

# Postgraduate Certificate Blockchain and Quantum Computing





## Postgraduate Certificate Blockchain and Quantum Computing

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/engineering/postgraduate-certificate/blockchain-quantum-computing](http://www.techtitute.com/us/engineering/postgraduate-certificate/blockchain-quantum-computing)

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Certificate

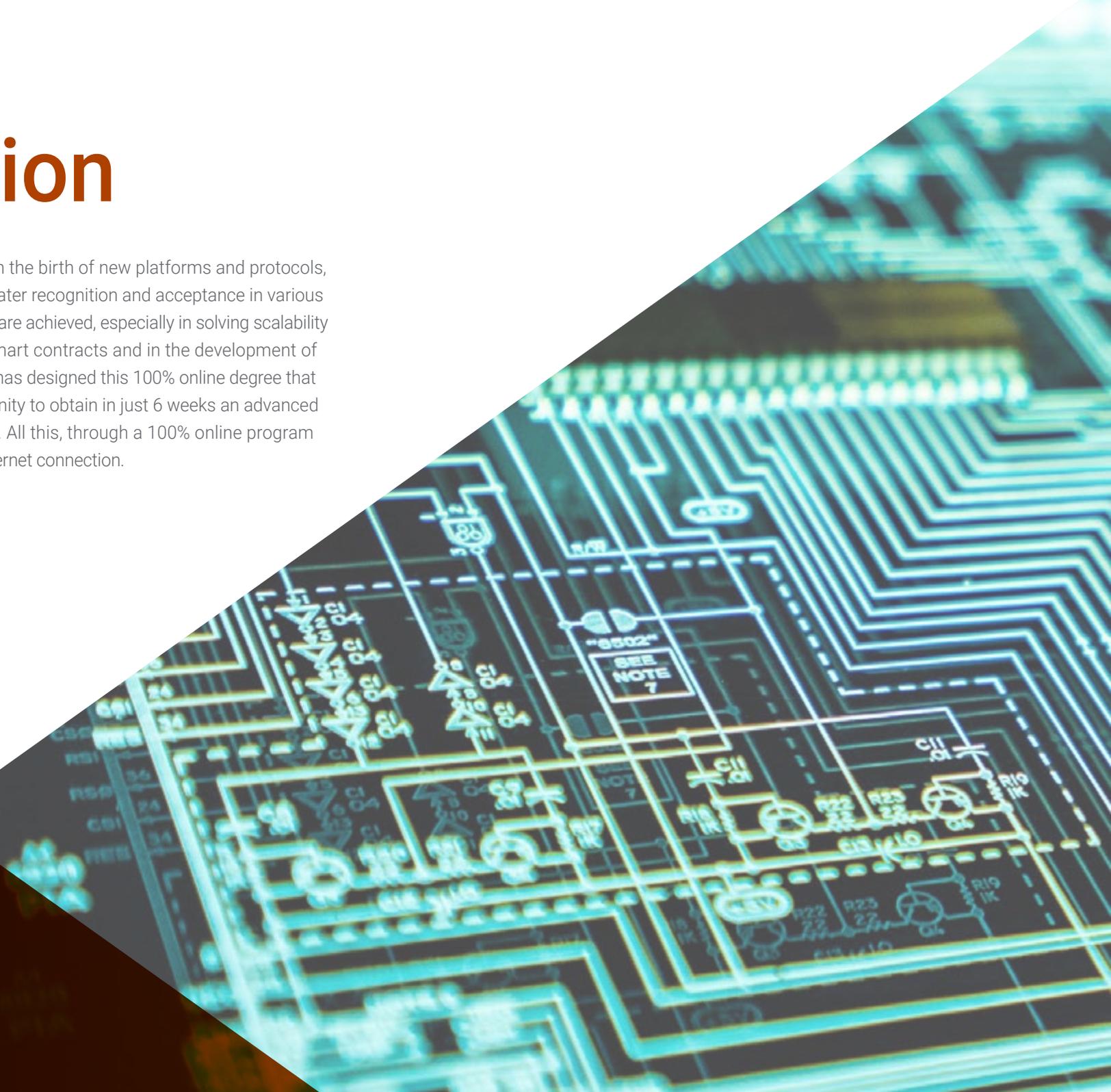
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# 01

# Introduction

The Blockchain ecosystem is expanding with the birth of new platforms and protocols, which in recent years has led to it gaining greater recognition and acceptance in various industries. In this sense, numerous advances are achieved, especially in solving scalability and privacy problems, in the execution of smart contracts and in the development of Quantum Computing. For this reason, TECH has designed this 100% online degree that offers engineering professionals the opportunity to obtain in just 6 weeks an advanced learning from real specialists in these areas. All this, through a 100% online program accessible from any Digital device with an Internet connection.



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*Do you want to be up-to-date in Blockchain and Quantum Computing? Get it in just 6 weeks and with the most effective online methodology"*

In recent decades, there have been significant advances in Blockchain technology and Quantum Computing, which is why professionals who wish to develop their careers in the technological field require continuous updating in these areas. As a result of their momentum and development, there is a firm commitment to decentralized systems such as Bitcoin and Ethereum or the creation of new platforms and programming languages for the creation and execution of smart contracts.

In this sense, the application in various socioeconomic sectors has opened up a much wider field of action for engineers seeking to progress in these areas. To facilitate this process of catching up, TECH has created this Postgraduate Certificate in Blockchain and Quantum Computing of only 6 weeks of duration.

It is a program with 180 intense teaching hours, which will lead the graduate to obtain an essential and theoretical-practical teaching on the functioning of the blockchain, the evolution of decentralized systems, security and cryptography or the most recent uses of Quantum Computing. For this purpose, the students have didactic material at their disposal, which is based on multimedia pills, specialized readings and success cases, which will allow them to achieve quality learning.

Also, thanks to the Relearning method, the student will not have to invest many hours of study and memorization, since the continuous reiteration of the most important concepts will lead him to integrate them in a much more solid and simple way.

Undoubtedly, a unique opportunity to increase the possibilities of professional performance through a first level university degree, which offers flexibility and convenience to study it. They only need an electronic device with Internet connection to access at any time, the contents hosted on the virtual platform. Therefore, it is an ideal academic option to combine with the most demanding daily responsibilities.

This **Postgraduate Certificate in Blockchain and Quantum Computing** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The development of case studies presented by experts in Digital Transformation and Industry 4.0
- ◆ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*With this course you will be able to lead Blockchain-based projects with all the guarantees of success"*

“

*The success stories provided by the specialized teaching team will allow you to apply the most effective Blockchain methods for various sectors”*

*Reduce long hours of study and memorization thanks to the Relearning system used by TECH.*

*Delve into the current and future impact of cryptocurrencies with this program.*

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.



# 02

# Objectives

Students who take this qualification will soon have an advanced and updated knowledge of Blockchain and Quantum Computing. To achieve this goal, the teaching team that integrates this program provides a comprehensive agenda with an approach in line with current trends in this area, which will allow the graduate to integrate into their practice the most notorious advances. Likewise, if you have any doubts about the content, the proximity of the faculty will allow you to resolve them.





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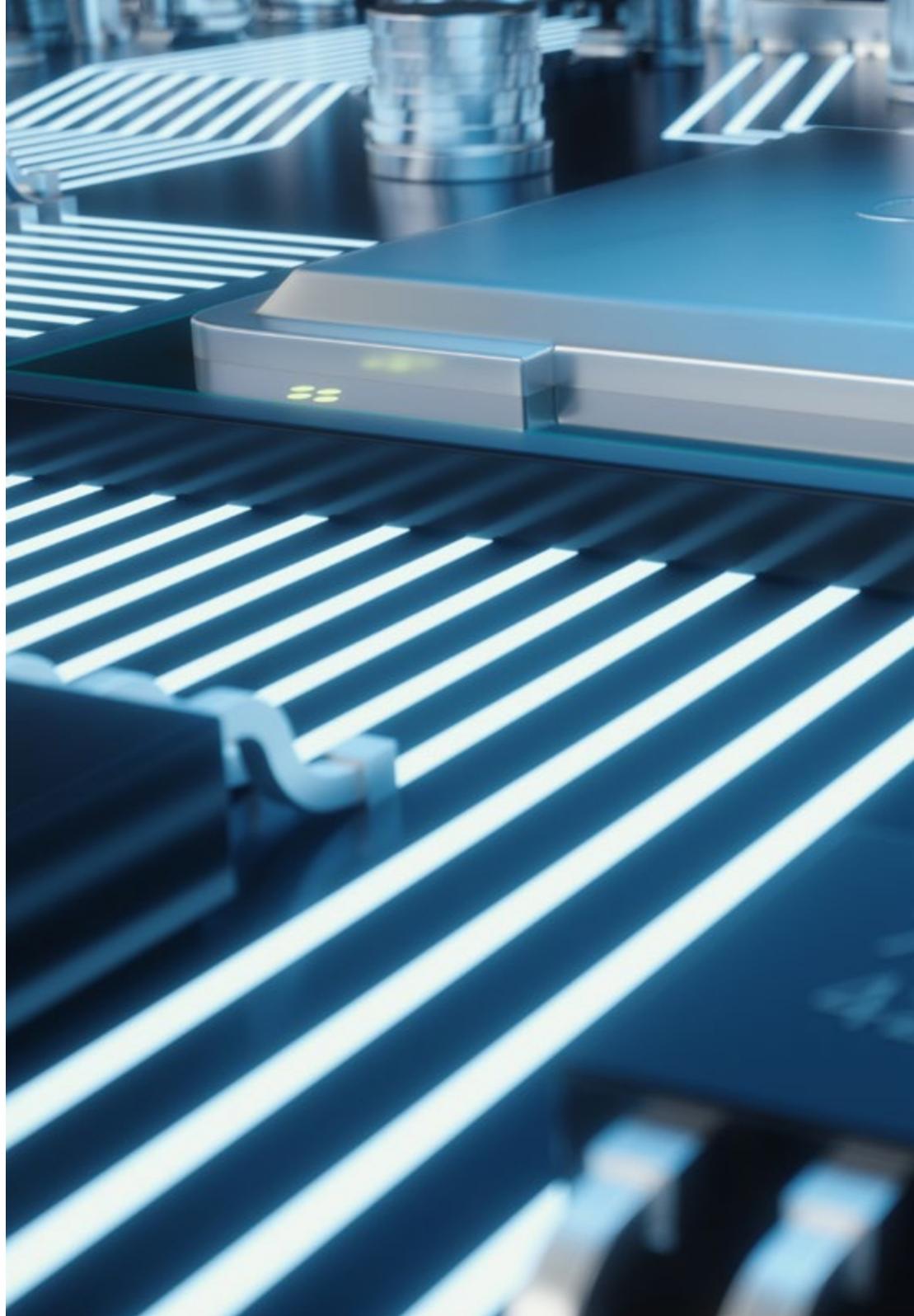
*The specialized readings will allow you to further extend the rigorous information provided in this academic option"*



## General Objectives

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- ◆ Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- ◆ Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- ◆ Mastering the digitalization procedures of companies and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- ◆ Leading Digital Change





## Specific Objectives

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- ◆ Acquire in-depth knowledge of the fundamentals of Blockchain technology and its value propositions
- ◆ Lead the creation of Blockchain-based projects and apply this technology to different business models and the use of tools such as Smart Contracts
- ◆ Acquire important knowledge about one of the technologies that will revolutionize our future, such as quantum computing



*Delves into the new challenges of cryptocurrency regulation and its risks"*

03

# Course Management

TECH has brought together, in this program, specialists with an extraordinary professional background in the world of Blockchain technology. Their experience in this sector has led them to be involved in numerous projects, where they have provided effective solutions in Industry 4.0. In this way, the graduate has the assurance of accessing a quality education, designed and developed by the best experts in these areas. All this, with the main objective of offering the engineer a cutting-edge instruction.



“

*You are looking at an academic proposal created and designed by real experts in Industry 4.0”*

## Management



### Mr. Segovia Escobar, Pablo

- ♦ Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- ♦ Corporate Project Director Indra
- ♦ Master's Degree in Companies Administration and Management by the National University of Distance Education
- ♦ Postgraduate in Strategic Management Function
- ♦ Member of: Spanish Association of People with High Intellectual Quotient



### Mr. Diezma López, Pedro

- ♦ Chief Innovation Officer and CEO of Zerintia Technologies
- ♦ Founder of the technology company Acuilae
- ♦ Member of the Kebala Group for business incubation and promotion
- ♦ Consultant for technology companies such as Endesa, Airbus or Telefónica
- ♦ Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety



## Professors

### Mr. Asenjo Sanz, Álvaro

- ◆ IT Consultant for Capitole Consulting
- ◆ Project Manager for Kolokium Blockchain Technologies
- ◆ IT Engineer for Aubay, Tecnocom, Humantech, Ibermatica and Acens Technologies
- ◆ Degree from Computer Engineering of Systems at the Complutense University of Madrid

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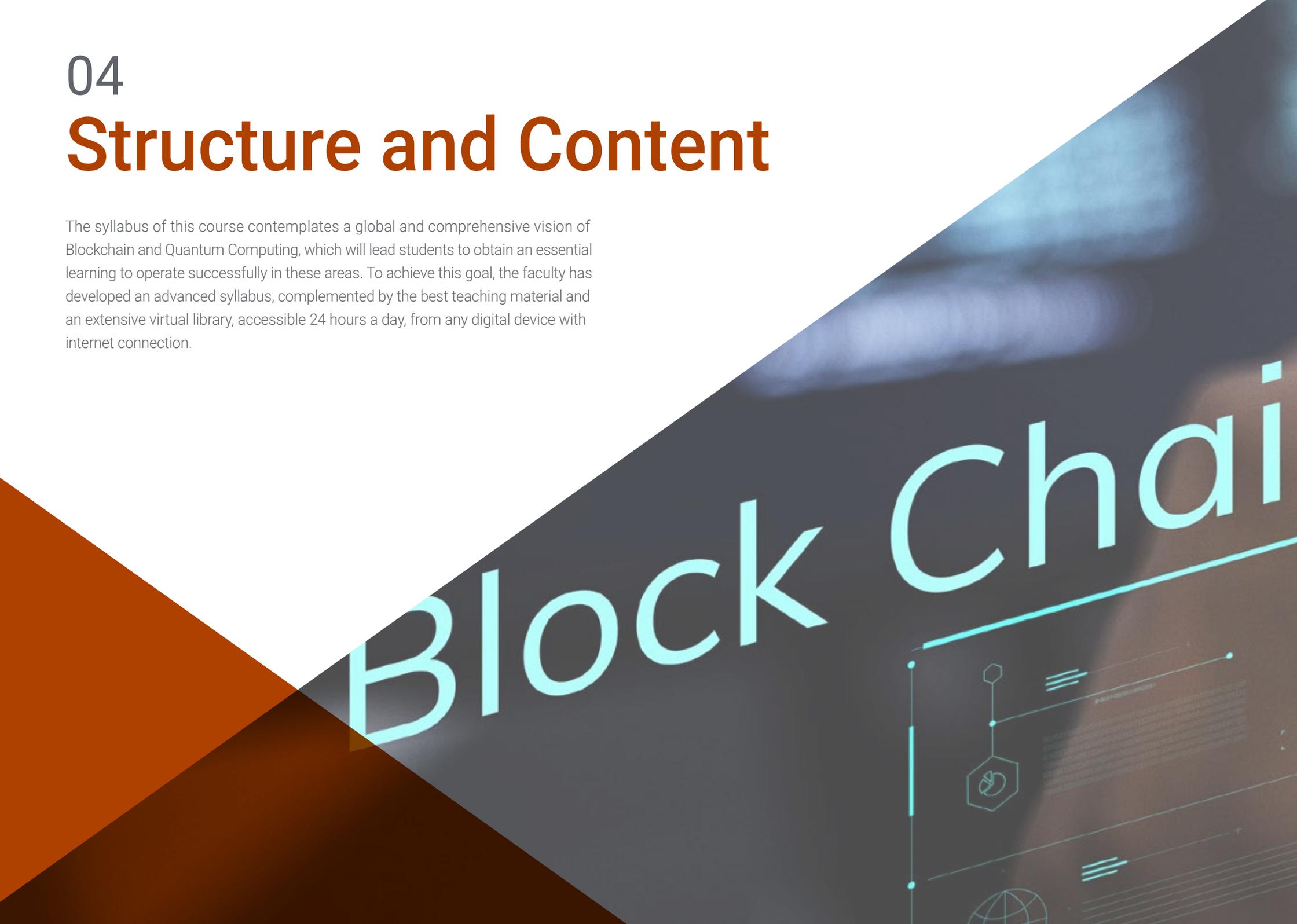
*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"*

04

# Structure and Content

The syllabus of this course contemplates a global and comprehensive vision of Blockchain and Quantum Computing, which will lead students to obtain an essential learning to operate successfully in these areas. To achieve this goal, the faculty has developed an advanced syllabus, complemented by the best teaching material and an extensive virtual library, accessible 24 hours a day, from any digital device with internet connection.

Blockchain





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A1

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*Access the complete virtual library  
24 hours a day, 7 days a week”*

## Module 1. Blockchain and Quantum Computing

- 1.1. Aspects of Decentralization
  - 1.1.1. Market Size, Growth, Companies and Ecosystem
  - 1.1.2. Fundamentals of Blockchain
- 1.2. Background: Bitcoin, Ethereum, etc
  - 1.2.1. Popularity of Decentralized Systems
  - 1.2.2. Evolution of Decentralized Systems
- 1.3. Blockchain Operation and Examples
  - 1.3.1. Types of Blockchain and Protocols
  - 1.3.2. Wallets, Mining and more
- 1.4. Characteristics of Blockchain Networks
  - 1.4.1. Functions and properties of Blockchain networks
  - 1.4.2. Applications: Cryptocurrencies, Reliability, Chain of Custody, etc
- 1.5. Types of Blockchain
  - 1.5.1. Public and Private Blockchains
  - 1.5.2. Hard And Soft Forks
- 1.6. Smart Contracts
  - 1.6.1. Intelligent Contracts and Their Potential
  - 1.6.2. Smart Contract Applications
- 1.7. Industry Use Models
  - 1.7.1. Blockchain Applications by Industry
  - 1.7.2. Blockchain Success Stories by Industry
- 1.8. Security and Cryptography
  - 1.8.1. Objectives of Cryptography
  - 1.8.2. Digital signatures and Hash functions
- 1.9. Cryptocurrencies and Uses
  - 1.9.1. Types of Cryptocurrencies Bitcoin, Hyperledger, Ethereum, Litecoin, etc
  - 1.9.2. Current and Future Impact of Cryptocurrencies
  - 1.9.3. Risks and Regulations
- 1.10. Quantum Computing
  - 1.10.1. Definition and Keys
  - 1.10.2. Uses of Quantum Computing





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*Thanks to this qualification you will be up to speed with the drive for smart contracts and the latest trends in their application"*

05

# 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.





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*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"*

## 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”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. 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 professional reality is taken into account.

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

The case method is the most widely used learning system in the best faculties in the world. 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 that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and 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 8 different teaching elements in each lesson.

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

*In 2019, we obtained the best learning results of all online universities in the world.*

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 university is the only one in the world authorized to employ 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.

This methodology has 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, and financial markets and 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.

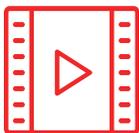
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



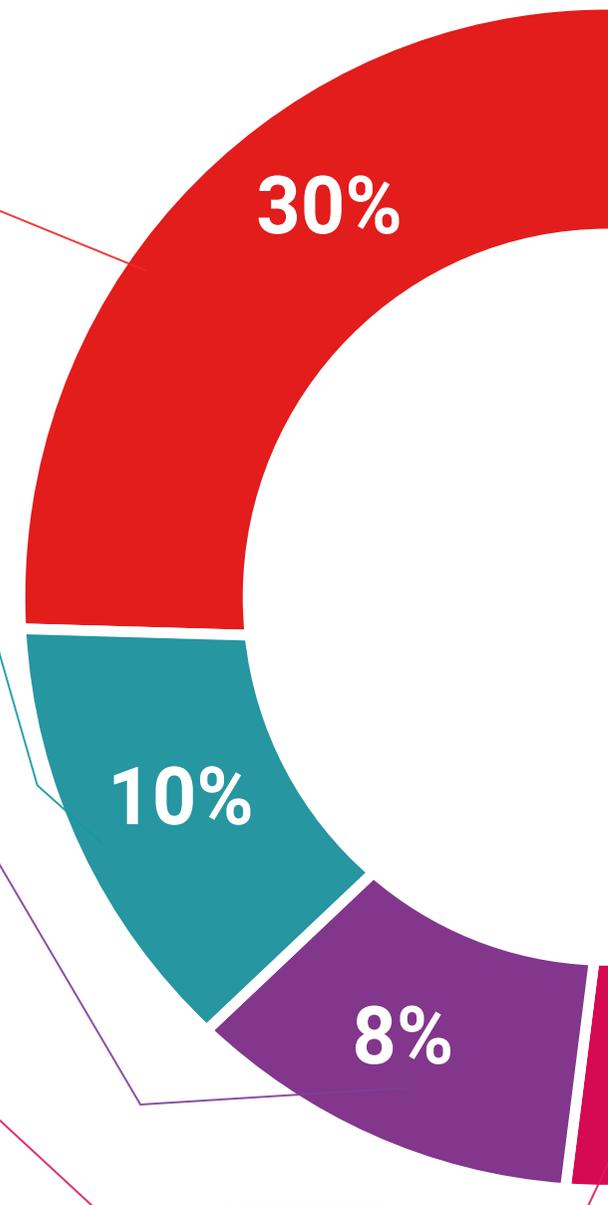
### Practising Skills and Abilities

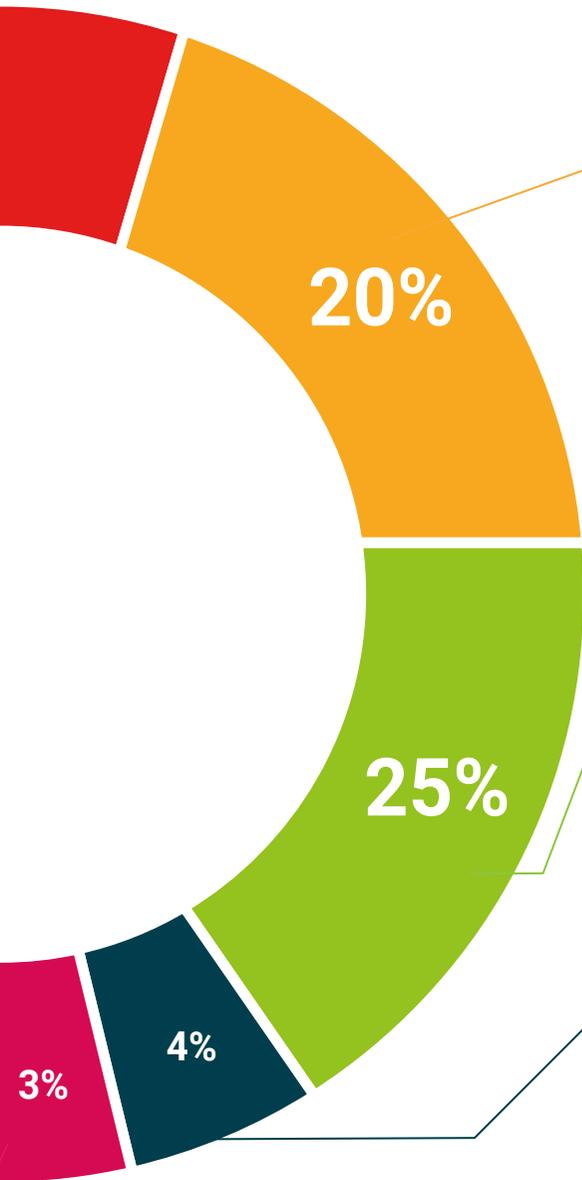
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 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.



06

# Certificate

The Postgraduate Certificate in Blockchain and Quantum Computing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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*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 Blockchain and Quantum Computing** 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.

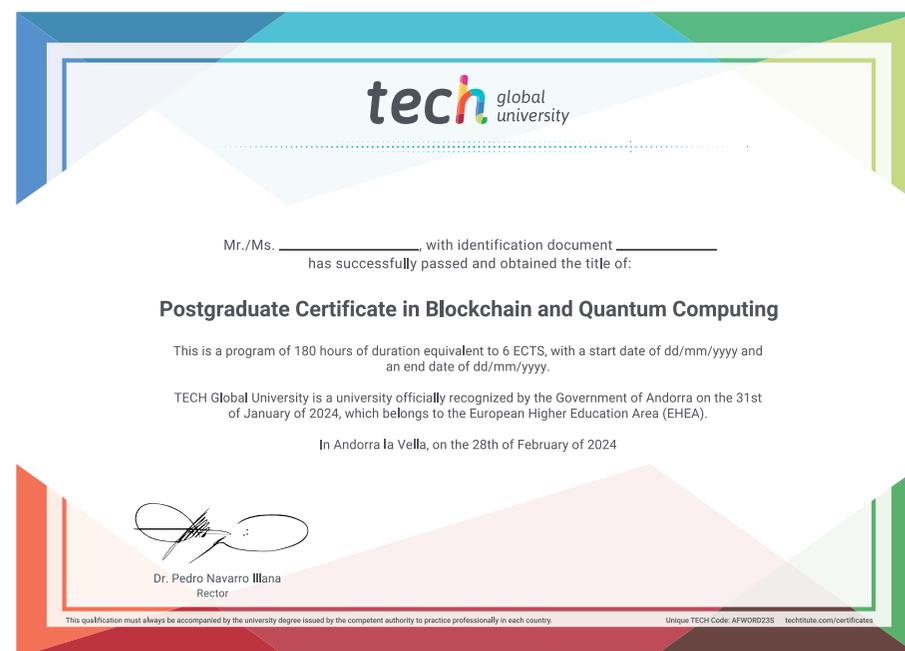
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Blockchain and Quantum Computing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development languages  
virtual classroom



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