

Postgraduate Certificate

Biostatistical Analysis for Nutrition Genomics for Doctors



Postgraduate Certificate

Biostatistical Analysis for Nutrition Genomics for Doctors

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/biostatistical-analysis-nutrition-genomics-doctors

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01

Introduction

Biostatistical analysis procedures have evolved significantly in recent years in the field of Genomic Nutrition due to the popularization of this discipline and the research linked to this area. Thus, new mechanisms have been developed for the design of clinical studies or for the management of statistical errors that allow accurate and completely realistic results to be obtained, which is why medical experts in this field should be familiar with them in order to perfect their research work. In view of this, this program has been designed to enable students to master the most up-to-date methods for the creation of Cross-Over tests or the treatment of statistical biases in order to be at the forefront of this sector, 100% online.





Learn how to design clinical trials with 3x3 or Cross-Over treatments through this Postgraduate Certificate in Biostatistical Analysis for Genomic Nutrition"

Research in Genomic Nutrition has experienced a remarkable growth in recent years, since its findings have made it possible to treat diseases from a nutritional point of view in order to favor the patient's recovery. For this very reason, the methods for the creation of clinical trials or for their subsequent evaluation have undergone a notorious development, perfecting their techniques to enable the results obtained after the completion of the studies to be completely reliable. Due to the advantages that these state-of-the-art procedures bring to the performance of accurate investigations, medical professionals involved in this field are obliged to use them to perform their activity at the highest level.

This is why TECH has promoted this Postgraduate Certificate, through which the physician will assimilate the updated mechanisms for the design of clinical trials focused on Genomic Nutrition or for the evaluation of the results obtained in them, thus acquiring excellent research skills. During 180 hours of intensive teaching, you will learn how to elaborate studies with 3x3 treatments or internalize the most appropriate techniques for sample size determination. He will also delve into strategies for subgroup analysis in different types of clinical trials or the use of the most efficient statistical programs.

All this, through a 100% online methodology, which will enable the student to obtain effective learning through the development of their own study schedules. Likewise, this program is designed and taught by the best professionals working in the field of Genomic Nutrition, so all the knowledge you will adopt will be fully updated.

This **Postgraduate Certificate in Biostatistical Analysis for Nutrition Genomics for Doctors** 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



Adopt, with this program, the strategies to analyze the results obtained from subgroups in different types of clinical trials related to Genomic Nutrition”

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Thanks to this Postgraduate Certificate, you will master the use of the most advanced statistical programs in the field of medicine"

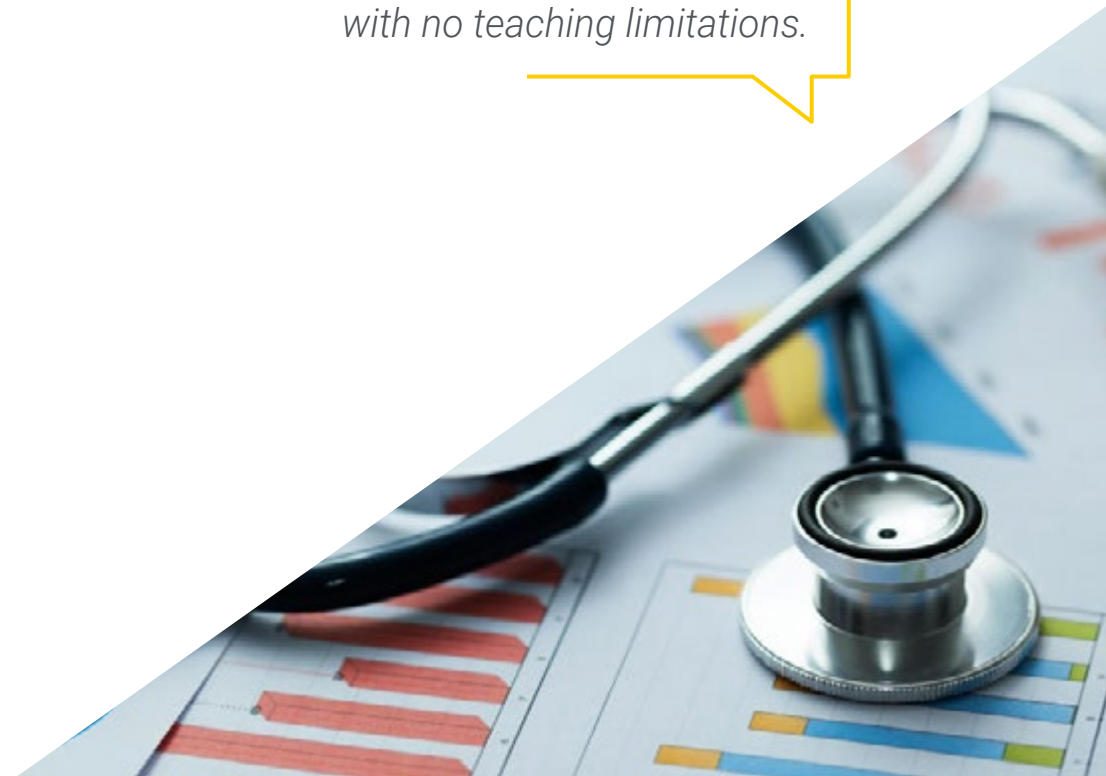
The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Enjoy a curriculum designed by the best experts in Genomic Nutrition and accessible 24 hours a day.

Through the Relearning system of this program, you will enjoy a customized learning experience with no teaching limitations.



02 Objectives

The design of this Postgraduate Certificate has been made with the idea in mind to provide the physician with state-of-the-art knowledge and skills in Biostatistical Analysis to enhance their studies and research in the field of Genomic Nutrition. Through this academic period, you will delve into the mechanisms of treatment evaluation or the management of statistical biases, improving your professional performance by following these general and specific objectives.



Data Analysis Report



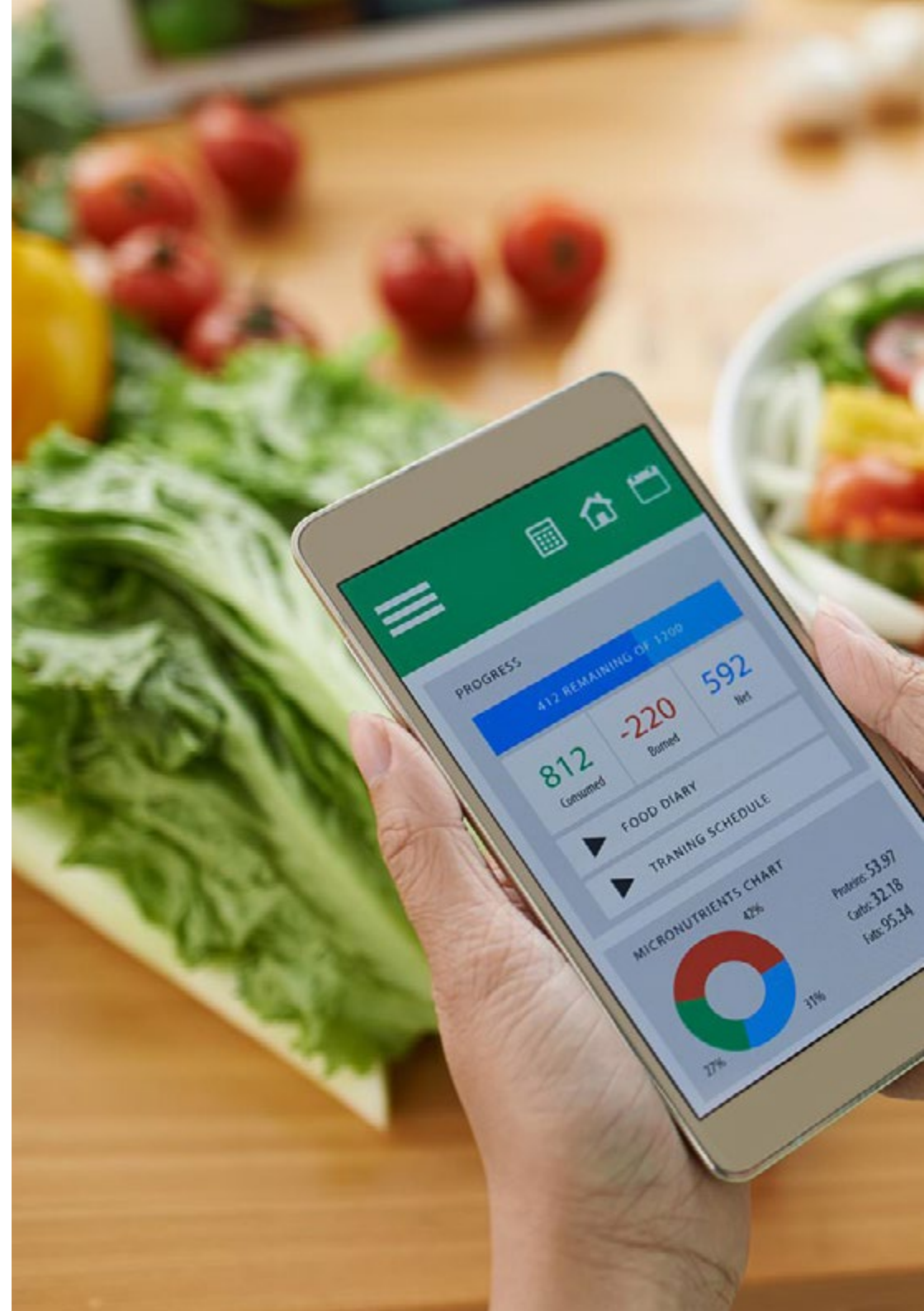
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Increase your skills in conducting biostatistical research in Genomic Nutrition through this Postgraduate Certificate”



General Objectives

- ◆ Acquire theoretical knowledge of human population genetics
- ◆ Acquire knowledge of Nutritional Genomics and Precision Nutrition to be able to apply it in clinical practice
- ◆ Learn about the trajectory of this innovative field and the key studies that contributed to its development
- ◆ Know in which pathologies and conditions of human life Nutritional Genomics and Precision Nutrition can be applied
- ◆ Be able to assess individual response to nutrition and dietary patterns in order to promote health and disease prevention
- ◆ Understand how nutrition influences gene expression in humans
- ◆ Learn about new concepts and future trends in the field of Nutritional Genomics and Precision Nutrition
- ◆ Adapt personalized dietary and lifestyle habits according to genetic polymorphisms
- ◆ Provide health professionals with all the up-to-date knowledge in the field of Nutritional Genomics and Precision Nutrition in order to know how to apply it in their professional activity
- ◆ Put all the updated knowledge in perspective. Where we are now and where we are headed so that the student can appreciate the ethical, economic and scientific implications in the field





Specific Objectives

- ◆ Acquire the necessary knowledge to correctly design experimental studies in the fields of nutrigenomics and nutrigenetics
- ◆ Delve into statistical models for clinical studies in humans
- ◆ Appropriate treatment of possible errors or statistical biases
- ◆ Master the use of the main statistical programs

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Thanks to this program, you will learn how to manage statistical biases so as not to compromise the results of a research or study”

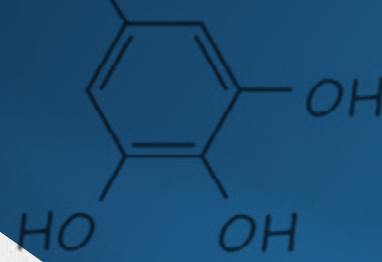
03

Course Management

In order to preserve intact the excellent educational level typical of the programs TECH offers its students, this Postgraduate Certificate has a teaching staff made up of excellent experts actively working in the field of Genomic Nutrition. Given that these professionals are in charge of the elaboration of the didactic contents pertaining to this program, the knowledge assimilated by the students will be completely and constantly updated.



OC₂H₅



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Together with the best experts in Genomic Nutrition, you will acquire a series of competencies that will favor your professional development in this area"

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

The curriculum of this Postgraduate Certificate consists of 1 module through which the student will significantly increase their knowledge and skills in the area of biostatistics oriented to the conduct of studies on Genomic Nutrition. Likewise, the didactic contents available throughout this academic experience are present in a large number of different textual and multimedia formats. Therefore, you will get a completely resolute learning, accessible 24 hours a day, given its 100% online character.





Mediterranean
Diet

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This curriculum has been designed by top experts in Genomic Nutrition to provide you with the most up-to-date knowledge in biostatistics focused on this discipline"

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, Cross-Over, 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 Cross-Over 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. Grupo control
 - 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 the response variable: differences, ratios, logarithms, Carry-Over evaluation
- 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



Access the most updated contents of the educational market in Biostatistical Analysis for Genomic Nutrition thanks to this program"

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. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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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 Biostatistical Analysis for Nutrition Genomics for Doctors guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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

This program will allow you to obtain your **Postgraduate Certificate in Biostatistical Analysis for Nutrition Genomics for Doctors** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Biostatistical Analysis for Nutrition Genomics for Doctors**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*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.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development language
virtual classroom



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