

# Postgraduate Certificate Business Statistics





## Postgraduate Certificate Business Statistics

- » Modality: online
- » Duration: 12 weeks
- » Certificate: TECH Global University
- » Credits: 12 ECTS
- » 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 area

Website: [www.techtitute.com/us/school-of-business/postgraduate-certificate/business-statistics](http://www.techtitute.com/us/school-of-business/postgraduate-certificate/business-statistics)

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# 01

# Welcome

This comprehensive TECH program was created with the objective of providing students with statistical data analysis tools with an eminent practical application in different areas of a company. To that end, the program includes an exhaustive analysis of the importance and functioning of economics and statistics in business, and how these disciplines play a fundamental role in the development and consolidation of an organization. This knowledge 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 statistical tools.



Postgraduate Certificate in Business Statistics.  
TECH Global University



“

*TECH puts in your hand 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 statistics”*

02

# 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.



“

*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 Global 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 groundbreaking 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 Global 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 the field of business statistics and its 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 Postgraduate Certificate 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 business statistics.



“

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

Your goals are our goals

We work together to help you achieve them

The Postgraduate Certificate in Business Statistics enables students to:

01

Recognize the basic concepts of statistics and probability

02

Apply the different methods of data selection, pooling and presentation

03

Design and select samples by identifying the means, techniques and tools to record information







04

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

05

Understand how future investments work

06

Manage investment results in accordance with company policies and the country's economy

05

# 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 content has also been designed with a focus on applied learning, which will allow professionals to successfully intervene by means of a broad vision of real environments in 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 business statistics.



“

*The most complete syllabus on the market  
with a single purpose: To create the best  
managers in business”*

## Syllabus

Statistics, understood as the discipline that studies and analyzes economic data, with an eminent practical application in different areas of the company, is booming due to its ability to assess company success. 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.

Being fully aware of this, TECH professionals have designed this comprehensive Postgraduate Certificate in Business Statistics, created with the aim of preparing business professionals to conduct in-depth analyses in business economics and, by means of statistical tools, to obtain data that can help understand where the organization is headed and the changes or steps to follow to achieve optimal growth.

This compendium of content offered at TECH has been designed in a 100% digital format. Thus, students will only need an electronic device with an Internet connection to have access to the largest bank of information 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 12 weeks and is divided into 2 modules:

**Module 1**

Statistics I

**Module 2**

Statistics II



### Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Business Statistics completely online. Over the course of 12 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 I**

**1.1. Introduction to Statistics**

- 1.1.1. Basic Concepts
- 1.1.2. Types of Variables
- 1.1.3. Statistical Information

**1.2. Data Record Sorting and Classifying**

- 1.2.1. Description of Variables
- 1.2.2. Frequency Distribution Table
- 1.2.3. Quantitative and Qualitative Frequency Distribution Tables

**1.3. ICT Applications and Practical Systems**

- 1.3.1. Basic Concepts
- 1.3.2. Tools
- 1.3.3. Data Representation

**1.4. Summary Statistics I**

- 1.4.1. Descriptive Statistics
- 1.4.2. Centralization Measurements
- 1.4.3. Measures of Dispersion
- 1.4.4. Measures of Shape and Position

**1.5. Summary Statistics II**

- 1.5.1. Box Plots
- 1.5.2. Identifying Outliers
- 1.5.3. Transformation

**1.6. Statistical Analysis of the Relationship between the Two Variables**

- 1.6.1. Tabulation
- 1.6.2. Contingency Tables and Graphical Representations
- 1.6.3. Linear Relationship between Quantitative Variables

**1.7. Time Series and Index Numbers**

- 1.7.1. Time Series
- 1.7.2. Variation Rates
- 1.7.3. Index Numbers
- 1.7.4. Consumer Prices Index (CPI) and Deflated Time Series

**1.8. Introduction to Probability: Calculation and Basic Concepts**

- 1.8.1. Basic Concepts
- 1.8.2. Set Theory
- 1.8.3. Probability Calculation

**1.9. Random Variables and Probability Distributions**

- 1.9.1. Random Variables
- 1.9.2. Variable Measurements
- 1.9.3. Probability Distribution

**1.10. Probability Models for Random Variables**

- 1.10.1. Probability Calculation
- 1.10.2. Discrete Random Variables
- 1.10.3. Continuous Random Variables
- 1.10.4. Models Derived from Normal Distribution

**Module 2. Statistics II**
**2.1. Probability: Random Variables**

- 2.1.1. Random Experiments
- 2.1.2. Axioms of Probability
- 2.1.3. Elementary Properties

**2.2. Probability Models**

- 2.2.1. Random Variables
- 2.2.2. Bernoulli's Distribution
- 2.2.3. Binomial Distribution
- 2.2.4. Multinomial Distribution

**2.3. Calculating Probabilities and Critical Points with R**

- 2.3.1. Normal or Gaussian Distribution
- 2.3.2. R Commander
- 2.3.3. Properties

**2.4. Statistical Inference: Some Preliminary Concepts**

- 2.4.1. Definition and Preliminary Concepts
- 2.4.2. Binomial Distribution and Calculation
- 2.4.3. Normal Curve and Calculation

**2.5. Point Estimators: Sampling Distributions and Properties**

- 2.5.1. General Concepts of Sampling Distribution
- 2.5.2. Point Estimation
- 2.5.3. Interval Estimation

**2.6. Confidence Intervals (CI): Mean, Proportion, Variance. CI in Two Populations**

- 2.6.1. Intervals for One or Several Samples
- 2.6.2. Bootstrap Method
- 2.6.3. Bayesian Intervals

**2.7. Hypothesis Testing in Statistical Inference Methods**

- 2.7.1. Statistical Hypothesis Testing
- 2.7.2. Region of Rejection and Acceptance
- 2.7.3. Decision Rules

**2.8. Particular Cases: Population Mean, Variance and Proportion. Parametric Contrasts**

- 2.8.1. Known and Unknown Variances
- 2.8.2. Likelihood Ratio
- 2.8.3. Equality Test

**2.9. Chi-Squared Goodness-of-Fit Test**

- 2.9.1. Data Grouping
- 2.9.2. Critical Region
- 2.9.3. Expected Frequency

**2.10. Normality Assumption Test: Jarque-Bera Test**

- 2.10.1. Significant Variables
- 2.10.2. Central Limit Theorem
- 2.10.3. Estimators, Histogram

**2.11. Hypothesis Test of Independence with Two Qualitative Variables**

- 2.11.1. Concept of Independent Variables
- 2.11.2. Observed and Expected Frequencies
- 2.11.3. Calculating the Contrast Ratio

**2.12. Simple Linear Regression Models and Point Estimation**

- 2.12.1. Regression and Linear Correlation Coefficient
- 2.12.2. Parameter Inference
- 2.12.3. Model Assumptions

**2.13. Confidence Interval and Regression Lines**

- 2.13.1. Linear Functions and Regression
- 2.13.2. Simple Linear Regression
- 2.13.3. Exogenous and Endogenous Variables

**2.14. Predictions and Applications of Information and Communication Technology**

- 2.14.1. Theoretical and Conceptual Framework
- 2.14.2. Collection and Analysis Techniques
- 2.14.3. General and Specific Objectives

**2.15. Multiple Regression Models and Point Estimation**

- 2.15.1. Hypothesis and Estimation
- 2.15.2. Types of Error and Model Adjustments
- 2.15.3. Linear Model Extensions

**2.16. Global Significance Test of Regression**

- 2.16.1. ANOVA Table
- 2.16.2. 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.*



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

### 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.

## 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.



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.





### 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.



07

# Our Students' Profiles

The Postgraduate Certificate in Business 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 an interesting career boost while continuing to work, then this is the program for you”*

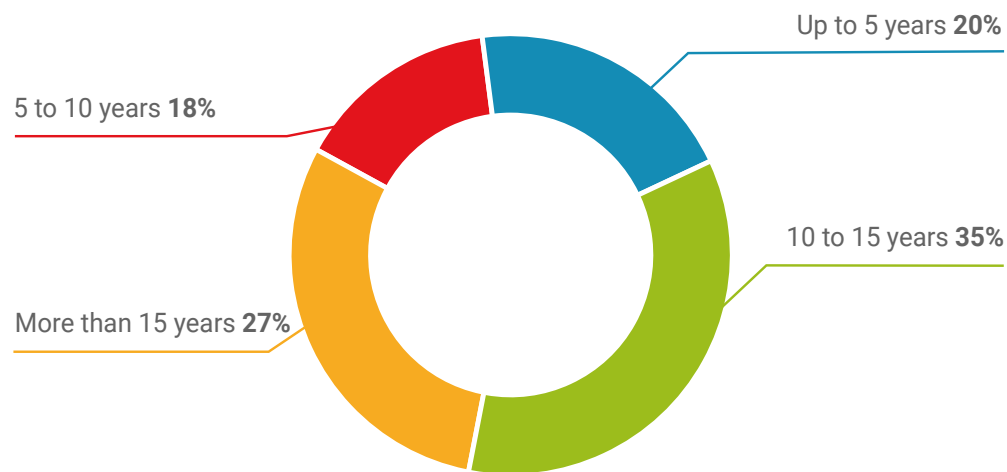
### Average Age

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

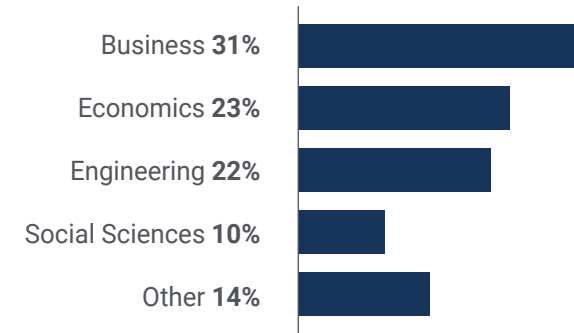
### Years of Experience

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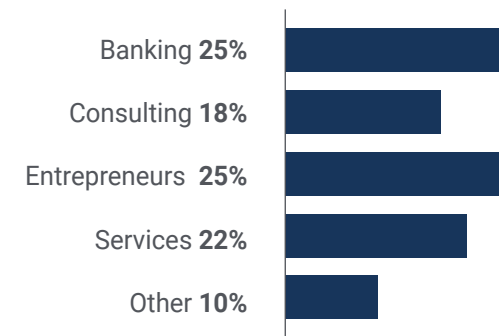
### Training

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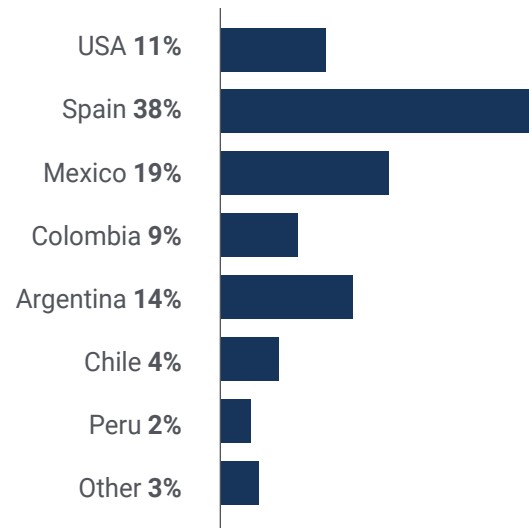
### Academic Profile

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## Geographical Distribution

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## Raquel Santana Pérez

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### Manager

*"As a manager, I need to be constantly refreshing and updating my knowledge because, in a world that changes almost daily, knowing how the economy works is crucial for companies. This program has enabled me to do exactly that, and I now feel that I carry out my daily practice in a much more conscientious and efficient way."*

08

# 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. That is why TECH offers you all the tools you need to achieve the professional change you wish. A professional improvement that you will achieve with effort and hours of study.





“

*Our main challenge is to generate a positive change in your career path”*

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

With this program you will be able to drastically advance in your career, although there is no doubt that, in order to do so, you will have to make an investment in different areas, such as economic, professional and personal.

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

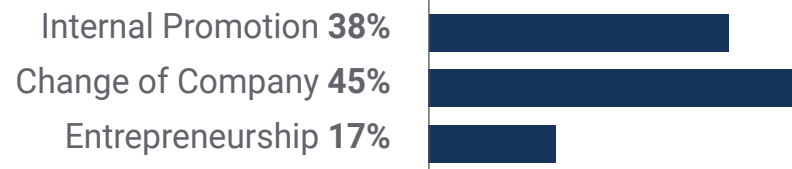
*TECH will help you boost your career in no time.*

*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



#### Type of change



### Salary increase

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



09

# Benefits for Your Company

The Postgraduate Certificate in Business Statistics contributes to elevate an organization's talent to its maximum potential by creating 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.

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04

### Increased international expansion possibilities

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



05

### **Project Development**

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

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06

### **Increased competitiveness**

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

# 10 Certificate

The Postgraduate Certificate in Business Statistics guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate 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 program will allow you to obtain your **Postgraduate Certificate in Business Statistics** 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 Business Statistics**

Modality: **online**

Duration: **12 weeks**

Accreditation: **12 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.



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