

# Postgraduate Certificate Financial Mathematics





## Postgraduate Certificate Financial Mathematics

- » Modality: **Online**
- » Duration: **12 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **Online**
- » Target Group: **University graduates who have previously completed any of the degrees in the field of Business and Economic Sciences**

Website: [www.techtute.com/us/school-of-business/postgraduate-certificate/financial-mathematics](http://www.techtute.com/us/school-of-business/postgraduate-certificate/financial-mathematics)

# Index

01

Welcome

---

*p. 4*

02

Why Study at TECH?

---

*p. 6*

03

Why Our Program?

---

*p. 10*

04

Objectives

---

*p. 14*

05

Structure and Content

---

*p. 18*

06

Methodology

---

*p. 26*

07

Our Students' Profiles

---

*p. 34*

08

Impact on Your Career

---

*p. 34*

09

Benefits for Your Company

---

*p. 38*

10

Certificate

---

*p. 42*

01

# Welcome

Financial education is a fundamental tool for economic development. This science includes from the most basic daily actions to the most complex ones, even influencing the socio-political welfare of society at a global level. Aware of the economic development of the powers according to the specialization of the experts at the forefront of these skills, TECH offers a Postgraduate Certificate that aims to expand and refresh the knowledge of graduates in Economics, as well as senior managers and entrepreneurs and financiers who are interested in learning about the latest strategies for action. All this, through a 100% online format that facilitates the adaptation of the pace of study to each specialist.



Postgraduate Certificate in Financial Mathematics.  
TECH Technological University



“

*Update your management profile and propose strategies to respond to adverse problems in your organization through mechanical methods, thanks to TECH”*

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 center for intensive managerial skills education.



“

*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 balances 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.

**+100000**

executives prepared 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* methodology (the most internationally recognized postgraduate learning methodology) with Harvard Business School case studies. A complex balance of traditional and state-of-the-art methods, within the most demanding academic framework.



### 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 analyses in academia"*

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 education of the highest academic level”*

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:

**01**

### A Strong Boost to Your Career

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 students achieve positive career development in less than 2 years.*

**02**

### Develop a strategic and global vision of the company

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

*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**

### You will 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 fields 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

### You will be part of an exclusive community

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

*We give you the opportunity to study with a team of world-renowned teachers.*

04

# Objectives

This program has been designed under the fundamentals of a group of experts who will instruct graduates in Economics, Accounting and Finance, among other economic areas, so that they will be more competitive in the labor and business environment and master the keys to intervene in micro and macroeconomics. All this, with a contextualized vision and with future perspectives that guarantee the success of the finance specialists enrolled in the program.



“

*Learn about the function of the elements of systems of equations such as the Rouché-Fobenius theorem and master homogeneous systems, thanks to TECH”*

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

The **Postgraduate Certificate in Financial Mathematics** qualifies student to:

01

Know the basic elements that make up business mathematics: linear and matrix algebra, matrices, matrix transposition, calculus, matrix inversion, systems of equations, etc.

02

Understand the different techniques and mathematical methods used within the financial framework of a company

03

Apply mathematical techniques and methods to the financial framework of the company







04

Recognize the economic realities in one or more differential equations from an economic perspective

05

Interpret the results of optimization problems

06

Evaluate the possible consequences of alternative actions

05

# Structure and Content

The Postgraduate Certificate in Financial Mathematics is an innovative program that is taught through a 100% online modality to allow for flexible follow-up. Thanks to its pedagogical methods, TECH offers a complete and rigorous program that is developed in only 12 academic weeks and with downloadable content, which specialists can access at any time and place.



“

*Expand your financial skills by analyzing real function behaviors and contribute to an organization's business performance”*

## Syllabus

The Postgraduate Certificate in Financial Mathematics of TECH is a comprehensive and rigorous program aimed at graduates in Economics, Business Management and Finance, among other degrees, to expand and update their financial knowledge in matrices, their types and concepts, the resolution of systems of equations, as well as functions optimization for several variables, among many other issues.

TECH achieves this by providing students with theoretical and practical exercises that, in addition to academic instruction, can also be applied in economic practice. For this reason, the University has adopted the most innovative methodology to facilitate and guarantee the financial qualification of students in the shortest possible time and in the most accessible way.

Over the course of 3 months, students will analyze everything from the basic elements of linear and matrix algebra to functions of several variables and their economic applications. This is a complete immersion in the field of financial mathematics.

A qualification that, in addition, is based on the *Relearning* methodology to bring all the knowledge and current economic tools to the specialists without the need to invest long hours of study in it.

In addition, TECH has experts in the sector who are aware of all business opportunities to ensure that enrolled students acquire superior skills in the economic and financial field. All this, through a 100% online format that offers the possibility of adapting the study to the personal and professional needs of both those specialists who are already working in the sector, as well as those who are not yet part of it.

This Postgraduate Certificate takes place over 12 weeks and is divided into 2 modules:

### Module 1.

Mathematics

### Module 2.

Mathematics for Economists



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

TECH offers students the opportunity to take this Postgraduate Certificate in Financial Mathematics entirely online. Throughout the 3 months of the educational program, 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. others

<p>1.1. Basic Elements of Linear and Matrix Algebra</p> <p>1.1.1. The Vector Space of <math>\mathbb{R}^n</math>, Functions and Variables</p> <p>1.1.1.1. Graphical Representation of Sets in <math>\mathbb{R}</math></p> <p>1.1.1.2. Basic Concepts of Functions of Several Real Variables. Operations with Functions</p> <p>1.1.1.3. Function Types</p> <p>1.1.1.4. Weierstrass Theorem</p> <p>1.2.1. Optimization with Inequality Constraints</p> <p>1.2.1.1. Two-Variable Graphical Method</p> <p>1.1.3. Function Types</p> <p>1.1.3.1. Separate Variables</p> <p>1.1.3.2. Polynomial Variables</p> <p>1.1.3.3. Rational Variables</p> <p>1.1.3.4. Quadratic Forms</p>	<p>1.2. Matrices: Types, Concepts and Operations</p> <p>1.2.1. Basic Definitions</p> <p>1.2.1.1. Order Matrix <math>m \times n</math></p> <p>1.2.1.2. Square Matrices</p> <p>1.2.1.3. Identity Matrix</p> <p>1.2.2.4. Matrix Operations</p> <p>1.2.2.5. Matrix Addition</p> <p>1.2.2.6. Scalar Multiplication</p> <p>1.2.2.7. Matrix Multiplication</p>	<p>1.3. Transpose</p> <p>1.3.1. Diagonalizable Matrix</p> <p>1.3.2. Transpose Properties</p> <p>1.3.2.1. Involution</p>	<p>1.4. Determinant: Calculation and Definition</p> <p>1.4.1. The Concept of Determinants</p> <p>1.4.1.1. Determinant Definition</p> <p>1.4.1.2. Square Matrix of Order 2,3 and Greater Than 3</p> <p>1.4.2. Triangular Matrices</p> <p>1.4.2.1. Determinant of Triangular Matrices</p> <p>1.4.2.2. Determinant of Non-Triangular Square Matrices</p> <p>1.4.3. Properties of Determinants</p> <p>1.4.3.1. Simplification of Calculation Functions</p> <p>1.4.3.2. Calculation in any Case</p>
<p>1.5. Invertible Matrices</p> <p>1.5.1. Properties of Invertible Matrices</p> <p>1.5.1.1. The Concept of Inversion</p> <p>1.5.1.2. Definitions and Basic Concepts</p> <p>1.5.2. Invertible Matrix Calculation</p> <p>1.5.2.1. Methods and Calculation</p> <p>1.5.2.2. Exceptions and Examples</p> <p>1.5.3. Expression Matrices and Matrix Equations</p> <p>1.5.3.1. Expression Matrices</p> <p>1.5.3.2. Matrix Equations</p>	<p>1.6. Solving Systems of Equations</p> <p>1.6.1. Linear Equations</p> <p>1.6.1.1. Discussion of the System. Rouché–Capelli Theorem</p> <p>1.6.1.2. Cramer's Rule: Solving the System</p> <p>1.6.1.3. Homogeneous Systems</p> <p>1.6.2. Vector Spaces</p> <p>1.6.2.1. Properties of Vector Spaces</p> <p>1.6.2.2. Linear Combination of Vectors</p> <p>1.6.2.3. Linear Dependence and Independence</p> <p>1.6.2.4. Coordinate Vectors</p> <p>1.6.2.5. The Basis Theorem</p>	<p>1.7. Quadratic Forms</p> <p>1.7.1. Concept and Definition of Quadratic Forms</p> <p>1.7.2. Quadratic Matrices</p> <p>1.7.2.1. Law of Inertia for Quadratic Forms</p> <p>1.7.2.2. Study of the Sign by Eigenvalues</p> <p>1.7.2.3. Study of the Sign by Minors</p>	<p>1.8. Functions of One Variable</p> <p>1.8.1. Analysis of the Behavior of a Magnitude</p> <p>1.8.1.1. Local Analysis</p> <p>1.8.1.2. Continuity</p> <p>1.8.1.3. Restricted Continuity</p>

**1.9. Limits of Functions, Domain and Image in Real Functions**

- 1.9.1. Multi-variable Functions
  - 1.9.1.1. Vector of Several Variables
- 1.9.2. The Domain of a Function
  - 1.9.2.1. Concept and Applications
- 1.9.3. Function Limits
  - 1.9.3.1. Limits of a Function at a Point
  - 1.9.3.2. Lateral Limits of a Function
  - 1.9.3.3. Limits of Rational Functions
- 1.9.4. Indeterminacy
  - 1.9.4.1. Indeterminacy in Functions with Roots
  - 1.9.4.2. Indetermination 0/0
- 1.9.5. The Domain and Image of a Function
  - 1.9.5.1. Concept and Characteristics
  - 1.9.5.2. Domain and Image Calculation

**1.10. Derivatives: Behavior Analysis**

- 1.10.1. Derivatives of a Function at a Point
  - 1.10.1.1. Concept and Characteristics
  - 1.10.1.2. Geometric Interpretation
- 1.10.2. Differentiation Rules
  - 1.10.2.1. Derivative of a Constant
  - 1.10.2.2. Derivative of a Sum or Differentiation
  - 1.10.2.3. Derivative of a Product
  - 1.10.2.4. Derivative of an Opposite Function
  - 1.10.2.5. Derivative of an Compounds Function

**1.11. Application of Derivatives to Study Functions**

- 1.11.1. Properties of Differentiable Functions
  - 1.11.1.1. Maximum Theorem
  - 1.11.1.2. Minimum Theorem
  - 1.11.1.3. Rolle's Theorem
  - 1.11.1.4. Mean Value Theorem
  - 1.11.1.5. L'Hôpital's Rule
- 1.11.2. Valuation of Economic Quantities
- 1.11.3. Differentiable Functions

**1.12. Function Optimization for Several Variables**

- 1.12.1. Function Optimization
  - 1.12.1.1. Optimization with Equality Constraint
  - 1.12.1.2. Critical Points
  - 1.12.1.3. Relative Extremes
- 1.12.2. Convex and Concave Functions
  - 1.12.2.1. Properties of Convex and Concave Functions
  - 1.12.2.2. Inflection Points
  - 1.12.2.3. Growth and Decay

**1.13. Antiderivatives**

- 1.13.1. Antiderivatives
  - 1.13.1.1. Basic Concepts
  - 1.13.1.2. Calculation Methods
- 1.13.2. Immediate Integrals
  - 1.13.2.1. Properties of Immediate Integrals
- 1.13.3. Integration Methods
  - 1.13.3.1. Rational Integrals

**1.14. Definite Integrals**

- 1.14.1. Barrow's Fundamental Theorem
  - 1.14.1.1. Definition of the Theorem
  - 1.14.1.2. Calculation Basis
  - 1.14.1.3. Applications of the Theorem
- 1.14.2. Curve Cutoff in Definite Integrals
  - 1.14.2.1. Concept of Curve Cutoff
  - 1.14.2.2. Calculation Basis and Operations Study
  - 1.14.2.3. Applications of Curve Cutoff Calculation
- 1.14.3. Mean Value Theorem
  - 1.14.3.1. Concept and Closed Interval Theorem
  - 1.14.3.2. Calculation Basis and Operations Study
  - 1.14.3.3. Applications of the Theorem

**Module 2. Mathematics for Economists**

<p><b>2.1. Multi-variable Functions</b></p> <p>2.1.1. Terminology and Basic Mathematical Concepts</p> <p>2.1.2. Definition of IRn in IRm Functions</p> <p>2.1.3. Graphic Representation</p> <p>2.1.4. Types of Functions</p> <p>2.1.4.1. Scaled Functions</p> <p>2.1.4.1.1. Concave Function and Its Application to Economic Research</p> <p>2.1.4.1.2. Convex Function and Its Application to Economic Research</p> <p>2.1.4.1.3. Level Curves</p> <p>2.1.4.2. Vectorial Functions</p> <p>2.1.4.3. Operations with Functions</p>	<p><b>2.2. Multi-variable Real Functions</b></p> <p>2.2.1. Function Limits</p> <p>2.2.1.1. Point Limit of a IRn in IRm Function</p> <p>2.2.1.2. Directional Limits</p> <p>2.2.1.3. Double Limits and Their Properties</p> <p>2.2.1.4. Limit of a IRn in IRm Function</p> <p>2.2.2. Continuity Study of Multi-variable Functions</p> <p>2.2.3. Function Derivatives: Successive and Partial Derivatives Concept of Differential of a Function</p> <p>2.2.4. Differentiation of Compound Functions: Chain Rule</p> <p>2.2.5. Homogeneous Functions</p> <p>2.2.5.1. Properties</p> <p>2.2.5.2. Euler's Theorem and Its Economic Interpretation</p>	<p><b>2.3. Optimization</b></p> <p>2.3.1. Definition</p> <p>2.3.2. Searching and Interpreting Optimum</p> <p>2.3.3. Weierstrass' Theorem</p> <p>2.3.4. Local-Global Theorem</p>	<p><b>2.4. Unconstrained and Constrained Equality Optimization</b></p> <p>2.4.1. Taylor's Theorem Applied to Multi-variable Functions</p> <p>2.4.2. Unconstrained Optimization</p> <p>2.4.3. Constrained Optimization</p> <p>2.4.3.1. Direct Method</p> <p>2.4.3.2. Interpreting Lagrange Multipliers</p> <p>2.4.3.2.1. Hessian Matrix</p>
<p><b>2.5. Optimization with Inequality Constraints</b></p> <p>2.5.1. Introduction</p> <p>2.5.2. Necessary First-order Conditions for the Existence of Local Optima: Kuhn-Tucker's Theorem and Its Economic Interpretation</p> <p>2.5.3. Globality Theorem: Convex Programming</p>	<p><b>2.6. Lineal Programming</b></p> <p>2.6.1. Introduction</p> <p>2.6.2. Properties</p> <p>2.6.3. Graphic Resolution</p> <p>2.6.4. Applying Kuhn-Tucker Conditions</p> <p>2.6.5. Simplex Method</p> <p>2.6.6. Economic Applications</p>	<p><b>2.7. Integral Calculus: Riemann's Integral</b></p> <p>2.7.1. Definition and Application in Economics</p> <p>2.7.2. Properties</p> <p>2.7.3. Integrability Conditions</p> <p>2.7.4. Relation between Integrals and Derivatives</p> <p>2.7.5. Integration by Parts</p> <p>2.7.6. Change of Variables Integration Method</p>	<p><b>2.8. Applications of Riemann's Integral in Business and Economics</b></p> <p>2.8.1. Distribution Function</p> <p>2.8.2. Present Value of a Cash Flow</p> <p>2.8.3. Mean Value of a Function in an Enclosure</p> <p>2.8.4. Pierre-Simon Laplace and His Contribution</p>
<p><b>2.9. Ordinary Differential Equations</b></p> <p>2.9.1. Introduction</p> <p>2.9.2. Definition</p> <p>2.9.3. Classification</p> <p>2.9.4. First Order Differential Equations</p> <p>2.9.4.1. Resolution</p> <p>2.9.4.2. Bernoulli's Differential Equations</p> <p>2.9.5. Exact Differential Equations</p> <p>2.9.5.1. Resolution</p> <p>2.9.6. Greater Than One Ordinary Differential Equations (with Constant Coefficients)</p>	<p><b>2.10. Finite Difference Equations</b></p> <p>2.10.1. Introduction</p> <p>2.10.2. Discrete Variable Functions or Discrete Functions</p> <p>2.10.3. First-order Linear Finite Difference Equations with Constant Coefficients</p> <p>2.10.4. Economic Applications</p>		





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.



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.

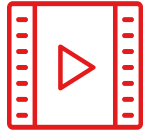
*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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.



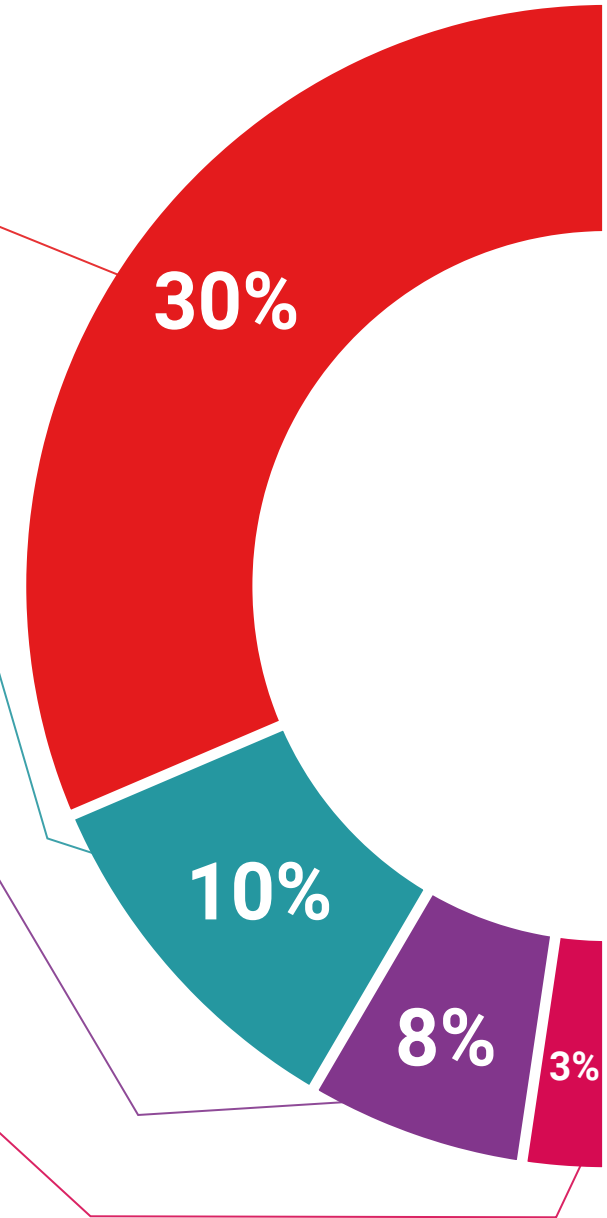
### Management Skills Exercises

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

This Postgraduate Certificate is aimed at university graduates and graduates who have previously completed any of the following degrees in the field of economics, business and finance. It also offers tools to understand and be able to intervene in the intercommunity economic relationship.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities.

Professionals who, being university graduates in any other area, have two years of work experience in Macroeconomics, may also take the Postgraduate Certificate.





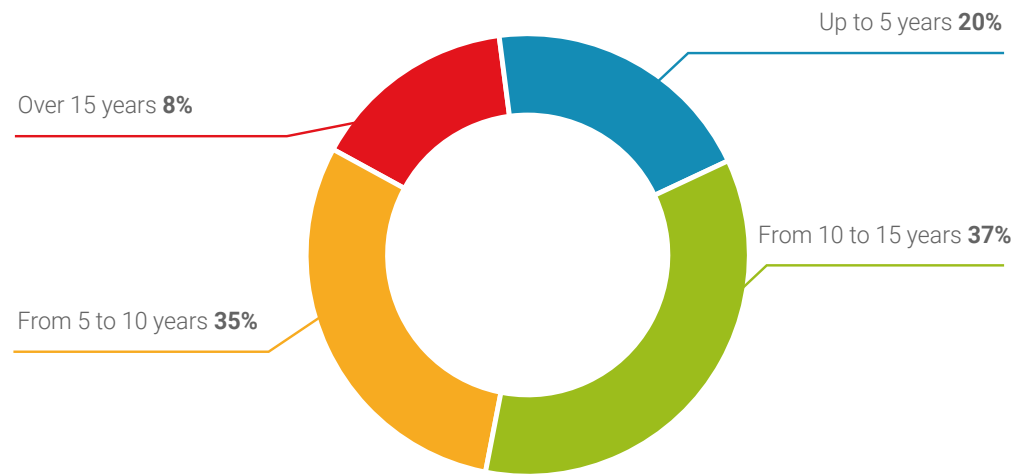
“

*If you have experience in financial, looking for an interesting improvement in your career while continuing to work, this is the program for you"*

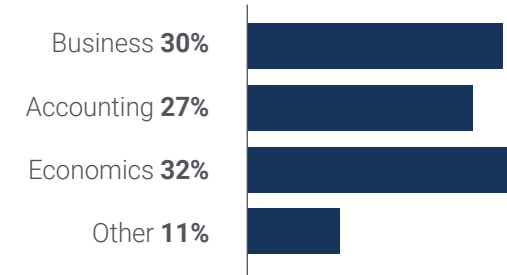
### Average Age

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

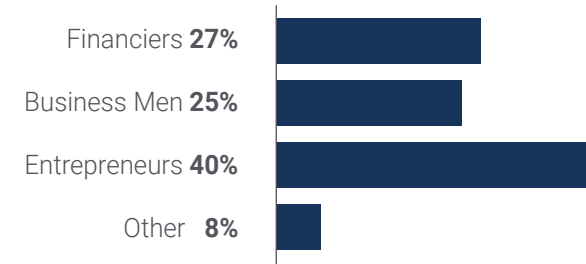
### Years of Experience



### Training

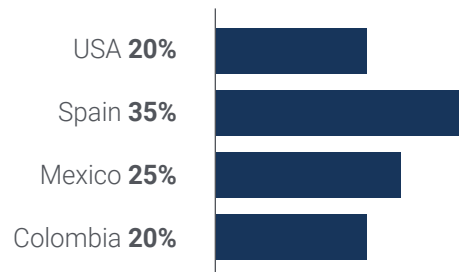


### Educational Profile



## Geographical Distribution

---



## Pedro Méndez

---

### Finance Expert

*"Thanks to this program I have achieved a high degree of instruction in the application of the Riemann integral in economics and business, as well as Pierre-Simon Laplace and his contribution, among many other concepts. I think and it has been a fantastic opportunity to keep my knowledge up to date and to be able to apply it in the economic environment"*

08

# Impact on Your Career

Addressing the lack of specialization of common academic programs in financial mathematics, TECH offers a new innovative study method that is intended to project your professional career.

This program has been designed with the ultimate goal that financial specialists will see their knowledge reflected after obtaining the qualification, increasing their business possibilities and intervention in the national economy.





“

*Get an insight into the current economic possibilities and detect the best business options in a modern economic paradigm”*

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

The Postgraduate Certificate in Financial Mathematics at TECH is an intensive program that prepares you to face challenges and corporate decisions, both on a national and international level. The main objective is to promote your personal and professional growth. Helping you achieve success.

If you want to improve, make a positive change at a professional level and network with the best, then this is the place for you.

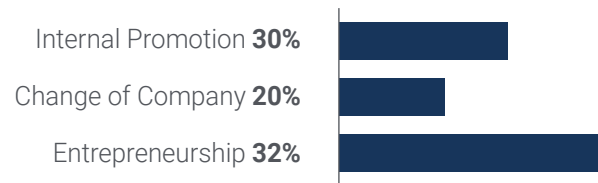
*If you want to make a positive change in your profession, this Postgraduate Certificate in Financial Mathematics can help you achieve it.*

*Master the uses, techniques and existing mathematical methods within the financial framework of the company, thanks to TECH.*

### Time of Change



### Type of change





### Salary increase

---

The completion of this program represents a salary increase of more than **25.3%** for our students.



09

# Benefits for Your Company

The Postgraduate Certificate in Financial Mathematics contributes toward raising an organization's talent to its maximum potential by instruction high-level leaders. Participating in this Postgraduate Certificate is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.





“

*The up-to-date entrepreneur will bring to the company new techniques, strategies and perspectives that can bring about essential changes in the organization”*

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

01

### Growth of talent and intellectual capital

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

---

02

### Retaining high-potential executives to avoid talent drain

This program strengthens the link between the company and the professional 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.



05

### **Project Development**

The professional can work on a real project or develop new projects in the field of R & D or business development of your company.

---

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 Financial Mathematics 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 Financial Mathematics** 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 diploma 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 Financial Mathematics**

Official N° of Hours: **300 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.





## Postgraduate Certificate Financial Mathematics

- » Modality: **Online**
- » Duration: **12 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **Online**

# Postgraduate Certificate Financial Mathematics

