

Postgraduate Certificate

Business Blockchain Development: Hyperledger Fabric



Postgraduate Certificate Business Blockchain Development: Hyperledger Fabric

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

Website: www.techtitute.com/us/school-of-business/postgraduate-certificate/postgraduate-certificate-business-blockchain-development-hyperledger-fabric

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01 Welcome

Hyperledger Fabric is a private Blockchain designed to work in enterprise environments. Its permissions architecture works by means of unique cryptographic authorizations. Each permission can have granular access to the Blockchain data, maintaining access in a controlled manner to different parts of the Blockchain. Proper use of Hyperledger Fabric translates directly into increased productivity. As a result, more and more companies are implementing this tool. In this sense, through this TECH program, we have delved into the components of the Hyperledger Fabric architecture, its transactions, enabling technologies and Chaincodes, among other contents. All this, through an online modality and without schedules that allows students to organize themselves according to their needs.



Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric.
TECH Technological University



“

In this Postgraduate Certificate, we will prepare you to obtain the CHFA (Certified Hyperledger Fabric Administrator) and you will be able to accredit your skills in Hyperledger Fabric"

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 Technological University



Innovation

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

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



The Highest Standards

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

95% | of TECH students successfully complete their studies



Networking

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

100,000+
executives trained each year

200+
different nationalities



Empowerment

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

500+ | collaborative agreements with leading companies



Talent

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

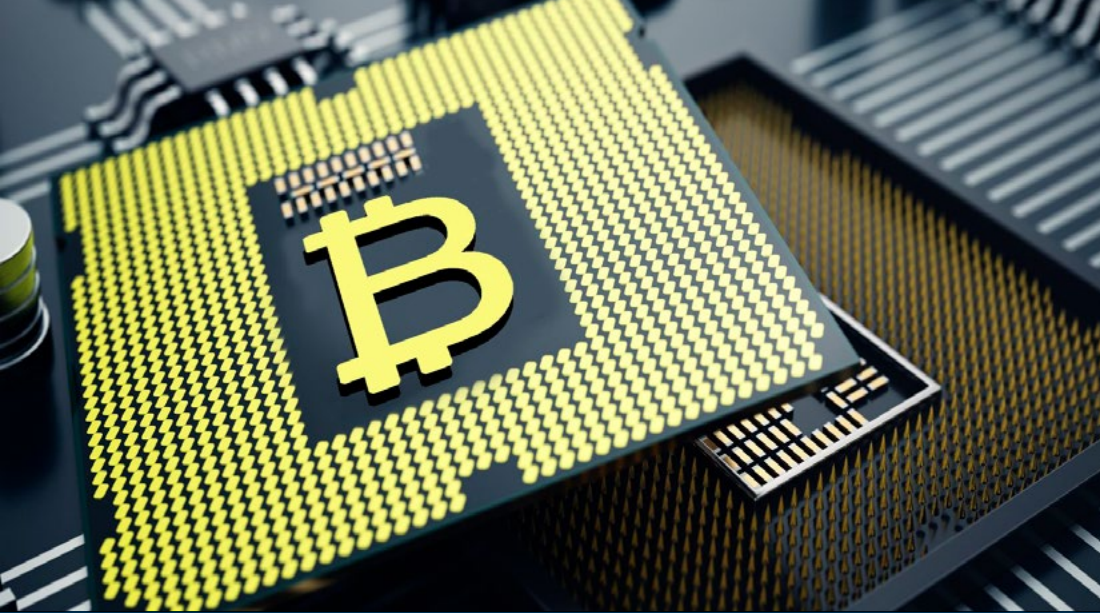
After completing this program, TECH helps students show the world their talent.



Multicultural Context

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

TECH students represent more than 200 different nationalities.



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



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"



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.

03

Why Our Program?

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

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



“

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

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

01

A significant career boost

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

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

02

Develop a strategic and global vision of companies

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

Our global vision of companies will improve your strategic vision.

03

Consolidate the student's senior management skills

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

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

04

Take on new responsibilities

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

45% of graduates are promoted internally.

05

Access to a powerful network of contacts

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

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

06

Thoroughly develop business projects

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

20% of our students develop their own business idea.

07

Improve soft skills and management skills

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

Improve your communication and leadership skills and enhance your career.

08

Be part of an exclusive community

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

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

04 Objectives

This program is specifically designed for its graduates to apply the Hyperledger Fabric tool in their companies. For this reason, they will learn about the components of its architecture, the enabling tools and the steps to be taken for the installation of the prerequisites. In addition, they will know how to perform a first and second deployment and will be familiar with the existing certificate types.



“

Graduates of this Postgraduate Certificate will obtain the necessary keys to perform the deployment and upgrade of Chaincodes"

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

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric qualifies students to:

01

Generate specialized knowledge about what Hyperledger Fabric encompasses and how it works

04

Facing the deployment of a Hyperledger Fabric project

02

Examine the resources that Hyperledger provides free of charge



03

Analyze the features of Hyperledger Fabric

05

Develop Fabric's current main application case studies

06

Generate specialized knowledge about Hyperledger and Fabric

08

Determine the inner workings of transactions



07

Analyze what can be done with this technology

10

Gain experience in Fabric deployments

09

Solve a problem with Fabric

05

Structure and Content

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric is taught in a 100% online mode 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.



“

TECH teachers will teach you how to work with two very useful tools for your company, Caliper and Explorer”

Syllabus

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric from TECH Technological University is an intensive program that prepares its students to implement the Hyperledger Fabric tool in the business environment.

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 150 hours in length, students will analyze a multitude of practical cases through individual practice and teamwork. It is therefore a real immersion in working with Hyperledger Fabric.

The course covers in depth the functions, architectures, environment preparation and deployments of the tool. A program that allows its graduates to implement Hyperledger Fabric in their businesses from a strategic and innovative 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 is developed over 6 week and is divided into 1 module:

Module 1

Business Blockchain Development: Hyperledger Fabric

Where, When and How is it Taught?

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

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



Module 1. Business Blockchain Development: Hyperledger Fabric

1.1. Hyperledger

- 1.1.1. Hyperledger Ecosystem
- 1.1.2. Hyperledger Tools
- 1.1.3. Hyperledger Frameworks

1.2. Hyperledger Fabric-Components of its Architecture. State-of-the-Art

- 1.2.1. State-of-the-Art of Hyperledger Fabric
- 1.2.2. Nodes
- 1.2.3. Orderers
- 1.2.4. CouchDB and LevelDB
- 1.2.5. CA

1.3. Hyperledger Fabric-Components of its Architecture. Process of a Transaction

- 1.3.1. Process of a Transaction
- 1.3.2. Chain Codes
- 1.3.3. MSP

1.4. Enabling Technologies

- 1.4.1. Go
- 1.4.2. Docker
- 1.4.3. Docker Compose
- 1.4.4. Other Technology

1.5. Installation of Prerequisites and Preparation of from Environment

- 1.5.1. Server Preparation
- 1.5.2. Download Prerequisites
- 1.5.3. Download from Official Hyperledger Repository

1.6. First Deployment

- 1.6.1. Automatic Test-*Network* Deployment
- 1.6.2. Guided Test-*Network* Deployment
- 1.6.3. Review of Deployed Components

1.7. Second Deployment

- 1.7.1. Deployment of Private Data Collection
- 1.7.2. Integration against a Fabric Network
- 1.7.3. Other Projects

1.8. Chain Codes

- 1.8.1. Structure of a Chain Code
- 1.8.2. Chaincodes Deployment and Upgrade
- 1.8.3. Other Important Chaincode Functions

1.9. Connection to other Hyperledger Tools (Caliper and Explorer)

- 1.9.1. Hyperledger Explorer Installation
- 1.9.2. Hyperledger Caliper Installation
- 1.9.3. Other Important Tools

1.10. Certification

- 1.10.1. Types of Official Certifications
- 1.10.2. Preparation for CHFA
- 1.10.3. Developer Profiles Vs. Administrator Profiles



TECH teachers are renowned professionals in their respective sectors, who will provide answers to the most specific doubts that may arise"



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.



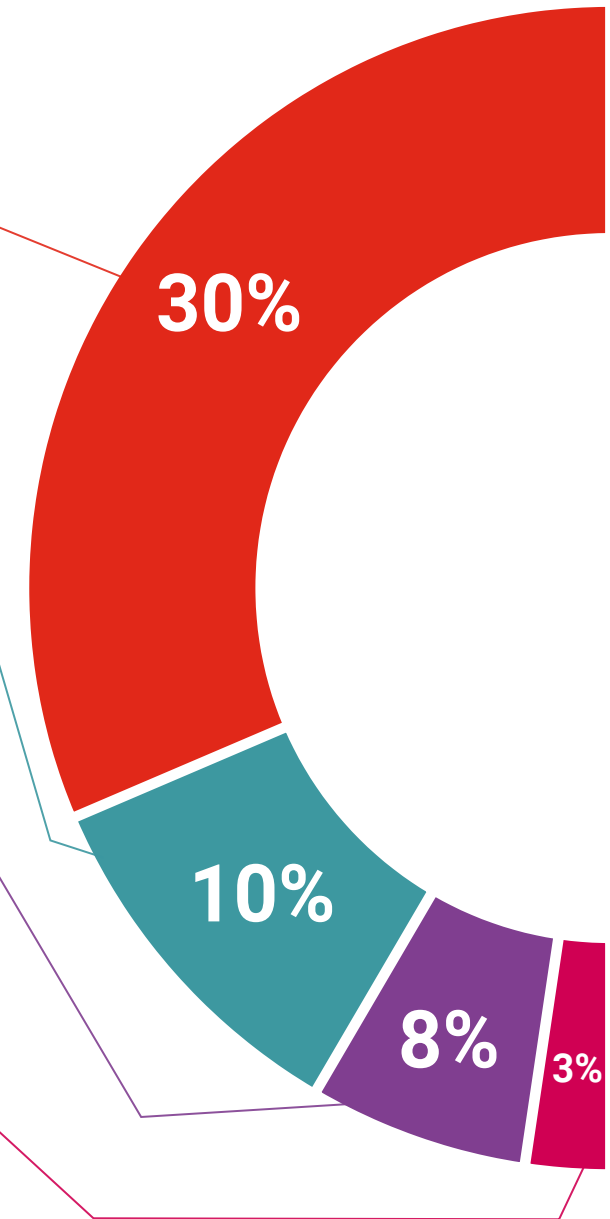
Management Skills Exercises

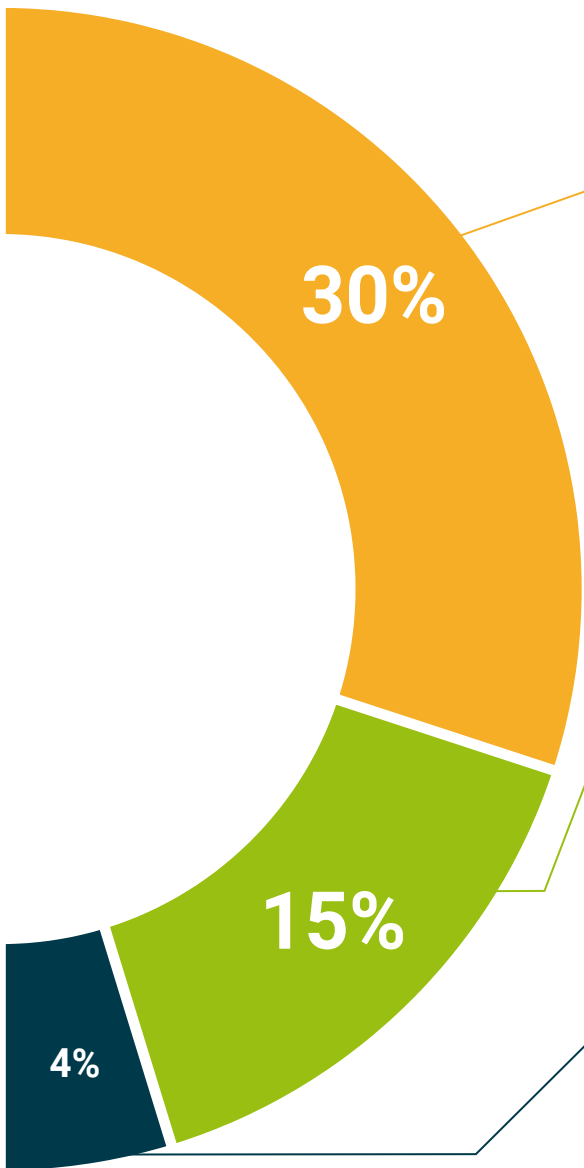
They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.



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 is intended for computer engineers, programmers and others in the digital field. As well as managers interested in implementing Blockchain technology at their companies and people interested in blockchain technology.





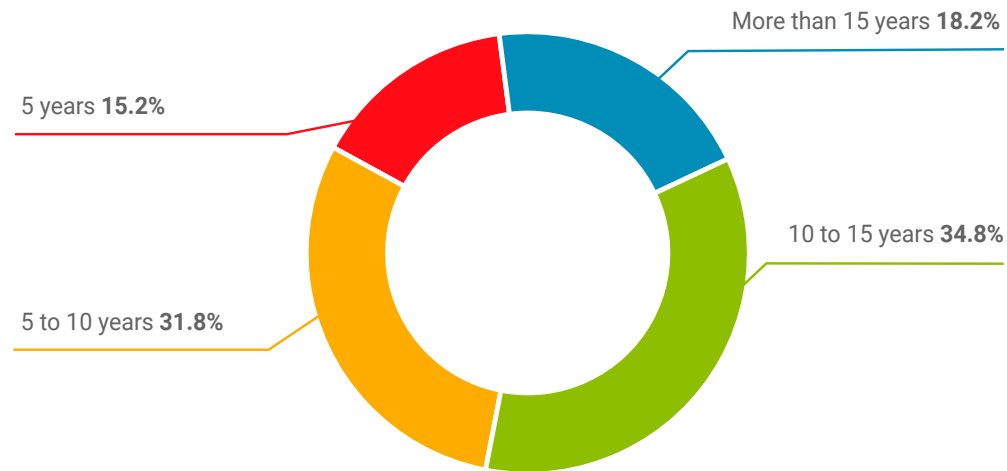
“

By taking this course, you will discover which profile best suits your company: administrator or Developer”

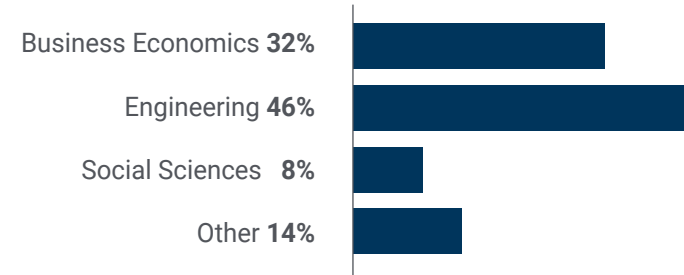
Average Age

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

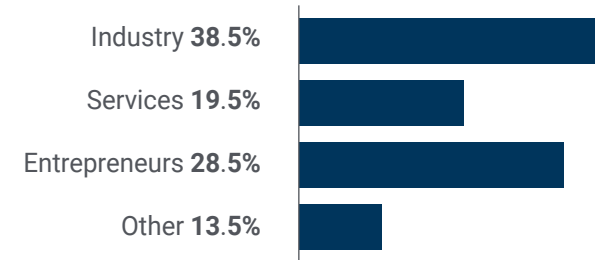
Years of Experience



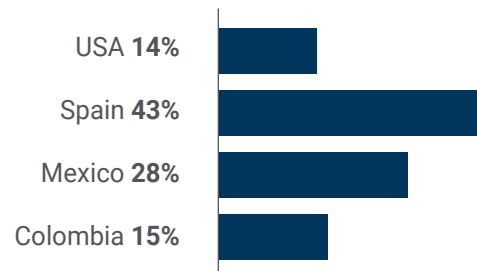
Training



Academic Profile



Geographical Distribution



María Pérez de las Casas

Executive Director

"It was my team that told me about Hyperledger Fabric. At first I was reluctant to use it in the company. But thanks to this Postgraduate Certificate, I understood how many processes I could improve. We have been using it for about 5 months now and it is already showing results"

08

Course Management

The teaching staff of this Postgraduate Certificate is composed of active *Blockchain* technology experts who will share with their students all the essentials needed in this field, so that they 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 Business Blockchain Development: Hyperledger Fabric have teamed up to offer you a high-level qualification, which will be fundamental to your professional development in this field"

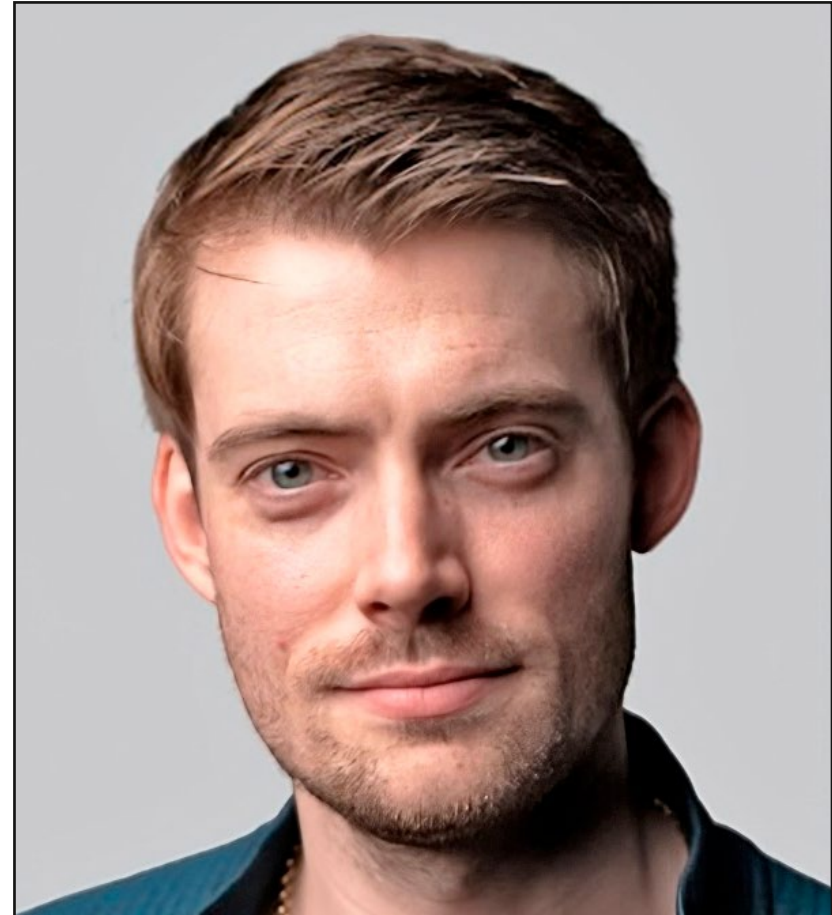
International Guest Director

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.



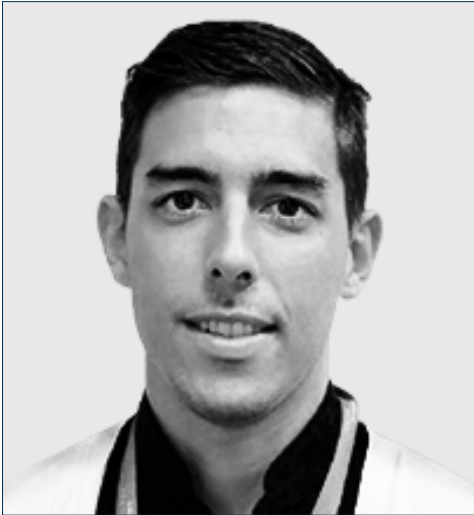
Mr. Sutton, Chris

- ♦ 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

- ♦ IT Engineer with expertise in Blockchain
- ♦ Blockchain Lead at Telefónica
- ♦ Blockchain Architect at Signeblock
- ♦ Blockchain Developer at Blocknative
- ♦ Writer and disseminator at O'Really Media Books
- ♦ Lecturer in graduate studies and Blockchain related courses
- ♦ 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 Hyperledger Fabric. Their use will help automate processes in a multitude of areas, directly increasing productivity and generating competitive advantages.





“

Implementing Hyperledger Fabric in enterprises is becoming a necessity in order not to fall behind the competition”

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

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric 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.

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

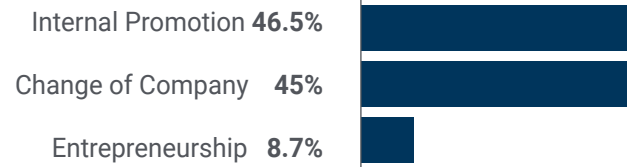
Enroll and acquire the necessary skills to correctly prepare the working environment in Hyperledger Fabric.

TECH faculty will instruct you in the process of a transaction with Hyperledger Fabric.

When the change occurs



Type of change



Salary increase

The completion of this program represents a salary increase of more than **28.6%** for our students.



10

Benefits for Your Company

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric helps elevate the organization's talent to its full potential through high-level leader-driven learning. Applying knowledge Blockchain, and more specifically to Hyperledger Fabric, will help boost business capabilities. And, therefore, it will allow students to face the needs of a changing market.





“

This Postgraduate Certificate will prepare you to perform a first test-Network deployment, either automatic or guided"

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 real project or develop new projects in the field of R&D or business development of your company.

06

Increased competitiveness

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

11

Certificate

The Postgraduate Certificate in Business Blockchain Development: Hyperledger Fabric 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 Blockchain Development: Hyperledger Fabric** 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 Blockchain Development: Hyperledger Fabric**

ECTS: **6**

Official N° of Hours: **150 h.**





Postgraduate Certificate

Business Blockchain Development: Hyperledger Fabric

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Postgraduate Certificate

Business Blockchain Development:
Hyperledger Fabric

