

# Postgraduate Certificate

Public Blockchain Development:  
Ethereum, Stellar and Polkadot



## Postgraduate Certificate Public Blockchain Development: Ethereum, Stellar and Polkadot

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online
- » Target Group: Computer engineers, programmers, cryptocurrency managers and other professionals related to the digital field. And managers interested in implementing blockchain technology at their companies and people generally interested in blockchain

Website: [www.techtute.com/us/school-of-business/postgraduate-certificate/public-blockchain-development-ethereum-stellar-polkadot](http://www.techtute.com/us/school-of-business/postgraduate-certificate/public-blockchain-development-ethereum-stellar-polkadot)

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# 01 Welcome

Public blockchains are proving to be a technology of great value because of the number of functions they can perform and their capacity to generate economic benefit. For this reason, the number of companies implementing them is growing steadily. However, a climate of misinformation has been generated around *blockchain* most likely due to its novelty. Consequently, programs such as the one proposed by TECH are essential to implement *blockchain* in companies in a safe and knowledgeable way. Specifically, we will work with three of the most widely used public blockchains: Ethereum, Stellar and Polkadot. All this, through a 100% online modality that will allow students to organize themselves according to their needs and adequately internalize the learning process.



Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot TECH Global University



“

*The professors at TECH will teach you how to work on Ethereum using the most widespread programming language for smart contracts, Solidity”*

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

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



### Academic Excellence

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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

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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 Harvard Business School case studies"*

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

This program is specifically designed for its graduates to apply public *blockchain* solutions in their companies. The characteristics of each one will be defined, compared and then a decision will be made as to which one best fits the business model. Case studies will also be presented to better understand how this technology works.



“

*Upon completing the program, you will be able to run fungible token projects across major public blockchains”*

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

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot trains students to:

01

Generate specialized knowledge about Ethereum as a public blockchain

04

Analyze the future impact of running public blockchains

02

Examine the Stellar platform



03

Specialize computer engineers in Polkadot and Substrate

05

Broaden skills in the world of blockchain development



06

Develop practical examples based on cases

08

Analyze the operation of a public blockchain



07

Compile generic knowledge about blockchains in practice

09

Gain experience in Solidity

10

Establish a relationship between the different public blockchains and create a project on one of them

05

# Structure and Content

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot is taught in a fully online format and without timetables. So, students can choose the time and place that best suits their availability and interests. A program that takes place over 6 weeks and a 24 hour a day available syllabus that aims to be a unique and stimulating experience to sow the foundations for professional success.



“

*Throughout the program you will learn how to work with one of the most used frameworks in Ethereum: Brownie”*

## Syllabus

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot from TECH Global University is an intensive program that prepares its students to implement public blockchains in business areas.

The program content is designed to promote the development of managerial skills, aimed at making decisions with rigor in a rapidly advancing technological ecosystem.

Over 180 hours in length, students will analyze a multitude of practical cases through individual and teamwork. It is, therefore, a real immersion in the world of blockchain, and more specifically, in working with Ethereum, Stellar and Polkadot.

The syllabus delves into each of these blockchains, as well as the tools involved in running them. A program that allows its graduates to implement this new technology in their businesses from a strategic perspective.

The plan focuses on professional improvement to achieve excellence in personal and business management. Understanding the current company needs and, consequently, proposing innovative content. Moreover, the program is supported by an exceptional educational methodology and teaching staff that generate creative and efficient skills.

This Postgraduate Certificate takes place over six weeks and consists of one module:

### Module 1

Public Blockchain Development: Ethereum, Stellar and Polkadot



### Where, When and How Is It Taught?

TECH offers you the opportunity to study this Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot completely online. Throughout the 6 weeks of training, you will be able to access all the program contents 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. Public Blockchain Development: Ethereum, Stellar and Polkadot**

**1.1. Ethereum: Public Blockchain**

- 1.1.1. Ethereum
- 1.1.2. EVM and GAS
- 1.1.3. Etherscan

**1.2. Running Ethereum: Solidity**

- 1.2.1. Solidity
- 1.2.2. Remix
- 1.2.3. Compilation and Execution

**1.3. Ethereum Framework: Brownie**

- 1.3.1. Brownie
- 1.3.2. Ganache
- 1.3.3. Brownie Deployment

**1.4. Testing smart contracts**

- 1.4.1. Test Driven Development (TDD)
- 1.4.2. Pytest
- 1.4.3. Smart Contracts

**1.5. Web Connection**

- 1.5.1. Metamask
- 1.5.2. web3.js
- 1.5.3. Ether.js

**1.6. Real Project: Fungible Token**

- 1.6.1. ERC20
- 1.6.2. Creating Our Token
- 1.6.3. Deployment and Validation

**1.7. Stellar Blockchain**

- 1.7.1. Stellar Blockchain
- 1.7.2. Ecosystem
- 1.7.3. Compared to Ethereum

**1.8. Programming Stellar**

- 1.8.1. Horizon
- 1.8.2. Stellar SDK
- 1.8.3. Fungible Token Project

**1.9. Polkadot Project**

- 1.9.1. Polkadot Project
- 1.9.2. Ecosystem
- 1.9.3. Interacting with Ethereum and Other Blockchains

**1.10. Programming Polkadot**

- 1.10.1. Substrate
- 1.10.2. Creating Parachain on Substrate
- 1.10.3. Polkadot Integration



*Graduates of this Postgraduate Certificate will have a perfect understanding of the benefits and drawbacks of Stellar and Polkadot compared to Ethereum"*



06

# Methodology

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

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







“

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

## At TECH Business School we use the Harvard case method

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

“

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



*We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.*



### **A learning method that is different and innovative**

This intensive program from TECH Global University School of Business prepares students to face all the challenges in this area, both nationally and internationally.

We are committed to promoting personal and professional growth, the best way to strive for success, that is why TECH uses Harvard case studies, with which we have a strategic agreement that allows us to provide our students with material from the best university the world.

**“** *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

Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies 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

They will complete a selection of the best business cases used at Harvard Business School. Cases that are presented, analyzed, and supervised by the best senior management specialists in Latin America.



### 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 multimedia content presentation training Exclusive system 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 your goals.



07

# Our Students' Profiles

This Postgraduate Certificate is intended for computer engineers, programmers, cryptocurrency managers and others in the digital field. And managers interested in implementing blockchain technology at their companies and people generally interested in blockchain.







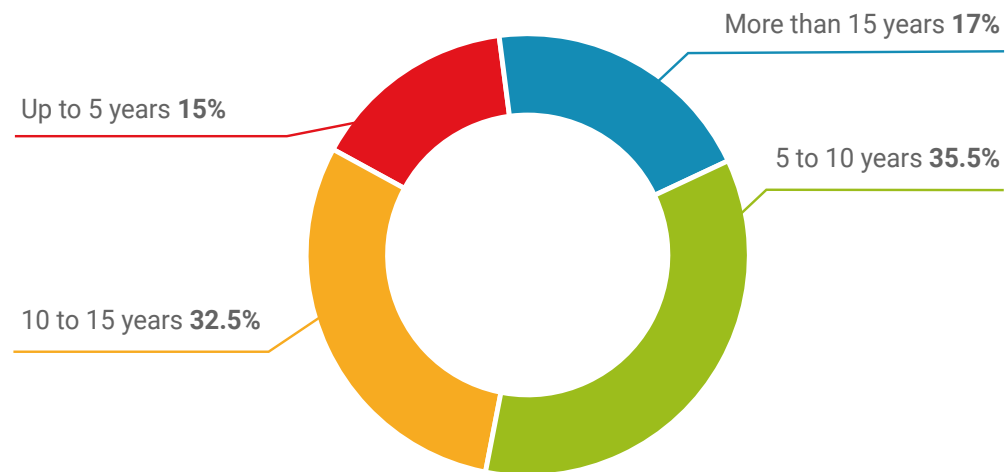
“

*In TECH you will learn how to send operations with Horizon through Laboratory”*

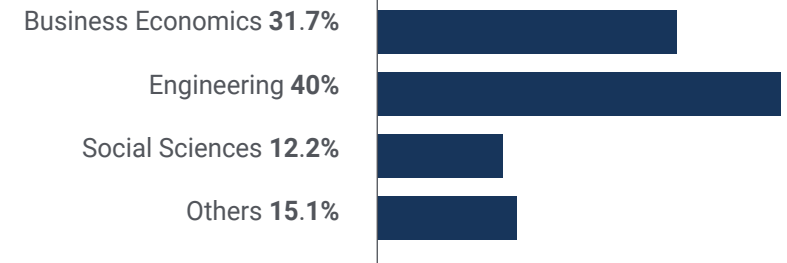
### Average Age

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

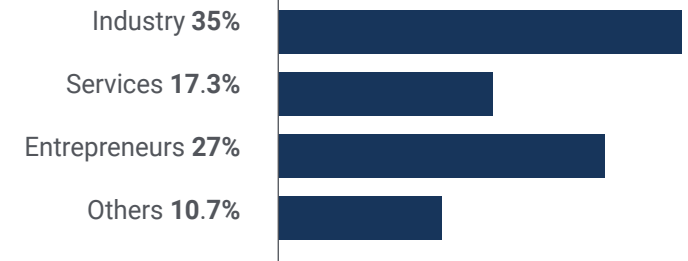
### Years of Experience



### Training

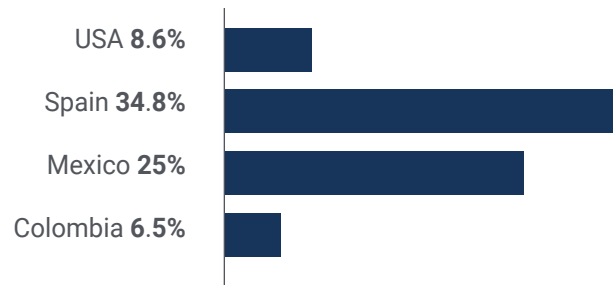


### Academic Profile



## Geographical Distribution

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## Alejandro Martínez Rey

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CEO

*"I started investing in cryptocurrencies almost as a hobby. I started earning some money and decided to go professional with this Postgraduate Certificate. My intention was simply to start investing with some knowledge. But at TECH, they gave me the keys to maximize my career and I currently run a wallet management company with over 100 employees."*

08

# Course Management

The teaching staff is composed of active *blockchain* technology experts who will share all the essentials needed in this field, so that students can later apply them in their own companies. In this way, it is guaranteed that everything they learn in this program has a practical application that will substantially improve the future prospects of their companies.





“

*The leading experts in Public Blockchain Development: Ethereum, Stellar and Polkadot have come together to offer you a high-level qualification that will prove essential for your professional development in the field”*

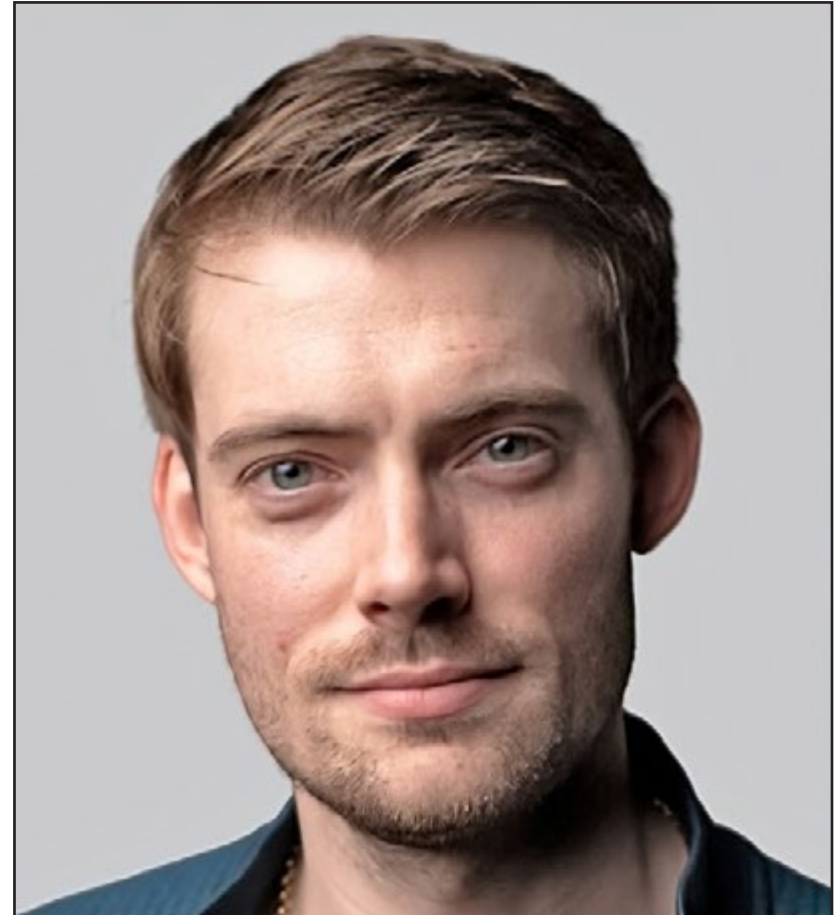
## International Guest Director

Chris Sutton is a leading professional with extensive experience in the field of technology and finance, specializing in the Blockchain area. In fact, he has held the senior position of Director of the Blockchain and Digital Assets Department at Mastercard. In addition, he has been the Founder of the consulting firm N17 Capital, in which he offers advice to companies in the field of Blockchain and digital assets. So, one of his functions has been to identify the components that make up these new tools, analyze them and create working strategies.

His professional experience has included high-level roles in leading companies in the sector, such as Oasis Pro Market, where he has performed duties as Director of Blockchain Services. In addition, he has worked as Mergers and Acquisitions Product Manager at Cisco, and as Product Manager at IBM. These positions have allowed him to stand out internationally for his ability to lead teams, develop innovative strategies and manage large-scale projects.

Throughout his career, he has participated in important technological and financial events. In this sense, Chris Sutton has given presentations and has been part of international panels, along with other leading experts in this sector. In this way, on the occasion of the 15th anniversary of the white paper on Bitcoin, he participated in the events of the FinTech week in Hong Kong. He also presented his expertise at a conference organized by Mastercard in Dubai on banking in the digital age and the impact of digital assets. Likewise, his analyses have focused on delving into the history, principles and future of the Blockchain.

In short, his strategic vision and outstanding skills in programming and algorithms have been key to his success in the international market, consolidating him as a leader in his field.



## Mr. Sutton, Chris

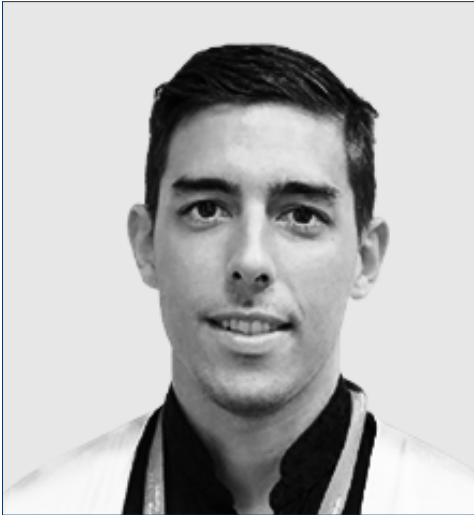
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- ♦ Director of Blockchain and Digital Assets at Mastercard, Miami, U.S.A.
- ♦ Founder of N17 Capital
- ♦ Director of Blockchain Services at Oasis Pro Market
- ♦ Mergers and Acquisitions Product Manager at Cisco
- ♦ Product Manager at IBM
- ♦ Contributor at Cointelegraph
- ♦ Master's degree in Financial Systems Engineering from University College London
- ♦ Bachelor's Degree in Computer Science from Florida International University

“

*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Mr. Torres Palomino, Sergio

- ◆ Blockchain Architect Telefónica
- ◆ Blockchain Architect Signeblock
- ◆ Blockchain Developer Blocknitive
- ◆ Big Data Engineer Golive Services
- ◆ Big Data Engineer IECISA
- ◆ Degree in Computer Engineering from San Pablo CEU University
- ◆ Master's Degree in Big Data Architecture
- ◆ Master's Degree in Big Data and Business Analytics

## Professors

### Mr. Triguero Tirado, Enrique

- ◆ Blockchain Infrastructure Technical Manager at UPC-Threepoints
- ◆ Chief Technical Officer at Ilusiak
- ◆ Project Management Officer at Ilusiak and Deloitte
- ◆ ELK Engineer at Everis
- ◆ Systems Architect at Everis
- ◆ Degree in Technical Engineering in Computer Systems at the Polytechnic University of Valencia
- ◆ Master's Degree in Blockchain and its Business Applications from ThreePoints and the Polytechnic University of Valencia





09

# Impact on Your Career

The program proposed by TECH delves into the business possibilities offered by public blockchains. Their use will help automate processes in a multitude of areas, directly increasing productivity and generating competitive advantages.





“

*Don't get left behind. Update yourself with this Postgraduate Certificate and implement blockchain technology in your company”*

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

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot is an intensive program that prepares its graduates to face challenges and business decisions with *blockchain* technology.

Its primary objective is to promote personal and business growth by helping you achieve success.

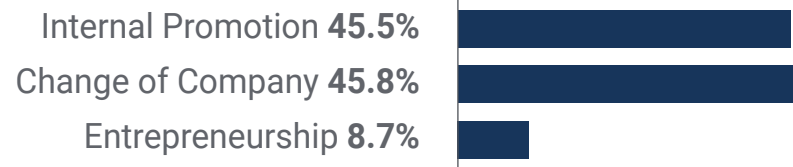
*The program contemplates the benefits of Test-Driven Development when it comes to generating clean code that works correctly.*

*Through this program you will learn how to make the web connection to Ethereum through Metamask, web3.js and Ether.js.*

#### When the change occurs



#### Type of change



## Salary increase

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This program represents a salary increase of more than **25%** for our students



10

# Benefits for Your Company

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot contributes to raising the organization's talent to its maximum potential through learning directed at high-level leaders.

Applying knowledge to *blockchain*, and more specifically to public blockchains, will help boost business capabilities. And, therefore, it will allow students to face the needs of a changing market.



“

*The application of the contents of this program on Ethereum, Stellar or Polkadot can be the element that makes your company stand out”*

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

01

### **Intellectual Capital and Talent Growth**

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 current project or develop new projects in the field of R&D or Business Development within their company.

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06

### **Increased competitiveness**

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

# 11

# Certificate

The Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University.



“

*Successfully complete this training and receive your university degree without travel or laborious paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Public Blockchain Development: Ethereum, Stellar and Polkadot** 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 Public Blockchain Development: Ethereum, Stellar and Polkadot**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



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# Postgraduate Certificate

## Public Blockchain Development: Ethereum, Stellar and Polkadot

