

Professional Master's Degree

Nutritional Genomics
and Precision Nutrition



Professional Master's Degree

Nutritional Genomics and Precision Nutrition

Course Modality: Online

Duration: 12 months.

Certificate: TECH Technological University

60 ECTS Credits

Official N° of hours: 1,500 h.

Website: www.techtute.com/in/nutrition/professional-master-degree/master-nutritional-genomics-precision-nutrition

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01

Introduction

Studies on the human genome and its relationship with nutrition have facilitated the prevention and management of diseases such as obesity, diabetes and non-alcoholic hepatic steatosis. As a result, nutrigenomics has created new avenues of work and intervention that open up an infinite horizon of possibilities for specialists in this field, both for research as well as for their own professional development. This program has been created in response to the need for expanding knowledge in an increasingly relevant subject, in which students will find the most comprehensive and advanced contents on epigenetics, and on the latest techniques used in laboratories and in nutrigenetics. All this, led by a team of professionals with extensive experience and recognition in this area.





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This Professional Master's Degree includes clinical cases that will give you a detailed view of the practical application of Genomic and Precision Nutrition"

Up to 12 types of cancer are related to poor dietary habits, as are other pathologies related to cardiovascular diseases. An increase in these conditions has awakened interest, on the part of the population, in taking care of their own health through the ingestion of adequate food. This has involved a change of mentality, accompanied by scientific advances in the field of genomic nutrition and the search for the ideal individualized diet according to each person's characteristics.

Progress that still has a long way to go, and that constantly presents results in the field of nutrigenetics and nutrigenomics that require professionals to be aware of everything related to this area. Nutritionist can acquire great potential through this Professional Master's Degree, in which they will carry out in-depth studies of the latest techniques used in laboratories, of key polymorphisms and biostatistics as applied to genomic nutrition.

All this will be possible thanks to the multimedia content provided by a specialized teaching team that integrates this 100% online program. A program in which professionals will also carry out simulations of clinical cases that will provide them with close observation of procedures and techniques they will be able to put into practice.

TECH provides an excellent opportunity for nutritionists who wish to combine their work and personal responsibilities with a quality university education. In this modality, the only requirement for students is an electronic device and an Internet connection with which to access the virtual campus, where the complete syllabus of this program is hosted, at any time. This way, you will also be able to distribute study loads according to your needs. A program designed in a convenient and flexible format to offer the most comprehensive advancements in the field of Genomic and Precision Nutrition.

This **Professional Master's Degree in Nutritional Genomics and Precision Nutrition** contains the most complete and up-to-date scientific program on the market. Its most important features include:

- ◆ Case studies presented by experts in Nutrition
- ◆ Graphic, schematic, and practical contents created to 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



This is a university program that allows you to update your knowledge on precision nutrition from the hand of a teaching team with extensive experience in the sector"

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A university program in which you can comfortably study MicroRNA and genomic nutrition from the comfort of your computer"

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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 immersion 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Through multimedia material, you will carry out in-depth studies of microbiota and their relationship with preventive and personalized nutrition.

Access a 100% online university program that is compatible with the most demanding responsibilities.



02 Objectives

This program has been designed with the main objective of offering nutritionists the latest advances in the field of genomic and precision nutrition. For this purpose, TECH provides the educational tools that will allow you to succeed in bringing your knowledge in this field up to date. At the end of the program, students will have broadened their knowledge on the most relevant omics and bioinformatics techniques, and on recent studies in microbiota.





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TECH employs the latest educational technology, in order to create the most up-to-date content that is in line with today's academic standards"



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
- ◆ 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 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. Introduction to Nutritional Genomics and Precision Nutrition

- ◆ Present definitions necessary to follow the thread of the following modules
- ◆ Explain relevant points of human DNA, nutritional epidemiology, and the scientific method
- ◆ Analyze key studies in Genomic Nutrition

Module 2. Laboratory Techniques for Nutritional Genomics

- ◆ Understand the techniques used in Nutritional Genomics Studies
- ◆ Acquire the latest advances in omics and bioinformatics techniques

Module 3. Biostatistics for Genomic Nutrition

- ◆ Acquire the knowledge required to correctly design experimental studies in the areas of Nutrigenomics and Nutrigenetics
- ◆ Delve into statistical models for clinical studies in humans

Module 4. Nutrigenetics I

- ◆ 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

Module 5. Nutrigenetics II: Key Polymorphisms

- ◆ Present the most current key polymorphisms related to human nutrition and metabolic processes that the health practitioner needs to learn
- ◆ Analyze the key studies that support these polymorphisms and the debate where it exists

Module 6. Nutrigenetics III

- ◆ Present the Key Polymorphisms to date related to Complex Diseases that depend on Nutritional Habits
- ◆ Introduce new leading concepts in Nutrigenetics research

Module 7. Nutrigenomics

- ◆ Delve into the differences between Nutrigenetics and Nutrigenomics
- ◆ Present and analyze genes related to metabolic processes affected by Nutrition

Module 8. Caproteomic Metabolomics

- ◆ Know the Principles of Metabolomics and Proteomics
- ◆ Delve into microbiota as a tool for preventive and personalized nutrition

Module 9. Epigenetics

- ◆ Explore the fundamentals of the relationship between epigenetics and nutrition
- ◆ Present and analyze how MicroRNAs are involved in Nutritional Genomics

Module 10. Current Market State

- ◆ Present and analyze key aspects for the application of Nutritional Genomics in society
- ◆ Reflect on and analyze past and present cases and anticipate future market developments in the field of Nutritional Genomics

03 Skills

TECH uses the latest technology applied in academic teaching to develop the content of its programs. Through detailed videos, interactive diagrams and video summaries, students of this program will be able to enhance their abilities and skills in the field of nutritional genomics, nutrigenetics and precision nutrition. A visual format that, in turn, brings dynamism to this Professional Master's Degree.





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A university education with which you will be able to update your knowledge in the current clinical use of nutrigenetics”



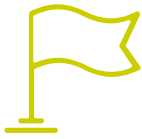
General Skills

- ◆ Conduct individual reflective work on new nutrigenetics and precision nutrition data
- ◆ Study and evaluate current controversial issues on this subject
- ◆ Evaluate and use in clinical practice commercially available tools for Nutritional Genomics and Precision Nutrition



Learn more about the interpretation of statistical analysis in the field of genomic nutrition with this 100% online program"





Specific Skills

- ◆ Differentiate between Nutrigenetics and Nutrigenomics
- ◆ Possess and understand original knowledge within the broader context of nutrition
- ◆ Apply critical, logical and scientific thinking to nutritional recommendations
- ◆ Understand the global context of Nutritional Genomics and Precision Nutrition
- ◆ Acquire in-depth knowledge of all fields of Nutritional Genomics and Precision Nutrition, its history and future applications
- ◆ Acquire the latest advances in nutritional research
- ◆ Know the strategies used in research to identify the *loci* and genetic variants studied by Nutrigenetics
- ◆ Learn how advances in Nutritional Genomics were generated and what skills must be kept up to date
- ◆ Formulate new hypotheses and work in an interdisciplinary manner
- ◆ Integrate knowledge and cope with the complexity of data
- ◆ Evaluate relevant literature to incorporate scientific advances into one's professional field
- ◆ Understand how the scientific knowledge of Nutrigenetics and Nutrigenomics is translated and applied to clinical use in today's society
- ◆ Apply knowledge of Genomic Nutrition for the promotion of health
- ◆ Know the theory of basic laboratory techniques used in genomic nutrition
- ◆ Know the basis of statistical analyses used in Genomic Nutrition
- ◆ Know the current state of the market in the field of Genomic Nutrition
- ◆ Know the trends in the field of Genomic Nutrition
- ◆ Understand the process of discovering new Genetic Nutrition data and the process of evaluating it prior to use
- ◆ Delve into the analysis of different types of studies in genetic epidemiology in order to be able to perform an adequate interpretation of the articles published in this field and identify the limitations of each type of study

04

Course Management

TECH provides all its students with quality education, thanks to the use of the most innovative teaching tools and the careful selection of teaching staff. Students of this program will have at their disposal a management and teaching staff with extensive experience and qualifications in the field of Genomic and Precision Nutrition. In addition, the teaching faculty's availability also allows students to resolve any doubts that may arise regarding the syllabus throughout this Professional Master's Degree.



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A specialized team will guide you through 12 months of the most advanced knowledge and latest advancements and in Epigenetics"

Management



Dr. Konstantinidou, Valentini

- ◆ Food Technologist
- ◆ Doctorate in Biomedicine
- ◆ Lecturer in Nutrigenetics
- ◆ Founder of DNANUTRICOACH®
- ◆ Dietitian- Nutritionist



Professors

D. Anglada, Roger

- ◆ Graduate in Multimedia, Catalunya Open University (Universitat Oberta de Catalunya)
- ◆ Senior Technician in Analysis and Control. Narcís Monturiol HSI, Barcelona
- ◆ Senior Research Support Technician at the Genomics Service of Pompeu Fabra University

Dr. García Santamarina, Sarela

- ◆ D. 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, United Kingdom. 2006-2007
- ◆ Master's Degree 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

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Structure and Content

The nutrition professional who takes this program will progress through the content of this Professional Master's Degree in a more natural and agile way, thanks to the *Relearningsystem*, used by TECH in all of its programs. With it, you can bring your knowledge up to date in a more dynamic way throughout the 10 modules of this program. One of its topics covers genomic and precision nutrition, as well as the most recent studies on nutrigenetic tests, laboratory accreditations and the current situation of health professionals in the light of progress in this area.





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This Professional Master's Degree will provide you the latest studies on techniques used in laboratories for genomic nutrition"

Module 1. Introduction to Nutritional Genomics and Precision Nutrition

- 1.1. Human Genome
 - 1.1.1. DNA Discovery
 - 1.1.2. Year 2001
 - 1.1.3. Human Genome Project
- 1.2. Variations of Interest in Nutrition
 - 1.2.1. Genomic Variations and the Search for Disease Genes
 - 1.2.2. Environment vs. Genetic and Heritability
 - 1.2.3. Differences between SNPs, Mutations and CNVs
- 1.3. The Genome of Rare and Complex Diseases
 - 1.3.1. Examples of Rare Diseases
 - 1.3.2. Examples of Complex Diseases
 - 1.3.3. Genotype and Phenotype
- 1.4. Precision Medicine
 - 1.4.1. Influence of Genetics and Environmental Factors in Complex Diseases
 - 1.4.2. Need for Precision The Problem of Lost Heritability Concept of Interaction
- 1.5. Precision Nutrition vs. Community Nutrition
 - 1.5.1. The Principles of Nutritional Epidemiology
 - 1.5.2. Current Bases of Nutritional Research
 - 1.5.3. Experimental Designs in Precision Nutrition
- 1.6. Levels of Scientific Evidence
 - 1.6.1. Epidemiological Pyramid
 - 1.6.2. Regulation
 - 1.6.3. Official Guides
- 1.7. Consortia and Major Studies in Human Nutrition and Genomic Nutrition
 - 1.7.1. 4 Health Precision Project
 - 1.7.2. Framingham
 - 1.7.3. PREDIMED.
 - 1.7.4. CORDIOPREV



- 1.8. Current European Studies
 - 1.8.1. PREDIMED Plus
 - 1.8.2. U.N. AGE
 - 1.8.3. FOOD4me
 - 1.8.4. EPIC

Module 2. Laboratory Techniques for Nutritional Genomics

- 2.1. Molecular Biology Laboratory
 - 2.1.1. Basic Instructions
 - 2.1.2. Basic Material
 - 2.1.3. Accreditations Required in the U.S.
- 2.2. DNA Extraction
 - 2.2.1. From Saliva
 - 2.2.2. From Blood
 - 2.2.3. From Other Fabrics
- 2.3. Real Time PCR
 - 2.3.1. Introduction to and History of Method
 - 2.3.2. Basic Protocols Used
 - 2.3.3. Commonly Used Equipment
- 2.4. Sequencing
 - 2.4.1. Introduction to and History of Method
 - 2.4.2. Basic Protocols Used
 - 2.4.3. Most Used Equipment
- 2.5. High-Throughput
 - 2.5.1. Introduction to and History of Method
 - 2.5.2. Examples of Human Studies
- 2.6. Gene Expression Genomic Transcriptomics
 - 2.6.1. Introduction to and History of Method
 - 2.6.2. Microarrays
 - 2.6.3. Microfluidic Cards
 - 2.6.4. Examples of Human Studies

- 2.7. Omic Technologies and their Biomarkers
 - 2.7.1. Epigenomics
 - 2.7.2. Proteomics
 - 2.7.3. Metabolomics
 - 2.7.4. Metagenomics
- 2.8. Bioinformatics Analysis
 - 2.8.1. Pre- and Post-Computing Bioinformatics Programs and Tools
 - 2.8.2. Go Terms, Clustering of DNA Microarray Data
 - 2.8.3. Functional Enrichment, GEPAS, Babelomics

Module 3. Biostatistics for Genomic Nutrition

- 3.1. Biostatistics
 - 3.1.1. Human Studies Methodology
 - 3.1.2. Introduction to Experimental Design
 - 3.1.3. Clinical Trials
- 3.2. Statistical Aspects of a Protocol
 - 3.2.1. Introduction, Objectives, Description of Variables
 - 3.2.2. Quantitative Variables
 - 3.2.3. Qualitative Variables
- 3.3. Design of Clinical Studies in Humans, Methodological Guidelines
 - 3.3.1. Designs with 2 treatments 2x2
 - 3.3.2. Designs with 3 treatments 3x3
 - 3.3.3. Parallel, CrossOver, and Adaptive Design
 - 3.3.4. Sample Size Determination and Power Analysis
- 3.4. Evaluation of Treatment Effect
 - 3.4.1. For Parallel Design, Repeated Measurements, and Cross-Over Design
 - 3.4.2. Randomization of the Order of Treatment Assignment
 - 3.4.3. Carry-Over Effect (Wash Out)
- 3.5. Descriptive Statistics, Hypothesis Testing, Risk Calculation
 - 3.5.1. Consort, Populations
 - 3.5.2. Study Populations
 - 3.5.3. Control Group
 - 3.5.4. Subgroup Analysis Types of Studies

- 3.6. Statistical Errors
 - 3.6.1. Measurement Errors
 - 3.6.2. Random Error
 - 3.6.3. Systematic Error
- 3.7. Statistical Bias
 - 3.7.1. Selection Bias
 - 3.7.2. Observation Bias
 - 3.7.3. Assignment Bias
- 3.8. Statistical Modeling
 - 3.8.1. Continuous Variable Models
 - 3.8.2. Categorical Variables Models
 - 3.8.3. Linear Mixed Models
 - 3.8.4. Missing data, Participant Flow, Presentation of Results
 - 3.8.5. Adjustment for Baseline Values, Transformation of Response Variable: Differences, Ratios, Logarithms, Carry-Over Evaluation
- 3.9. Statistical Modeling with Covariate
 - 3.9.1. ANCOVA
 - 3.9.2. Logistic Regression for Binary and Count Variables
 - 3.9.3. Multivariate Analysis
- 3.10. Statistical Programs
 - 3.10.1. The R
 - 3.10.2. SPSS
- 4.3. GWAS II
 - 4.3.1. Allelic and Genotypic Frequencies
 - 4.3.2. Genome-Disease Association Studies
 - 4.3.3. Association Models (Dominant, Recessive, Co-Dominant)
 - 4.3.4. Genetic Scores
- 4.4. The Discovery of Nutrition-Related SNPs
 - 4.4.1. Key Studies Design
 - 4.4.2. Main Results
- 4.5. The Discovery of SNPs Associated with Nutrition-Related Diseases (Diet-Depended)
 - 4.5.1. Cardiovascular Diseases
 - 4.5.2. Diabetes Mellitus Type II
 - 4.5.3. Metabolic Syndrome
- 4.6. Main Obesity-Related GWAS
 - 4.6.1. Strengths and Weaknesses
 - 4.6.2. The FTO Example
- 4.7. Circadian Control of Intake
 - 4.7.1. The Brain-Gut Axis
 - 4.7.2. Molecular and Neurological Basis of the Brain-Gut Connection
- 4.8. Chronobiology and Nutrition
 - 4.8.1. Central Clock
 - 4.8.2. Peripheral Clocks
 - 4.8.3. Circadian Rhythm Hormones
 - 4.8.4. Intake Control (Leptin and Ghrelin)
- 4.9. SNPs Related to Circadian Rhythms
 - 4.9.1. Regulatory Mechanisms of Satiety
 - 4.9.2. Hormones and Intake Control
 - 4.9.3. Possible Pathways Involved

Module 4. Nutrigenetics I

- 4.1. Nutrigenetics Authorities and Organizations
 - 4.1.1. Nu Go
 - 4.1.2. ISNN
 - 4.1.3. Evaluation Committees
- 4.2. GWAS I Studies
 - 4.2.1 Population Genetics - Design and Use
 - 4.2.2. Hardy Weinberg Law
 - 4.2.3. Linkage Imbalance

Module 5. Nutrigenetics II: Key Polymorphisms

- 5.1. Obesity-Related SNPs
 - 5.1.1. The Story of the "Obese Monkey"
 - 5.1.2. Appetite Hormones
 - 5.1.3. Thermogenesis
- 5.2. Vitamin-Related SNPs
 - 5.2.1. Vitamin D
 - 5.2.2. B Complex Vitamins
 - 5.2.3. Vitamin E
- 5.3. Exercise-Related SNPs
 - 5.3.1. Strength vs. Competition
 - 5.3.2. Sports Performance
 - 5.3.3. Injury Prevention/Recovery
- 5.4. Oxidative Stress/Detoxification-Related SNPs
 - 5.4.1. Genes Encoding Enzymes
 - 5.4.2. Anti-Inflammatory Processes
 - 5.4.3. Phase I+II of Detoxification
- 5.5. Addiction-Related SNPs
 - 5.5.1. Caffeine
 - 5.5.2. Alcohol
 - 5.5.3. Salt
- 5.6. SNP related to Flavor
 - 5.6.1. Sweet Taste
 - 5.6.2. Salty Taste
 - 5.6.3. Bitter Taste
 - 5.6.4. Acid Taste
- 5.7. SNP vs. Allergies vs. Intolerances
 - 5.7.1. Lactose
 - 5.7.2. Gluten
 - 5.7.3. Fructose
- 5.8. PESA Study

Module 6. Nutrigenetics III

- 6.1. SNPs Predisposing to Complex Nutrition-Related Diseases *Genetic Risk Scores (GRS)*
- 6.2. Type II Diabetes
- 6.3. Hypertension
- 6.4. Arteriosclerosis
- 6.5. Hyperlipidemia
- 6.6. Cancer
- 6.7. The Exposome Concept
- 6.8. Metabolic Flexibility Concept
- 6.9. Current Studies Challenges for the Future

Module 7. Nutrigenomics

- 7.1. Differences and Similarities with Nutrigenetics
- 7.2. Bioactive Components of Diet on Gene Expression
- 7.3. The Effect of Micro and Macronutrients on Gene Expression
- 7.4. The Effect of Dietary Patterns on Gene Expression
 - 7.4.1. The Mediterranean Diet Example
- 7.5. Main Studies in Gene Expression
- 7.6. Genes Related to Inflammation
- 7.7. Genes Related to Insulin Sensitivity
- 7.8. Genes Related to Lipid Metabolism and Adipose Tissue Differentiation
- 7.9. Genes Related to Arteriosclerosis
- 7.10. Genes Related to the Skeletal System

Module 8. Metabolomics-Proteomics

- 8.1. Proteomics
 - 8.1.1. Principles of Proteomics
 - 8.1.2. The Flow of Proteomics Analysis
- 8.2. Metabolomics
 - 8.2.1. Principles of Metabolomics
 - 8.2.2. Targeted Metabolomics
 - 8.2.3. Non-Targeted Metabolomics
- 8.3. The Microbiome/Microbiota
 - 8.3.1. Microbiome Data
 - 8.3.2. Human Microbiota Composition
 - 8.3.3. Enterotypes and Diet
- 8.4. Main Metabolomic Profiles
 - 8.4.1. Application to Disease Diagnosis
 - 8.4.2. Microbiota and Metabolic Syndrome
 - 8.4.3. Microbiota and Cardiovascular Diseases Effect of the Oral and Intestinal Microbiota
- 8.5. Microbiota and Neurodegenerative Diseases
 - 8.5.1. Alzheimer's Disease
 - 8.5.2. Parkinson's Disease
 - 8.5.3. ALS
- 8.6. Microbiota and Neuropsychiatric Diseases
 - 8.6.1. Schizophrenia
 - 8.6.2. Anxiety, Depression, Autism
- 8.7. Microbiota and Obesity
 - 8.7.1. Enterotypes
 - 8.7.2. Current Studies and State of Knowledge

Module 9. Epigenetics

- 9.1. History of Epigenetics / The Way I Eat and Inheritance for My Grandchildren
- 9.2. Epigenetics vs. Epigenomics
- 9.3. Methylation
 - 9.3.1. Examples of Folate and Choline, Genistein
 - 9.3.2. Examples of Zinc, Selenium, Vitamin A, Protein Restriction
- 9.4. Histone Modification
 - 9.4.1. Examples of Butyrate, Isothiocyanates, Folate and Choline
 - 9.4.2. Examples of Retinoic Acid, Protein Restriction
- 9.5. MicroRNA
 - 9.5.1. Biogenesis of MicroRNAs in Humans
 - 9.5.2. Mechanisms of Action-Regulating Processes
- 9.6. Nutrимиomics
 - 9.6.1. Diet-Modulated MicroRNAs
 - 9.6.2. MicroRNAs involved in Metabolism
- 9.7. Role of MicroRNAs in Diseases
 - 9.7.1. MicroRNA in Tumorigenesis
 - 9.7.2. MicroRNAs in Obesity, Diabetes and Cardiovascular Diseases
- 9.8. Gene Variants that Generate or Destroy Binding Sites for MicroRNAs
 - 9.8.1. Main Studies
 - 9.8.2. Results in Human Diseases
- 9.9. MicroRNA Detection and Purification Methods
 - 9.9.1. Circulating MicroRNAs
 - 9.9.2. Basic Methods Used

Module 10. Current Market State

- 10.1. Legal Aspects
- 10.2. Ethical Aspects
- 10.3. DTC (Direct To Consumer) Tests
 - 10.3.1. Pros and Cons
 - 10.3.2. Myths of Early DTCs
- 10.4. Quality Criteria for a Nutrigenetic Test
 - 10.4.1. SNP Selection
 - 10.4.2. Interpretation of Results
 - 10.4.3. Laboratory Accreditations
- 10.5. Health Professionals
 - 10.5.1. Training Needs
 - 10.5.2. Criteria of Professionals Applying Genomic Nutrition
- 10.6. Nutrigenomics in the Media
- 10.7. Integration of Evidence for Personalized Nutritional Counseling
- 10.8. Critical Analysis of the Current Situation
- 10.9. Discussion Work
- 10.10. Conclusions, Use of Nutritional Genomics and Precision Nutrition as Prevention



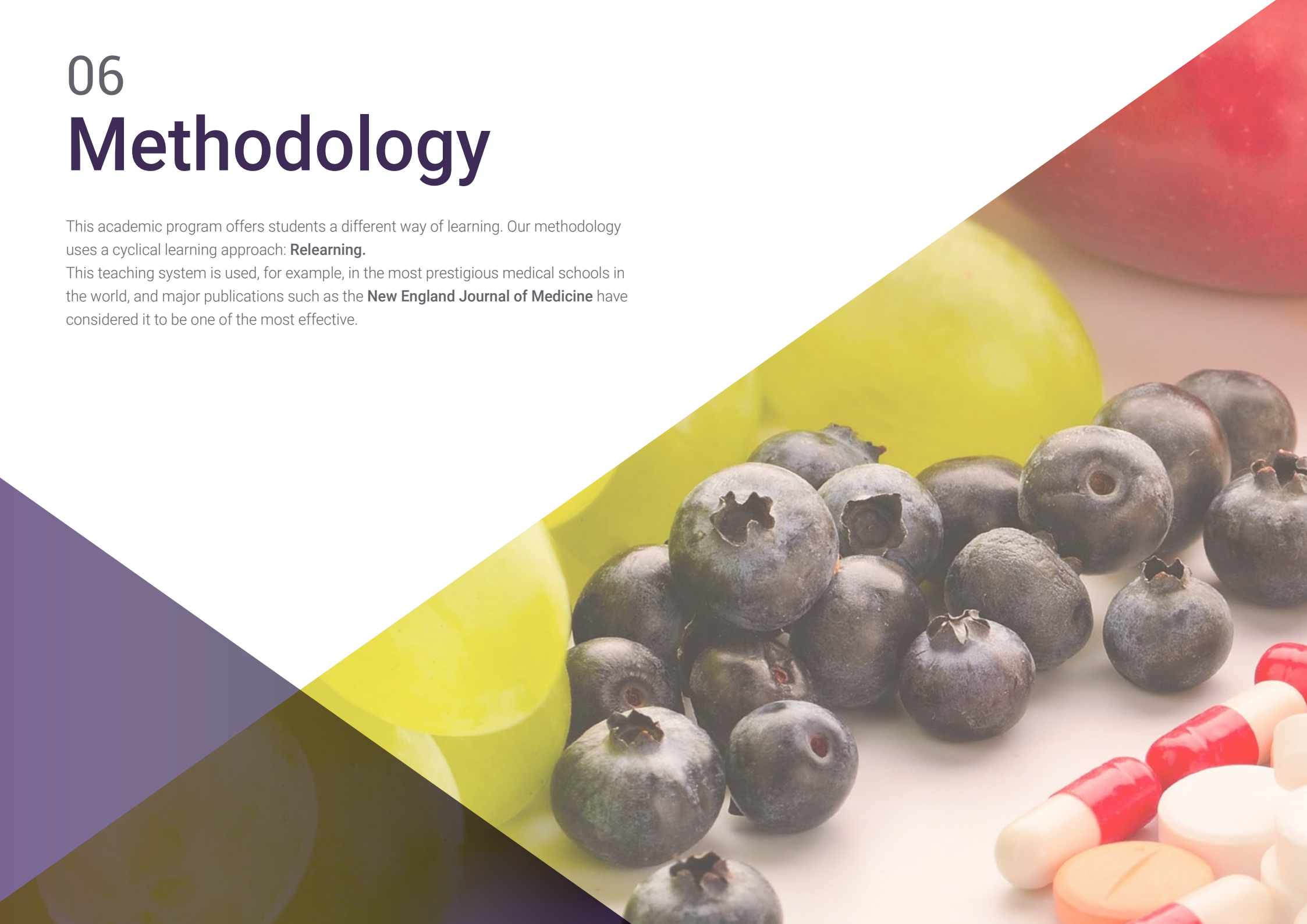
A 100% online program that will show you the current potential of genomic nutrition as a tool for the prevention of diseases such as cancer"

06

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.





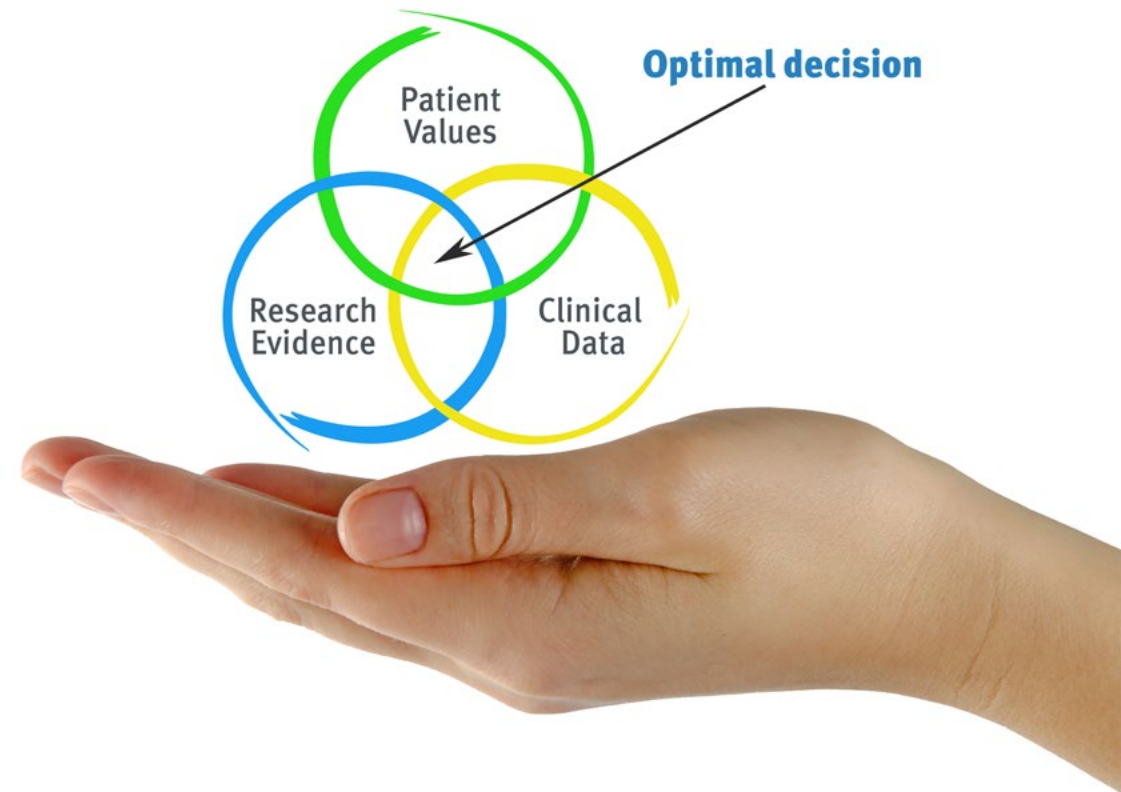
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Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

In a given situation, what should a professional do? 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, nutritionists can 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 of professional nutritional 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. Nutritionists who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
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.

The nutritionist 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 45,000 nutritionists have been trained with unprecedented success in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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.



Nutrition Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counselling techniques and procedures. 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

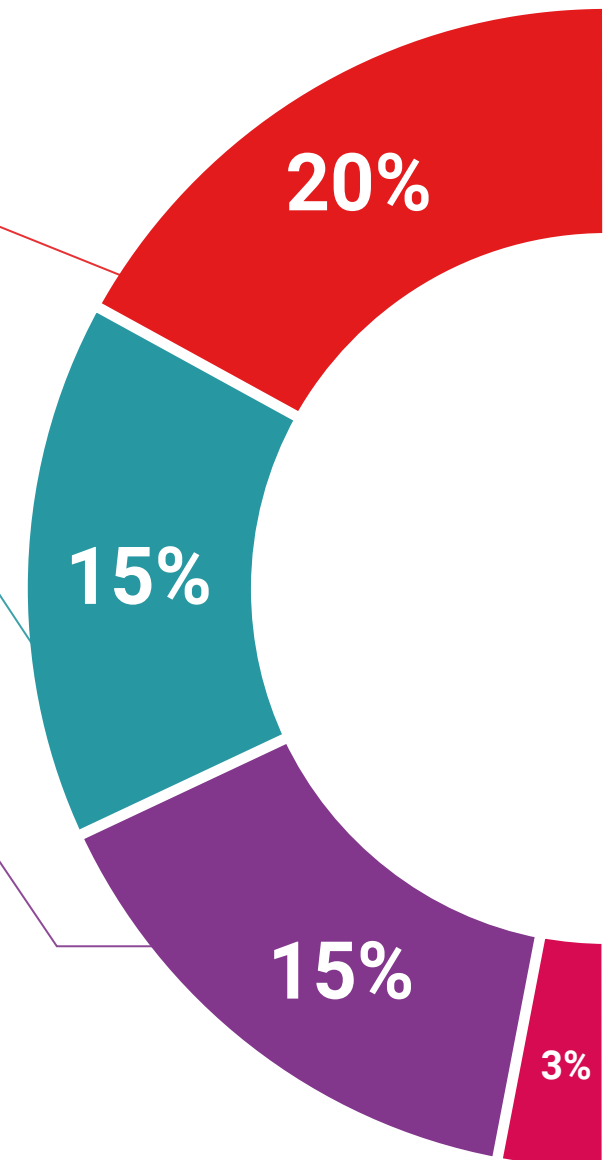
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

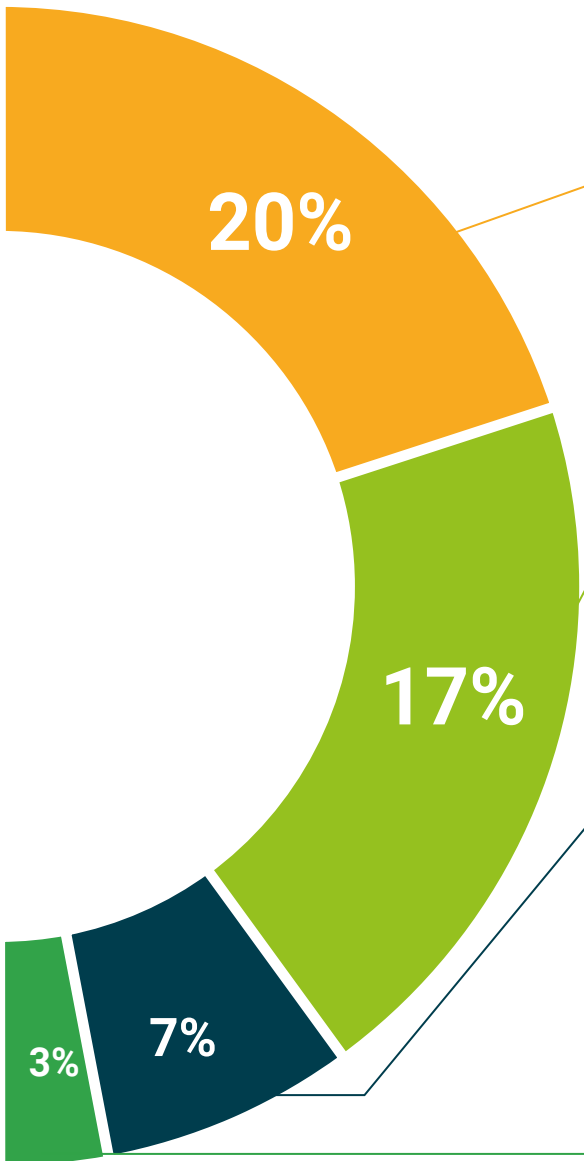
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 suggesting that observing third-party experts can be useful.

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.



07 Certificate

The Professional Master's Degree in Genomics and Precision Nutrition guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Technological University.



“

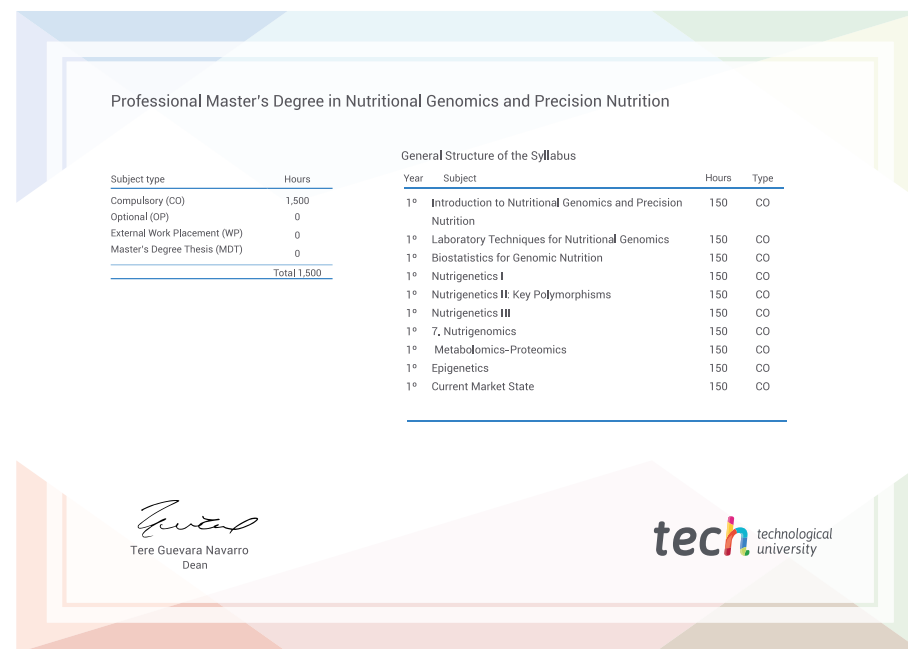
Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This **Professional Master's Degree in Nutritional Genomics and Precision Nutrition** 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 **Professional Master's Degree** diploma issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Nutritional Genomics and Precision Nutrition**
 Official N° of hours: **1,500 h.**



*Apostille Convention. In the event that the student wishes to have their paper certificate 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 quality
development languages
virtual classroom



Professional Master's Degree

Nutritional Genomics
and Precision Nutrition

Course Modality: Online

Duration: 12 months.

Certificate: TECH Technological University

Official N° of hours: 1,500 h.

Professional Master's Degree

Nutritional Genomics and
Precision Nutrition

