

Postgraduate Certificate Blockchain and Quantum Computing



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- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/pk/artificial-intelligence/postgraduate-certificate/blockchain-quantum-computing

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01

Introduction

The growth of *Blockchain* technology, coupled with companies' search for financial recovery, has made cryptocurrencies a real alternative for storing value and hedging against inflation. In fact, a recent report reveals that the European Union registered 11,597 new companies dedicated to these technological fields last year. In this regard, more and more professionals are seeking to increase their knowledge of these matters in order to benefit from their numerous applications. For example, this form of payment allows for quick cross-border money transfers without relying on intermediaries such as banks. In response to this, TECH is creating an online university program which will focus on the functions and properties of *Blockchain* networks.



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*A 100% Postgraduate Certificate that
will give you the necessary knowledge
to lead innovative business projects
based on the Blockchain"*

Industry 4.0 has strengthened the relationship between Blockchain and Quantum Computing, technological fields that are constantly evolving. In this way, professionals use such tools to address problems such as information security or system scalability. For example, through Smart Contracts, experts automatically enforce the execution of agreements or transactions without the need for intermediaries. These software programs also stand out for their security, being highly resistant to manipulation and censorship. This is because they are based on cryptographic technologies, while being developed in a decentralized network.

In this context, TECH launches a Postgraduate Certificate in Blockchain and Quantum Computing. With a duration of 150 teaching hours, graduates will specialize in aspects such as Blockchain or Cryptography. To this end, the curriculum will focus on the fundamentals of Blockchain, bearing in mind the popularity of decentralized systems and their evolution over time. Likewise, the syllabus will delve into the most advanced methods to protect data through algorithms and mathematical techniques. In this way, students will be able to design digital signatures, based on advanced tools such as Hash Functions.

On the other hand, the program is taught 100% online, allowing students to combine their studies with their other obligations. In this way, the only thing they will need is a device with Internet access to access the most complete didactic content on the market. In this sense, the program offers its students the most avant-garde methodology in the current market: Relearning. This teaching system is based on the reiteration of the most important contents to guarantee a natural learning process capable of lasting in the students' memory.

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 the self-assessment process can be carried out 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



You will develop practical skills and be able to implement emerging technologies in a variety of sectors, such as finance or banking"

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The university program will incorporate various Blockchain success stories in the industry, so that you will extract valuable lessons to apply in your daily procedures"

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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.

You will delve into the different types of Cryptocurrencies, so you can diversify your portfolio and take advantage of investment opportunities.

Thanks to TECH's Relearning, you will assimilate the essential concepts in a fast, natural and accurate way.



02 Objectives

Upon completion of the university program, graduates will stand out for their in-depth knowledge of Blockchain and Quantum Computing. Therefore, they will apply both the principles of cryptography and the mathematical basis of quantum algorithms to practical projects. Students will be highly qualified to implement Smart Contracts in technological platforms, as well as to design innovative applications that optimize industrial processes. In turn, professionals will be equipped with the necessary resources to successfully address the challenges associated with the adoption of these technological branches, including privacy, scalability and regulation.

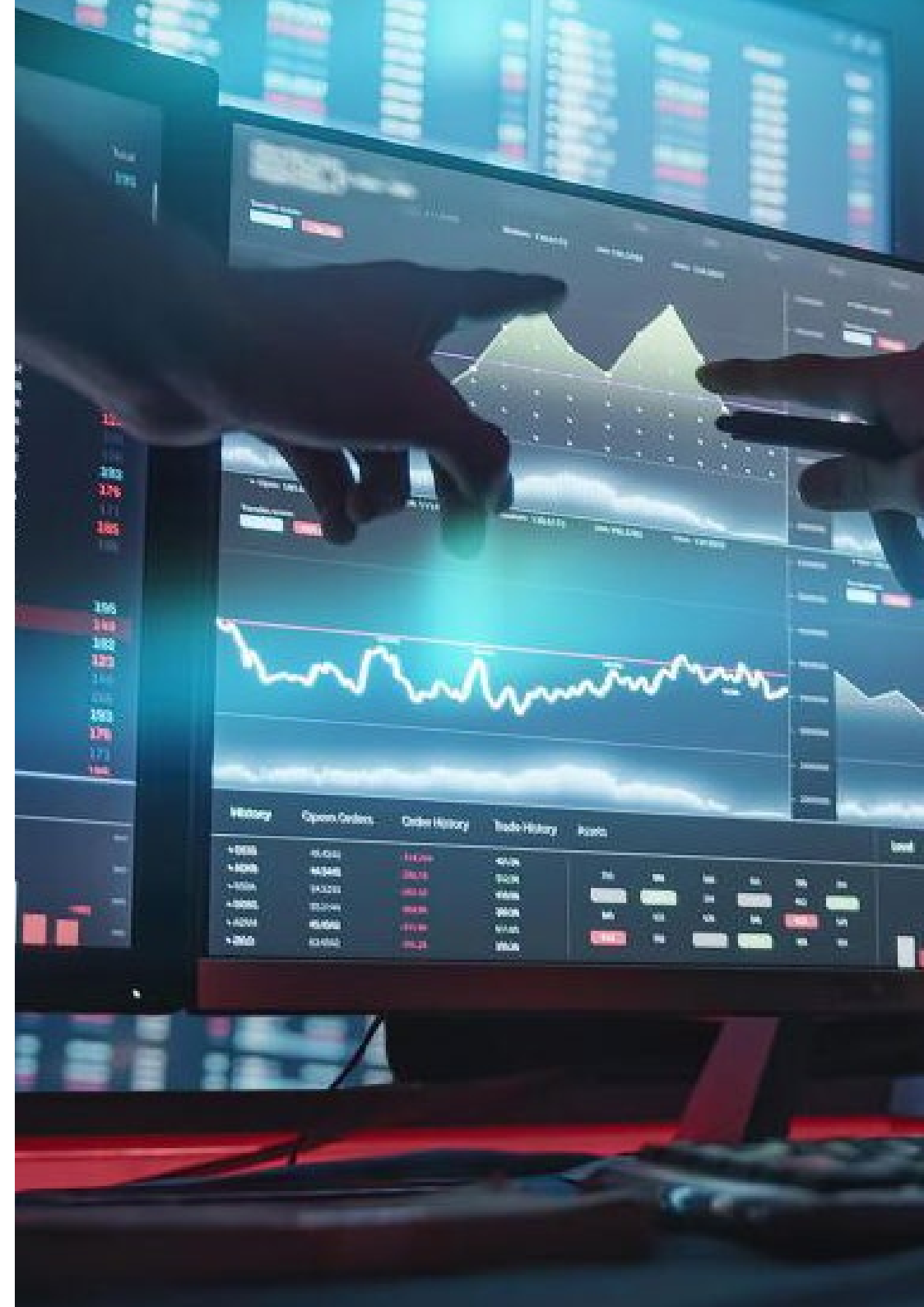
“

A professional growth process with which you will gain the skills of an expert and excel in the the field of Quantum Computing”



General Objectives

- ♦ 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

- ♦ 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
- ♦ Analyze the intersections between blockchain and Quantum Computing
- ♦ Acquire important knowledge about one of the technologies that will revolutionize our future, such as quantum computing

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At the end of the 6 weeks of this program, you will master Smart Contracts to ensure secure transaction fulfillment”

03

Course Management

To provide educational excellence, TECH brings together the best experts in Blockchain and Quantum Computing in this Postgraduate Certificate. These professionals are part of the teaching staff of the program, so they will pour into the didactic contents all their solid knowledge in these subjects. They will also offer students their years of work experience, where they have worked in renowned companies that use Artificial Intelligence to optimize their work. Therefore, students will enjoy a quality education, which will allow them to raise their professional horizons to a higher level.

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An versed teaching Equipment will guide you throughout the learning process and will resolve any doubts that may arise"

Management



Dr. 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



Dr. 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.



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

Thanks to this Postgraduate Certificate, graduates will have a comprehensive view of Blockchain and Quantum Computing technologies. To achieve this, the academic path will delve into issues ranging from decentralization or market size to the evolution of systems. In this way, students will have a solid understanding of how Blockchain works. The syllabus will delve into the characteristics of Blockchain networks and examine their multiple applications (cryptocurrencies, trustworthiness, etc.). Also, the didactic materials will focus on the security and cryptography of these emerging resources through techniques such as digital signatures.



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You will become an expert in Blockchain and Quantum Computing with this intensive program, created by professionals with extensive experience in this field”

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



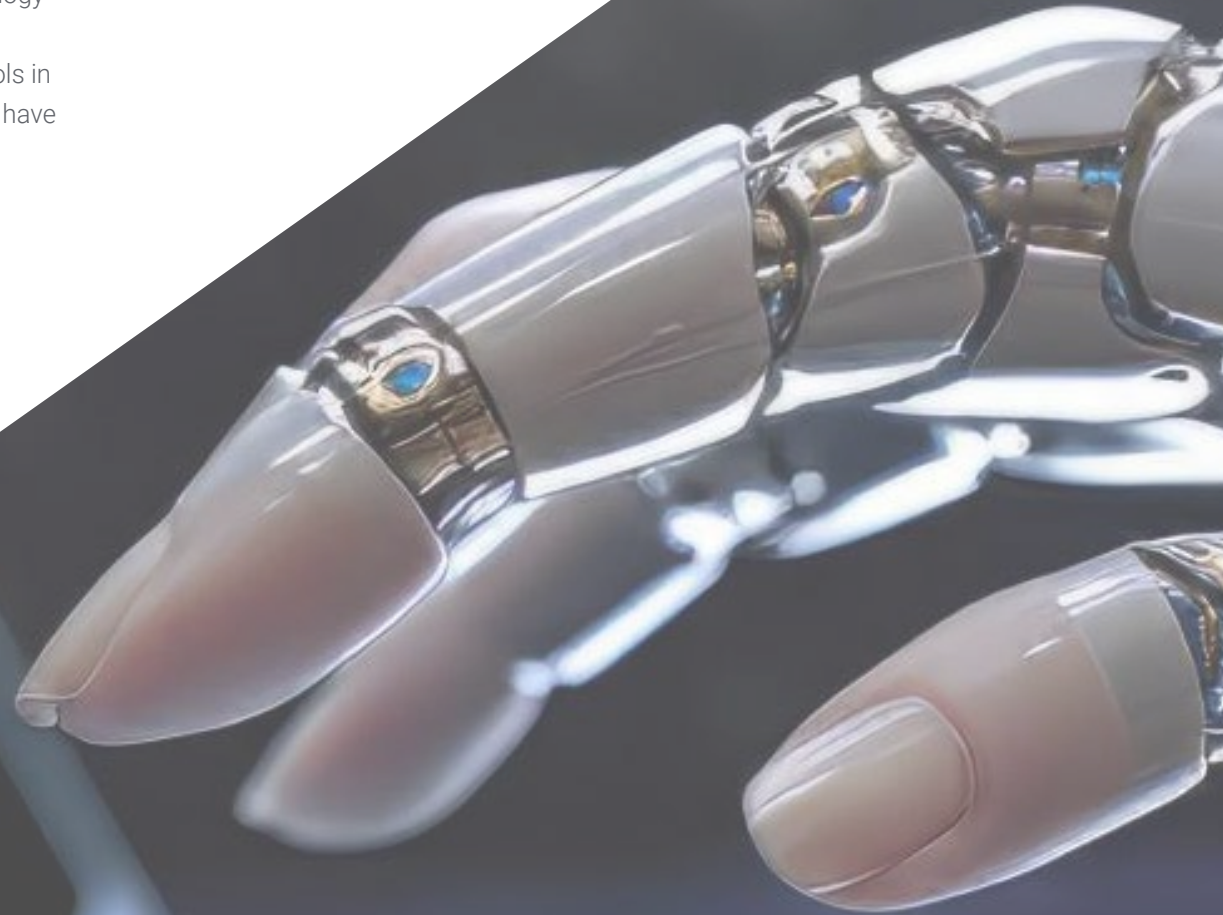
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You will have unrestricted access to all Virtual Campus materials and will be able to download them whenever you wish"

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.

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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 has been the most widely used learning system among the world's leading Information Technology 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 that you are presented with in the case method, an action-oriented learning method. Throughout the course, students 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 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.



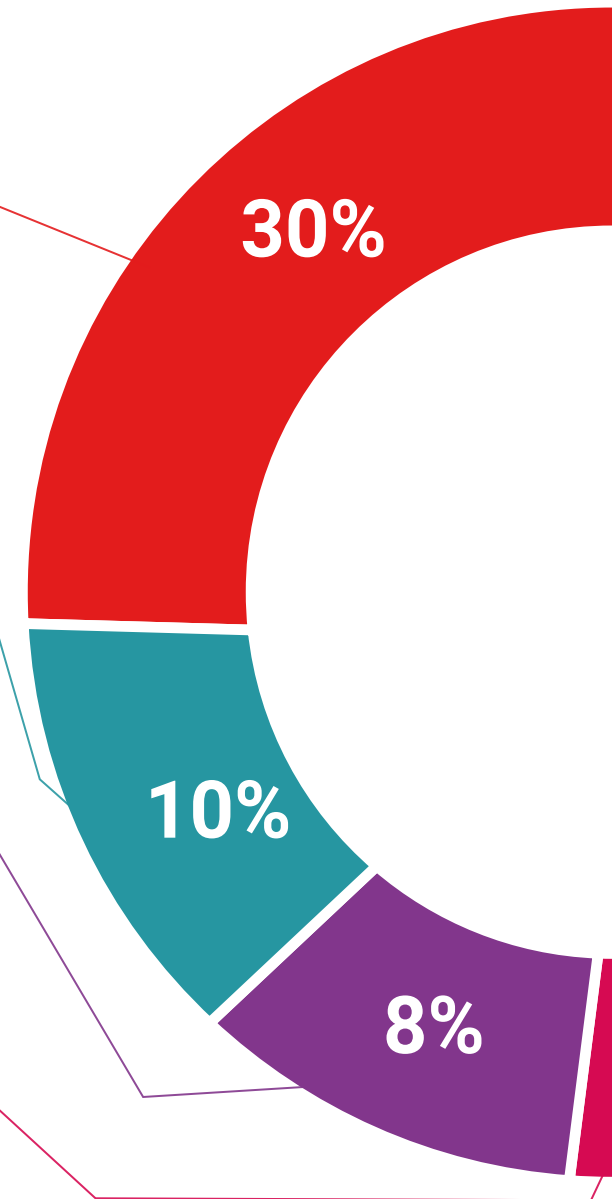
Practising Skills and Abilities

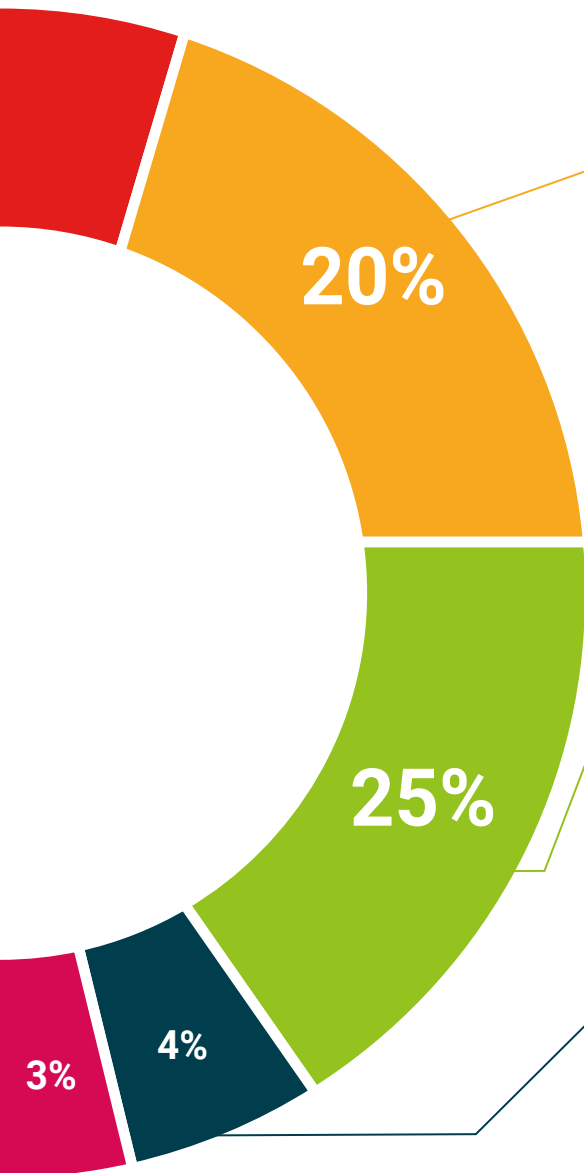
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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 Technological University.



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*Successfully complete this program
and receive your university qualification
without having to travel or fill out
laborious paperwork"*

This **Postgraduate Certificate in Blockchain and Quantum Computing** 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 certificate 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 Blockchain. and Quantum Computing**

Official N° of Hours: **150 h.**



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



Postgraduate Certificate Blockchain and Quantum Computing

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