
- 3.8.2. Results in Human Diseases

3.9. MicroRNA Detection and Purification Methods.
- 3.9.1. Circulating MicroRNAs
- 3.9.2. Basic Methods Used

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

05

Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: *Re-learning*. This Harvard University teaching system, is used in the most prestigious medical schools in the world and has been considered one of the most effective by major publications such as *The New England Journal of Medicine*.

Discover Re-learning, 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"

In a given situation, what would you do? Throughout these months, the professional will face multiple simulated clinical cases based on real patients in which he/she will have to investigate, establish hypotheses and finally, resolve the situation. This method ensures specialists learn better as they accept more responsibility and get closer to the reality of their professional future.

Re-learning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success"

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 potential or because of its uniqueness or rarity. It is essential that the case studies are based on the life of a current healthcare practitioner, trying to recreate the real conditions in the healthcare practitioner's professional practice.

It is a technique that develops critical skills and prepares the nursing professional to make decisions, defend their arguments, and contrast opinions.

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

01 **Students who follow this method not only grasp concepts, but also develop their mental capacity by evaluating real situations and applying their knowledge.**

02 **The learning process has a clear focus on practical skills that allow the student to better integrate into the real world.**

Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.

03 **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 program.**

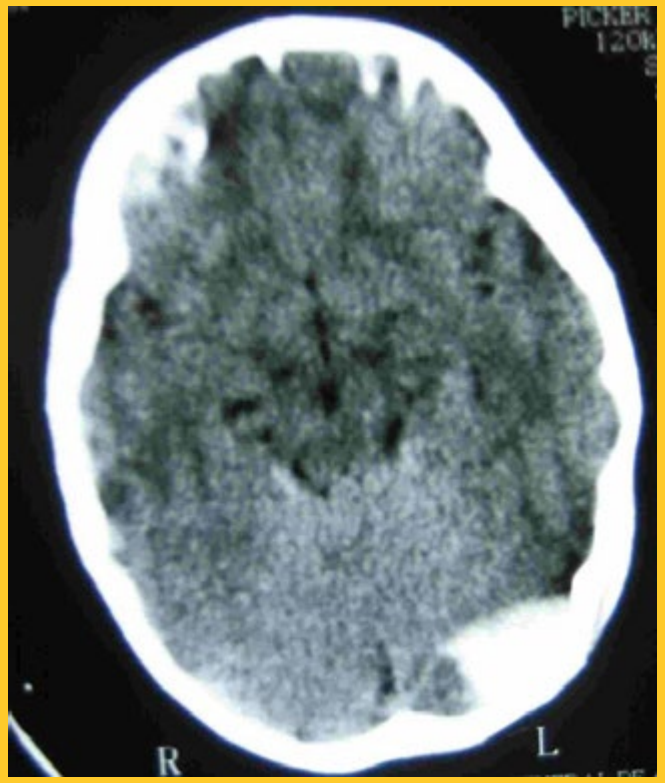
04

The student will be able to learn with the advantages of access to simulated learning environments and the "Learning from an expert approach in which they learn by observation"

An immersive system of knowledge transmission, through participation in resolving real problems and supported by the best audiovisual technology on the educational market"

The Re-learning method, will help you to learn and consolidate what you have learnt in a more efficient way, as well as allowing you to achieve your training goals more quickly and with less effort.

Re-learning Methodology



At the forefront of world pedagogy, the Relearning method has managed to improve the overall satisfaction levels of healthcare practitioners who complete their studies, with respect to the quality indicators of the best online university in the Spanish-speaking world. The teaching quality, the quality of the materials, the structure of the course and the objectives achieved were rated as very positive.

With more than 150,000 professionals trained in this methodology and an international satisfaction level of 8.01, relearning has proven to be at the height of the most demanding evaluation environments.

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

More than 150,000 professionals have been trained with this methodology, achieving unprecedented success. All this in a highly demanding environment, with the highest standards of evaluation and monitoring.

This training will be based, above all, on experience. A process in which you will test the knowledge you will acquire, consolidating and improving it gradually.

In this program you will have access to the best educational material, prepared with you in mind.

Study Material

All didactic content is created by the very specialists who will teach the course, making it both specific and practical.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Video Techniques and Procedures

We bring you closer to the latest techniques, to the latest educational advances, to the forefront of current affairs. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.

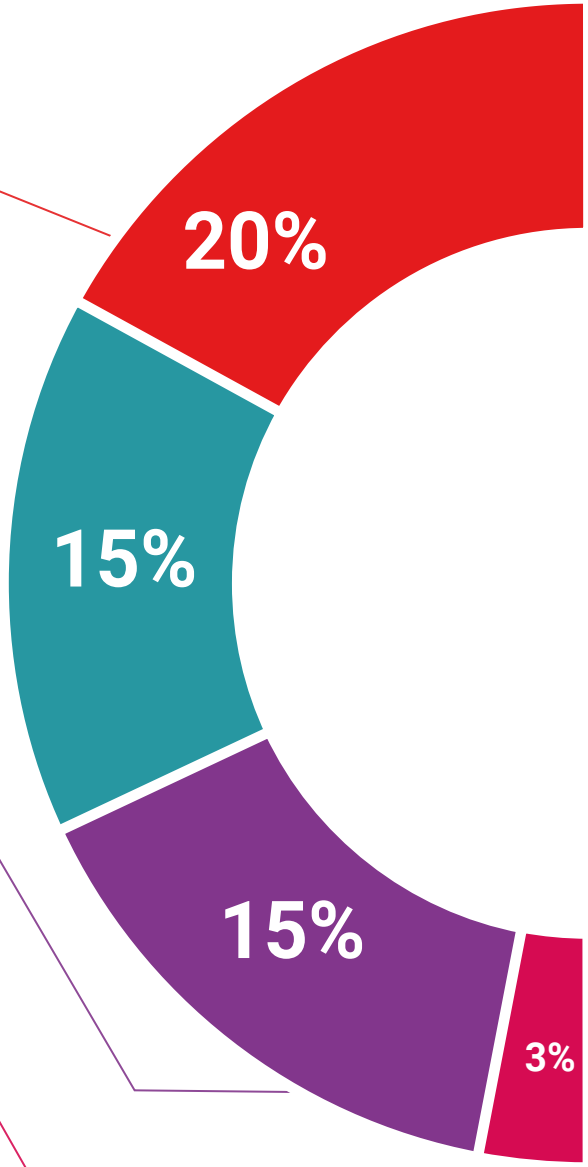
Interactive Summaries

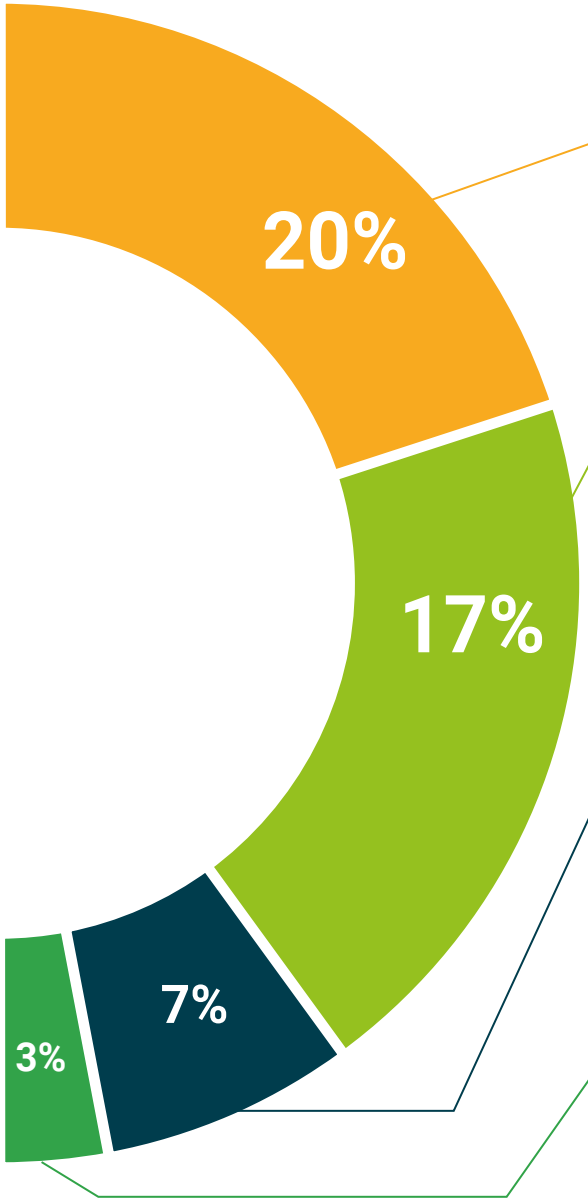
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge. This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

By participating in this course you will have access to a virtual library where you will be able to complement and keep your training up-to-date with the latest articles on the subject, consensus documents, international guidelines...

An invaluable resource that you will be able to use even when you finish your course with us.





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 your knowledge throughout the program through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.

Learning from an expert

Observing an expert performing a task is the most effective way of learning. It is called Learning from an expert: a proven way to reinforce knowledge and recall what has been learned. For this reason, we include this type of learning in our course classes.

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an expert strengthens knowledge and memory, and generates confidence in our future difficult decisions.

Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.

06

Certificate

The **Postgraduate Diploma in Nutrigenomics, Metabolomics and Epigenetics for Nursing** guarantees you, in addition to the most accurate and up-to-date training, access to a Postgraduate Diploma issued by **TECH - Technological University.**

Successfully complete this training and receive your university qualification without the hassle of travel or paperwork"

This **Postgraduate Diploma in Nutrigenomics, Metabolomics and Epigenetics for Nursing** 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 Diploma** issued by **TECH Technological University via tracked delivery.**

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

Title: **Postgraduate Diploma in Nutrigenomics, Metabolomics and Epigenetics for Nursing**

ECTS: **18**

Official Number of Hours: **450**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Nutrigenomics, Metabolomics and Epigenetics for Nursing

This is a qualification awarded by this University, with 18 ECTS credits and equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

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 EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma

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