Postgraduate Certificate

Biostatistical Analysis for Nutritional Genomics in Nursing

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Postgraduate Certificate

Biostatistical Analysis for Nutritional Genomics in Nursing

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

Website: www.techtitute.com/us/nursing/postgraduate-certificate/biostatistical-analysis-nutritional-genomics-nursing

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01

Introduction

DNA instructions not only define the physical appearance and personality traits of patients, but also define the behavior of the organism in the face of food, pathogens or contaminants and other environmental elements. In this sense, analyzing the methodology used in human clinical studies and delving into the designs mainly used in nutritional epidemiology is a key tool for health professionals, in this case Nursing, who wish to enter this field of Biostatistical Analysis for Genomic Nutrition. With this TECH program, they will be able to update themselves in terms of research and critical points of the subject, with real examples and with the help of the best experts, 100% online.

You will update your knowledge in Biostatistical Analysis for Genomic Nutrition in this program for Nursing"

When we say that something is genetic or inherited, we are referring to the ability of DNA to replicate and transfer gene information from generation to generation. The constant advances in technology have made it possible to study human DNA from an increasingly broader perspective, as well as proteins and metabolites, which allow Nutrition to identify the cause of the body's behavior in response to certain foods and other factors.

Nowadays, the approach of Genomic Nutrition is under study and evolution, because it is a growing and novel discipline that, more and more, gives contributions to medicine to determine solutions to different potential health issues. This knowledge should be acquired by nurses who wish to provide the best service to their patients, from the study of Biostatistical Analysis for Genomic Nutrition, which can be acquired through this program.

It is an update that analyzes the methodology used in human clinical studies, and delves into the designs used mainly in nutritional epidemiology. By addressing the critical points of statistical analysis of studies in large populations of Nutrition.

A powerful tool for today's professional, who does not have much time or space to update and build a background according to the demands of today's clinical market. As it is an online course, the students will have the freedom to choose from where, how and when to access the contents, balancing their work or personal life with their academic life.

This **Postgraduate Certificate in Biostatistical Analysis for Nutritional Genomics in Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of case studies presented by experts in Nutrition Genomic
- 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

Acquire the necessary knowledge to correctly design experimental studies in the fields of nutrigenomics and nutrigenetics”

This refresher program will provide you with a sense of confidence in your daily work, which will help you grow both personally and professionally"

This Postgraduate Certificate allows training in simulated environments, which provide immersive learning programmed to train for real situations.

Through the most modern interactive resources you will be able to delve into the Biostatistical Analysis for Genomic Nutrition and develop it in Nursing.

The program's teaching staff includes professionals from the industry 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 immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This Postgraduate Certificate in Biostatistical Analysis for Nutritional Genomics in Nursing addresses all aspects of the latest scientific evidence on the subject. In this way, graduates will be able to correctly design experimental studies in the areas of Nutrigenomics and Nutrigenetics and experiment new procedures for the determination of advanced solutions for their patients in a personalized way and according to their requirements.

You will delve into statistical models for clinical studies in humans and your skills will be raised to the highest level"

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 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

- 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

Study from wherever you want, because TECH offers you the possibility to advance at your own pace, thanks to its 100% online teaching system"

03

Course Management

The program's faculty includes leading experts in Genomic and Precision Nutrition, who bring their work experience to this Postgraduate Certificate. Additionally, other recognized experts have participated in its design and preparation, complementing the program in an interdisciplinary manner. For this reason, a top quality education is offered, thanks to the best selection of professional experts in the area of study, who, with their extensive experience in the sector, have gathered the best resources for the student to acquire the most advanced knowledge in accordance with the needs of today's market.

The most experienced professionals have developed the teaching load of this program and will show it to you in a modern and dynamic way"

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

04

Structure and Content

This TECH Postgraduate Certificate offers a modern and comfortable educational space in which students will be able to access from any device with an internet connection to study the latest scientific postulates on Biostatistical Analysis for Nutritional Genomics in Nursing. All this, adjusted to the reality of the current market and the advances in terms of Nutrition and medicine. It will be an update of 6 weeks, in which the student will decide how to study, since it is 100% online.

This syllabus has an up to date educational itinerary, with the most complete scientific program in the market, offering you the maximum excellence"

Module 1. Biostatistics for Genomic Nutrition

1.1. Biostatistics
- 1.1.1. Human Studies Methodology
- 1.1.2. Introduction to Experimental Design
- 1.1.3. Estudios clínicos

1.2. Statistical Aspects of a Protocol
- 1.2.1. Introduction, Objectives, Description of Variables
- 1.2.2. Quantitative Variables
- 1.2.3. Qualitative Variables

1.3. Design of Clinical Studies in Humans, Methodological Guidelines
- 1.3.1. Designs with 2 treatments 2x2
- 1.3.2. Designs with 3 treatments 3x3
- 1.3.3. Parallel, Crossover, Adaptive Design
- 1.3.4. Sample Size Determination and Power Analysis

1.4. Evaluation of Treatment Effect
- 1.4.1. For Parallel Design, for Repeated Measurements, for Crossover Design
- 1.4.2. Randomization of the Order of Treatment Assignment
- 1.4.3. Carry-Over Effect (Wash Out)

1.5. Descriptive Statistics, Hypothesis Testing, Risk Calculation
- 1.5.1. Consort, Populations
- 1.5.2. Study Populations
- 1.5.3. Control Group
- 1.5.4. Subgroup Analysis Types of Studies

1.6. Statistical Errors
- 1.6.1. Measurement Errors
- 1.6.2. Random Error
- 1.6.3. Systematic Error

1.7. Statistical Bias
- 1.7.1. Selection Bias
- 1.7.2. Observation Bias
- 1.7.3. Sesgo de asignación

1.8. Statistical Modeling
- 1.8.1. Continuous Variable Models
- 1.8.2. Categorical Variables Models
- 1.8.3. Linear Mixed Models
- 1.8.4. Missing data, Flow of Participants, Presentation of Results
- 1.8.5. Adjustment for Baseline Values, Transformation of Response Variable: Differences, Ratios, Logarithms, Carry-Over Assessment

1.9. Statistical Modeling with Covariate
- 1.9.1. ANCOVA
- 1.9.2. Logistic Regression for Binary and Count Variables
- 1.9.3. Multivariate Analysis

1.10. Statistical Programs
- 1.10.1. The R
- 1.10.2. SPSS

Without having to move to a classroom TECH offers you the best way to update your nursing knowledge and skills"

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

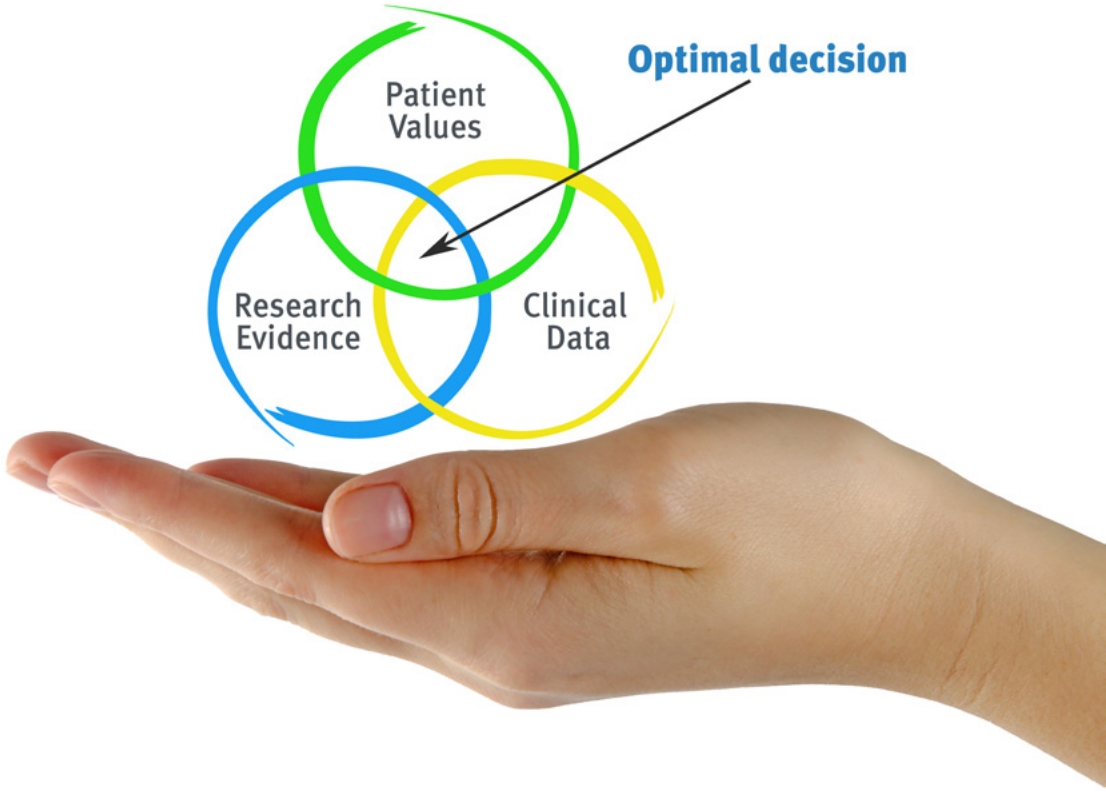
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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

At TECH Nursing School 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. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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:

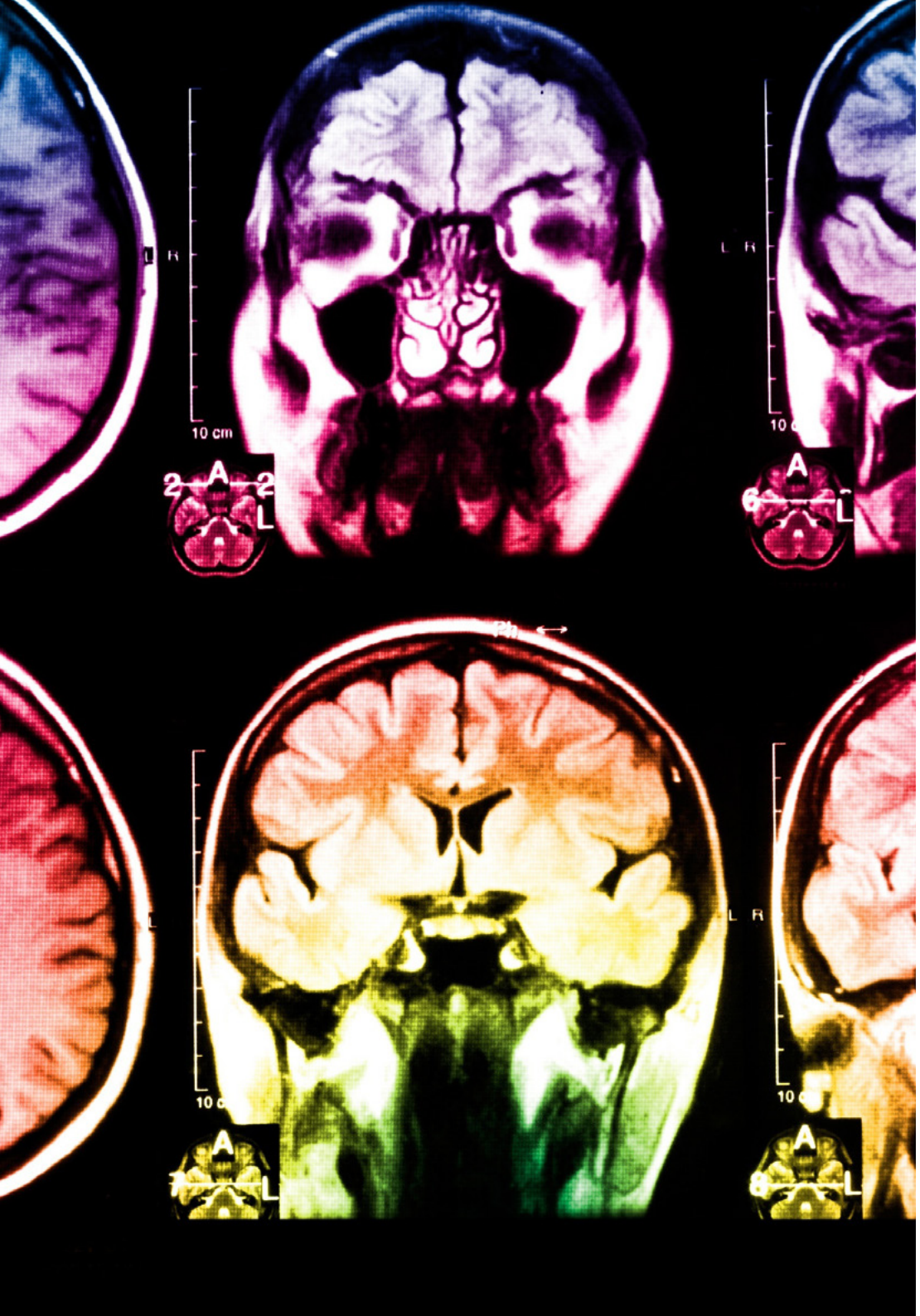
1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.

The nurse 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 we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 really 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.

Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, 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 them as many times as you want.

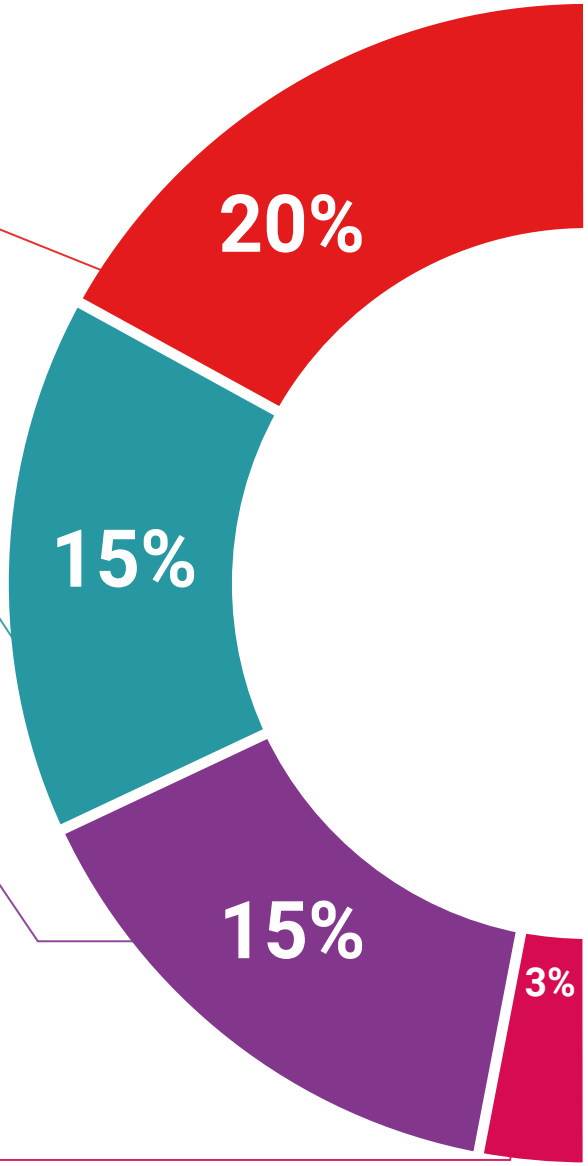
Interactive Summaries

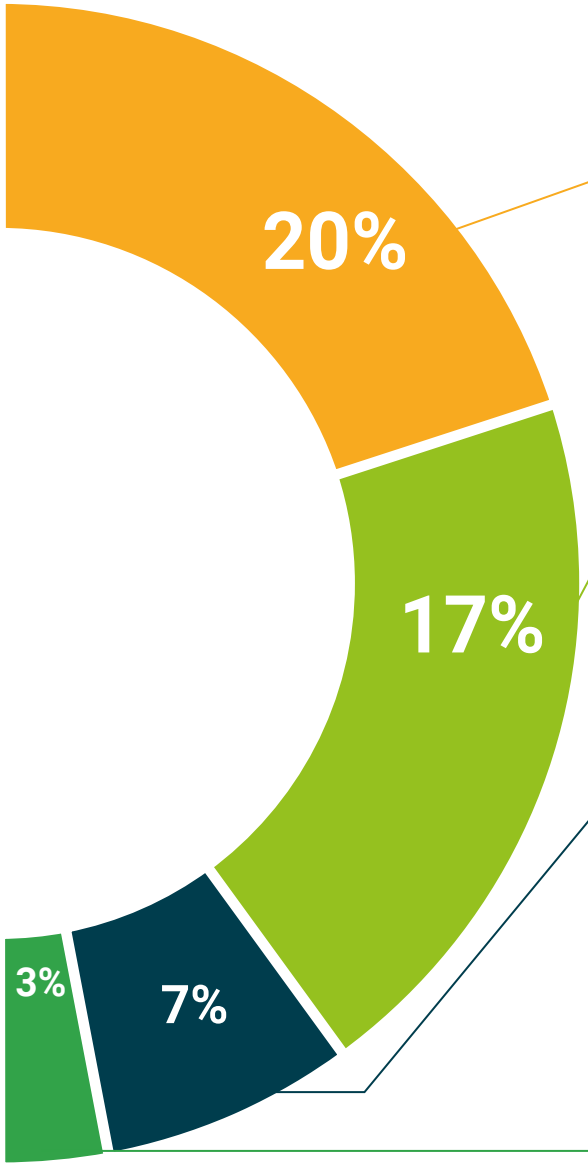
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This 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.

06

Certificate

The Postgraduate Certificate in Biostatistical Analysis for Nutritional Genomics in Nursing guarantees students, in addition to the most rigorous and up-to-date education, access to a 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 private qualification will allow you to obtain a **Postgraduate Certificate in Biostatistical Analysis for Nutritional Genomics in Nursing** 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** private qualification 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 Biostatistical Analysis for Nutritional Genomics in Nursing**

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 Biostatistical Analysis for Nutritional Genomics in Nursing

This is a private qualification of 360 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
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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Certificate

Biostatistical Analysis for Nutritional Genomics in Nursing

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