Postgraduate Certificate
Inferential Statistics

tech *technological university*

Postgraduate Certificate
Inferential Statistics

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**
- » Target Group: **University graduates and professionals in the field of Business Sciences who would like to further their studies in this field.**

Website: **www.techtitute.com/in/school-of-business/postgraduate-certificate/inferential-statistics**

Index

01
Welcome

Inferential statistics aims to deduce and draw conclusions about general situations beyond the set of data obtained. At a business level, this is extremely important because inferential statistics can help to obtain a more accurate picture of economic data, converting it from simply numbers to realistic conclusions. That is why this TECH program intends to aid professionals in attaining a clearer vision of statistical data. This perspective will be the professional's main asset to enter a business field that is increasingly demanding experts who can conduct exhaustive analyses of business data, both internally and externally, by means of the tools offered by inferential statistics.

Postgraduate Certificate in Inferential Statistics.
TECH Technological University

TECH puts in your hands the most complete compendium of contents in the field with a single purpose: To prepare you to work in companies in all sectors while having full knowledge of descriptive statistics"

Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class centre for intensive managerial skills training.

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TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"

At TECH Technological University

Innovation

The university offers an online learning model that combines the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"Microsoft Europe Success Story", for integrating the innovative, interactive multi-video system.

The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

95% of TECH students successfully complete their studies

Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

100,000+ executives trained each year

200+ different nationalities

Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

500+ collaborative agreements with leading companies

Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.

Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.

TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:

Analysis

TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.

Academic Excellence

TECH offers students the best online learning methodology. The university combines the Relearning method (a postgraduate learning methodology with the highest international rating) with the Case Study. A complex balance between tradition and state-of-the-art, within the context of the most demanding academic itinerary.

Economy of Scale

TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.

Learn with the best

In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.

At TECH, you will have access to the most rigorous and up-to-date case studies in the academic community"

03
Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.

We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you training of the highest academic level"

This program will provide students with a multitude of professional and personal advantages, particularly the following:

01 A significant career boost

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

70% of participants achieve positive career development in less than 2 years.

02 Develop a strategic and global vision of companies

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional areas.

Our global vision of companies will improve your strategic vision.

03 Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

You will work on more than 100 real senior management cases.

04 Take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

45% of graduates are promoted internally.

05

Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

You will find a network of contacts that will be instrumental for professional development.

06

Thoroughly develop business projects

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different areas in companies.

20% of our students develop their own business idea.

07

Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

Improve your communication and leadership skills and enhance your career.

08

Be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified professors from the most prestigious universities in the world: the TECH Technological University community.

We give you the opportunity to train with a team of world renowned teachers.

04
Objectives

The objectives of this program are based on meeting the specialization needs of business science professionals in inferential statistics analytical processes and their power to accurately analyze data. In this sense, a complete and optimal program has been realistically established to lead students to academic excellence and encourage them to efficiently advance in their professional careers. Thus, the program will be a journey for students toward both personal and professional growth that will lead them to the highest level of performance as experts in the use of inferential statistics in business.

International experience, ethical commitment, and business acumen are some of the most sought-after traits in executives in the digital age"

TECH makes the goals of their students their own goals too. Working together to achieve them.

The **Postgraduate Certificate in Inferential Statistics** qualifies students to:

01 Have a vision of economics at a global scale

02 Learn to apply and work with business mathematics

03 Learn to work with descriptive statistics

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04 Learn to work with probability

05 Apply the various probability distribution and statistical models for reliable decision making in relation to the company's situation

06 Understand how future investments work

Structure and Content

The syllabus for this Postgraduate Certificate has been designed and created by a team of experts in the field to respond specifically to the needs of Business Science professionals. This compendium of contents has also been designed with a perspective focused on applied learning, allowing the professional to intervene successfully through a broad vision connected to the real environment of the profession. Thus, this syllabus will become students' main asset to successfully insert themselves into a labor market that increasingly demands more specialized professionals in inferential statistics.

The most complete syllabus on the market with a single purpose: To prepare the best business administrators"

Syllabus

Statistics is a discipline that deals with analyzing, collecting, storing, sorting, making tables or graphs and calculating basic parameters in data sets. The information provided by this analysis greatly helps an organization manage the state and health of the company, and to implement specific actions to improve certain results. For all these reasons, it is crucial for Business Science specialists to know how to use statistics in depth, since it is an almost mandatory skill in determining where the company is and where it wants to go.

Thus, throughout the program, students will analyze a multitude of practical cases through individual practice and teamwork that will allow them to gain an in-depth understanding of the use of inferential statistics in an organization. This complete immersion in real situations will give you a more complete and effective vision of the current landscape in global business, and will help you understand the behavior of customers in face-to-face and digital environments, where understanding their consumption patterns will become managers' main ally when it comes to establishing successful strategies.

This complete compendium of content offered at TECH has been designed in a 100% digital format. As such, all you need is an electronic device with an Internet connection, and you will have access to the largest information bank imaginable. As it is an online program, students decide when, how and where to study, so they can balance the rest of their daily activities while they continue their education.

This Postgraduate Certificate takes place over 6 weeks, and is divided into 1 modules:

Module 1	Statistics II

Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Inferential Statistics completely online. Over the course of 6 weeks, you will be able to access all the contents of this program at any time, allowing you to self-manage your study time.

A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.

Module 1. Statistics II

1.1. Probability: Random Variables
1.1.1. Random Experiments
1.1.2. Axioms of Probability
1.1.3. Elementary Properties

1.2. Probability Models
1.2.1. Random Variables
1.2.2. Bernoulli's Distribution
1.2.3. Binomial Distribution
1.2.4. Multinomial Distribution

1.3. Calculating Probabilities and Critical Points with R
1.3.1. Normal or Gaussian Distribution
1.3.2. R Commander
1.3.3. Properties

1.4. Statistical Inference: Some Preliminary Concepts
1.4.1. Definition and Preliminary Concepts
1.4.2. Binomial Distribution and Calculation
1.4.3. Normal Curve and Calculation

1.5. Point Estimators: Sampling Distributions and Properties
1.5.1. General Concepts of Sampling Distribution
1.5.2. Point Estimation
1.5.3. Interval Estimation

1.6. Confidence Intervals (CI): Mean, Proportion, and Variance. CI in Two Populations
1.6.1. Intervals for One or Several Samples
1.6.2. The Bootstrap Method
1.6.3. Bayesian Intervals

1.7. Hypothesis Testing in Statistical Inference Methods
1.7.1. Statistical Hypothesis *Testing*
1.7.2. Rejection and Acceptance Regions
1.7.3. Decision Rules

1.8. Particular Cases: Population Mean, Variance and Proportion. Parametric Contrasts
1.8.1. Known and Unknown Variances
1.8.2. Likelihood Ratio
1.8.3. Equality Test

1.9. Chi-Squared Goodness-of-Fit Test
1.9.1. Data Grouping
1.9.2. Critical Region
1.9.3. Expected Frequency

1.10. Normality Assumption Test: *Jarque-Bera* Test
1.10.1. Significant Variables
1.10.2. Central Limit Theorem
1.10.3. Estimators, Histogram

1.11. Hypothesis of Independence with Two Qualitative Variables
1.11.1. Concept of Independent Variables
1.11.2. Observed and Expected Frequencies
1.11.3. Calculating the Contrast Ratio

1.12. Simple Linear Regression Models and Point Estimation
1.12.1. Regression and Linear Correlation Coefficient
1.12.2. Parameter Inference
1.12.3. Model Assumptions

1.13. Confidence Interval and Regression Lines
1.13.1. Linear Functions and Regression
1.13.2. Simple Linear Regression
1.13.3. Exogenous and Endogenous Variables

1.14. Predictions and Applications of Information and Communication Technology
1.14.1. Theoretical and Conceptual Framework
1.14.2. Collection and Analysis Techniques
1.14.3. General and Specific Objectives

1.15. Multiple Regression Models and Point Estimation
1.15.1. Hypothesis and Estimation
1.15.2. Types of Error and Model Adjustments
1.15.3. Linear Model Extensions

1.16. Global Significance Test of Regression
1.16.1. ANOVA Table
1.16.2. Multicollinearity

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.

"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"

TECH Business School uses the Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

"

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

This program prepares you to face business challenges in uncertain environments and achieve business success.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and business reality is taken into account.

> *You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments"*

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

Our program prepares you to face new challenges in uncertain environments and achieve success in your career.

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our online business school is the only one in the world licensed to incorporate this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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. With this methodology we have trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, markets, and financial instruments. 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

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.

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.

Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.

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.

30%

10%

8%

3%

30%

15%

4%

Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best senior management specialists in the world.

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".

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.

Our Students' Profiles

The Postgraduate Certificate in Inferential Statistics is a program aimed at business professionals who want to update their knowledge in the area of data analysis at the business level, and advance their professional career towards a promising future in the field. The compendium of knowledge they will acquire after completing this comprehensive program will enable them to practice in the field with guarantees of success and to position themselves as experts in digital entrepreneurship.
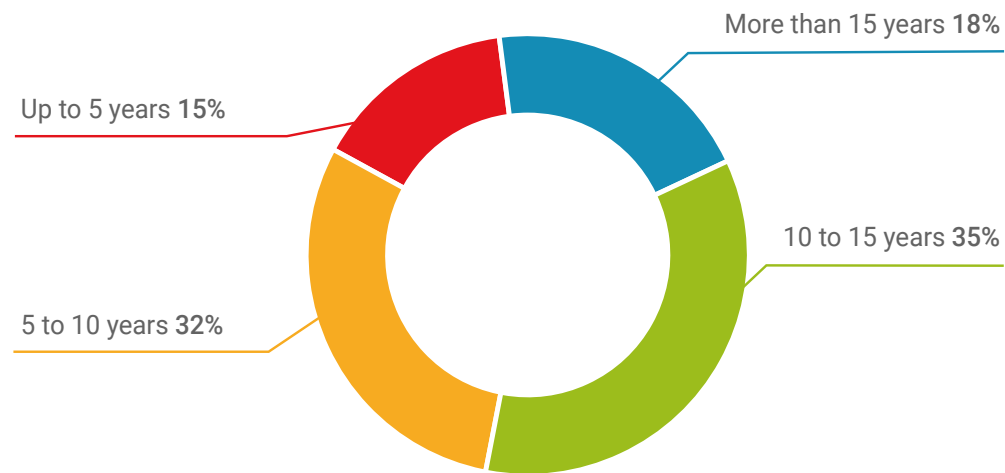
"

If you want to achieve a substantial improvement in your professional career while continuing to work, this is the program for you"

Average Age

Between **35** and **45** years old

Years of Experience

More than 15 years **18%**

Up to 5 years **15%**

10 to 15 years **35%**

5 to 10 years **32%**

Training

Business **31%**

Economics **23%**

Engineering **22%**

Social Sciences **10%**

Other **14 %**

Academic Profile

Banking **25 %**

Consulting **18 %**

Entrepreneurs **25 %**

Services **22 %**

Other **10%**
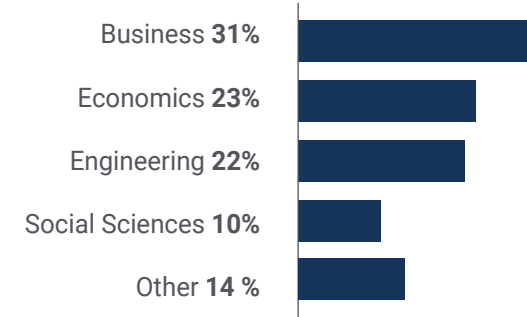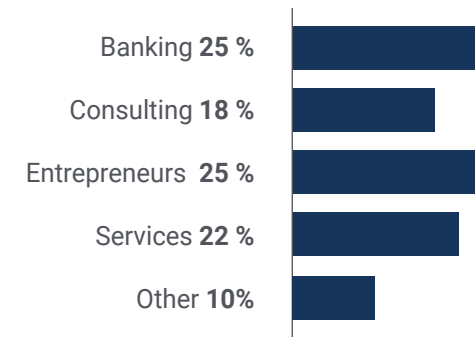
Geographical Distribution

USA **11%**

Spain **38%**

Mexico **19%**

Colombia **9%**

Argentina **14%**

Chile **4%**

Peru **2%**

Other **3%**
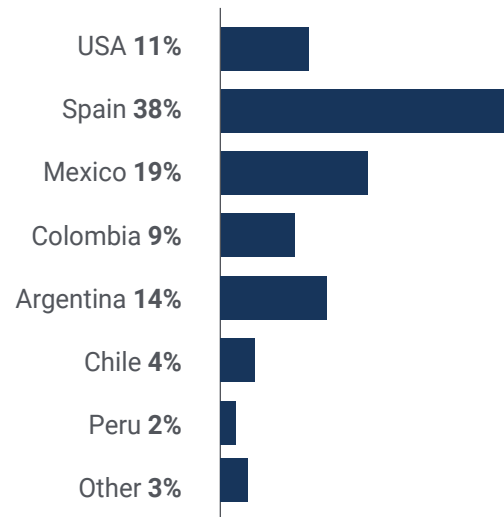
María Angélica Suárez

Economics Officer

"In terms of training, I've always been quite traditional, but given the new world reality, I decided to study online. I honestly didn't think you could learn so much from online programs, but I'll definitely return to this university to satiate my passion for economics and statistics. Thank you, TECH, for changing my perspective"

Impact on Your Career

TECH is aware that studying a program like this entails great economic, professional and, of course, personal investment.

The ultimate goal of this great effort should be to achieve professional growth. For this reason, all efforts and tools are put at our students disposal so they can acquire the necessary skills and abilities to achieve this change.

At TECH we are fully committed to helping you achieve the professional change you want"

Are you ready to take the leap?
Excellent professional development awaits you.

Our students will be able to drastically advance their careers with this training program, although there is no doubt that in order to do so, they will have to make an investment in different areas, economic, professional and personal.

However, the goal is to improve in your professional life and, to do so, it is necessary to fight.

Achieve the change you are looking for in your career by specializing at TECH.

Thanks to this programme you will receive a large number of job offers with which you will be able to start your professional growth.

When the change occurs

| During the program **15%** | During the first year **54%** | After 2 years **31%** |

Type of change

Internal Promotion **38%**
Change of Company **45%**
Entrepreneurship **17%**
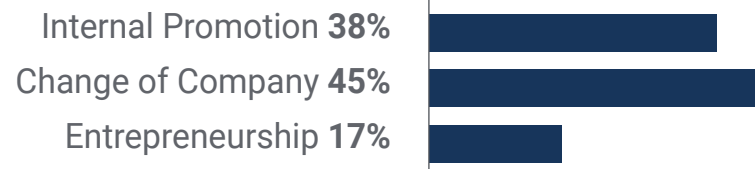
Salary increase

This program represents a salary increase of more than **25.22%** for our students

Salary before	A salary increase of	Salary after
$55,000	**25.22%**	**$68,870**

Benefits for Your Company

The Postgraduate Certificate in Inferential Statistics contributes to elevating an organization's talent to its maximum potential by educating high-performing leaders. Participating in this program is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.

"You will be able to contribute new concepts, strategies and perspectives to the company that can bring about essential changes in the organization"

Developing and retaining talent in companies is the best long-term investment.

01

Intellectual Capital and Talent Growth

Bring new concepts, strategies and perspectives to the company that can bring about relevant changes in the organization.

02

Retaining high-potential executives to avoid talent drain

This program strengthens the link between the company and the executive and opens new avenues for professional growth within the company.

03

Building agents of change

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

04

Increased international expansion possibilities

Thanks to this program, the company will come into contact with the main markets in the world economy.

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05

Project Development

You will be able to work on a real project or develop new projects.

06

Increased competitiveness

This program will equip students with the skills to take on new challenges and drive the organization forward.

10
Certificate

The Postgraduate Certificate in Inferential Statistics guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Inferential Statistics** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Certificate in Inferential Statistics**

Official N° of Hours: **150 h.**

tech technological university

Awards the following
CERTIFICATE
to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Inferential Statistics

This is a qualification awarded by this University, equivalent to 150 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

Unique TECH Code: AFWORD23S   techtitute.com/certificates

*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.

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