Postgraduate Certificate
Blockchain and Quantum Computing

tech *technological university*

Postgraduate Certificate
Blockchain and Quantum Computing

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

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/blockchain-quantum-computing**

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01
Introduction

The incursion of the Blockchain in the industrial field has been a huge revolution that brings innumerable advantages such as the completely secure exchange of information between machines or the creation of smart supply contracts. In this way, this technology speeds up various production tasks and helps to optimize costs, which is why IT specialists in its implementation and management are in high demand in the most advanced sectors. Faced with this situation, TECH has created this program, with which the student will identify the particularities and applications of Smart Contracts or the keys to ensure the security of the operations carried out. 100% online and from home, you will increase your opportunities to grow professionally in Industry 4.0.
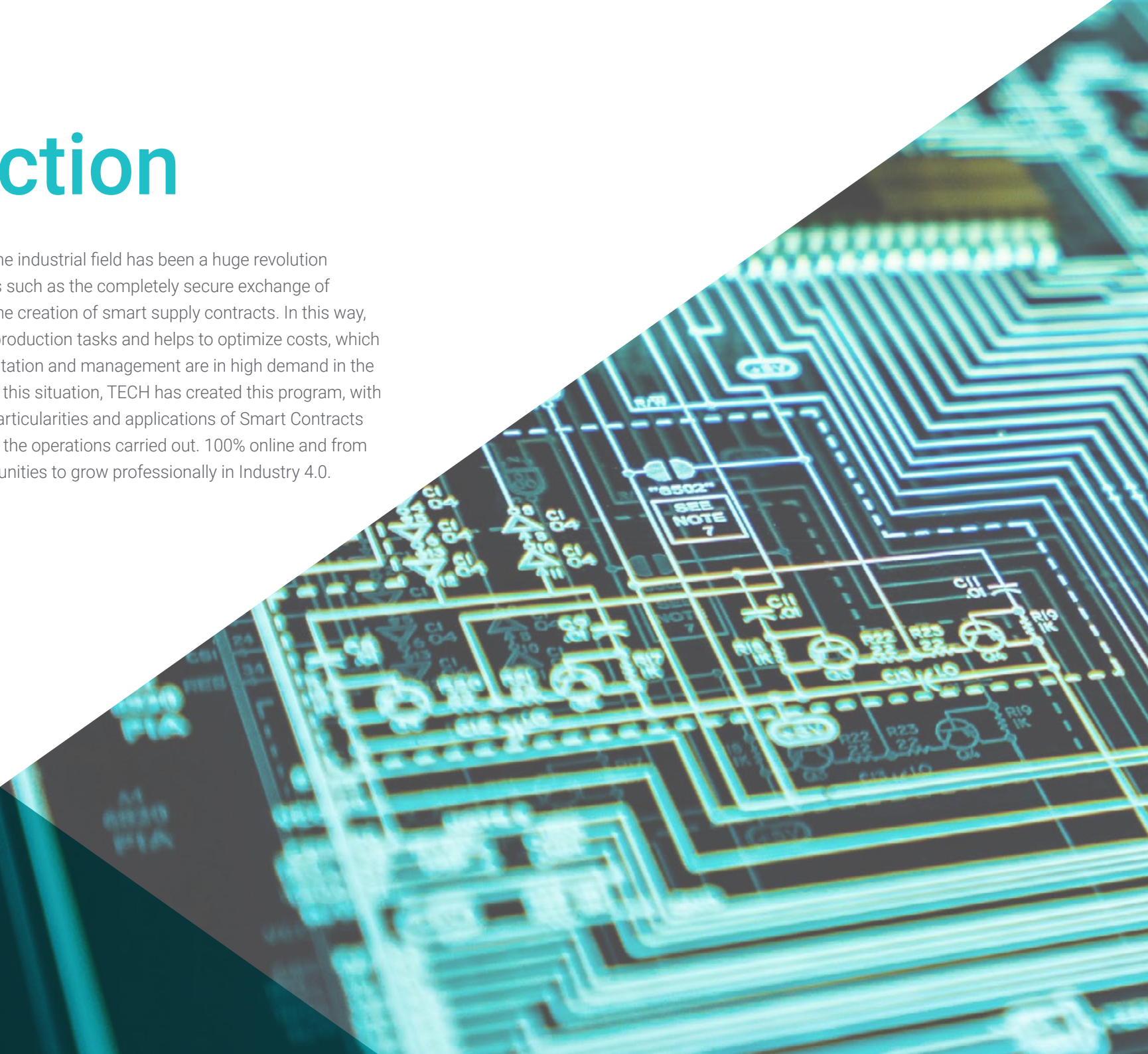
With this program, you will identify the current uses of Smart Contracts to optimize supply processes, as well as their medium- to long-term future prospects in Industry 4.0"

Blockchain technology has been established in recent years in Industry 4.0 to perform a wide range of operations efficiently and securely. In this line, its use enables the automation of invoices and supply payments, facilitates the preparation of inventories or allows the management of self-executing smart contracts based on the fulfillment of pre-established requirements. All these tasks have a positive impact on the increase of labor productivity, so computer scientists specialized in this field are increasingly required to carry out the implementation and control of such technology in the industrial environment.

For this reason, TECH has designed this program, which will enable the student to learn the ins and outs of Blockchain and the relevant aspects of Quantum Computing, in order to hone their skills and career prospects in this sector. Throughout this educational period, students will analyze the full potential of Smart Contracts at present and with future prospects or will review the main success stories of the Blockchain in the industry. It will also delve into the different utilities that Quantum Computing has in the industrial world.

Due to the fact that this program is developed through a 100% online modality, the student will acquire an excellent education without the need to make uncomfortable trips to a study center. Likewise, the teaching materials are available in state-of-the-art formats such as the explanatory video, the self-assessment test or the interactive summary. In this way, you will obtain effective learning that is compatible with your personal and professional duties.

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:

- Practical cases presented by experts in digital Transformation
- 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

This Postgraduate Certificate will enable you to learn the main keys to success in the implementation of Blockchain technology in the industrial field"

"The 100% online methodology of this Postgraduate Certificate will allow you to learn without having to leave your own home"

Increase your knowledge in Blockchain and Quantum Computing and significantly boost your career prospects in the industry-oriented IT sector.

Through this program, delve into the particular uses of Quantum Computing in Industry 4.0.

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 educational year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

The Postgraduate Certificate in Blockchain and Quantum Computing has been developed with the intention of providing students with the most useful and up-to-date knowledge in these areas. In this way, they will delve deeply into the utilities of this technology in the field of Industry 4.0 or pay special attention to the benefits it brings in terms of safety. In addition, such learning will be monitored by the follow-up of these general and specific objectives.

"

After taking this program, you will increase your chances of being part of the best companies related to Industry 4.0"

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
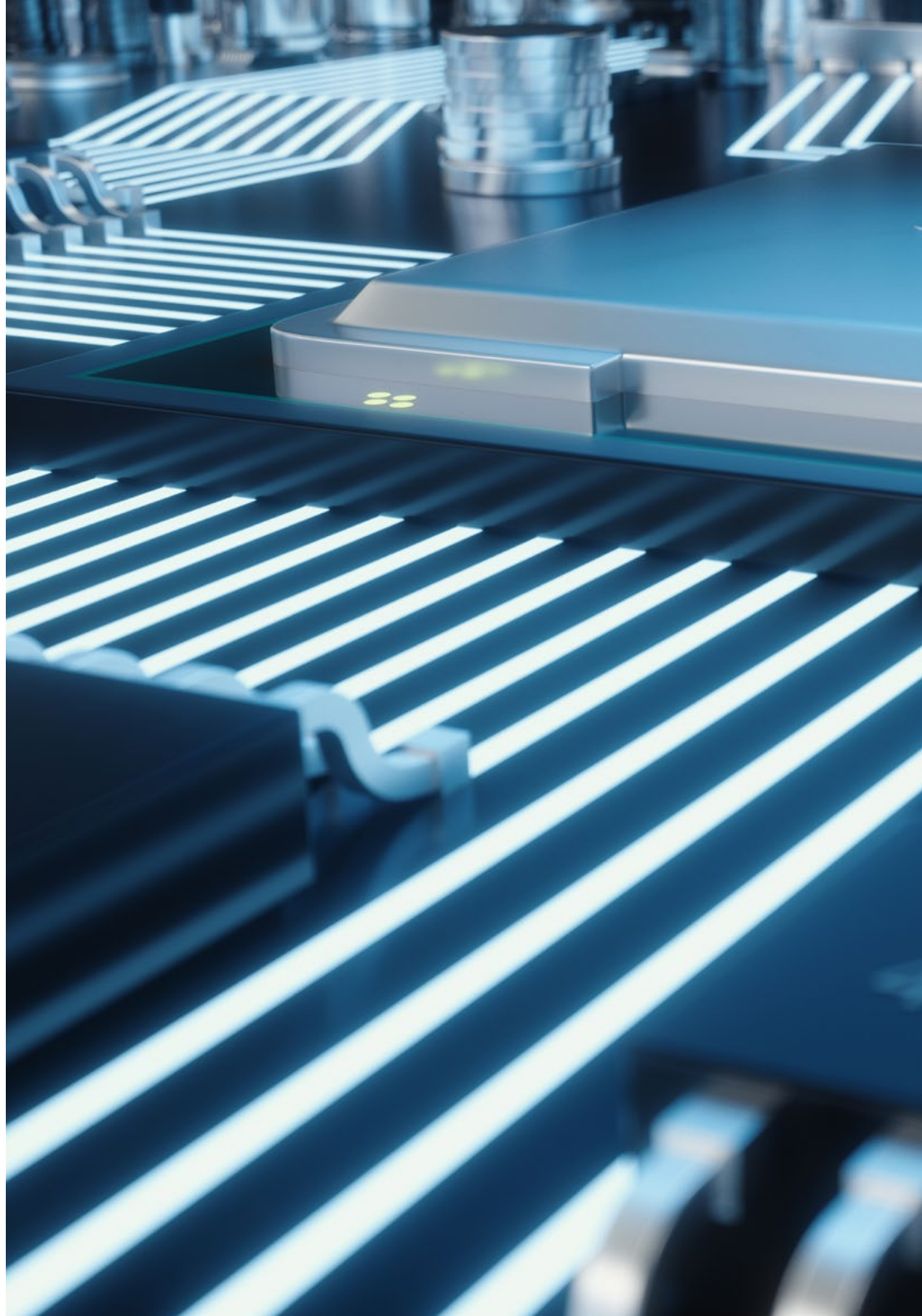
Specific Objectives

♦ Acquire indepth knowledge of the fundamentals of blockchain technology and its value propositions

♦ Lead the creation of Blockchainbased 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

TECH offers you the best tools to obtain your professional goals and grow in the world of Blockchain oriented to Industry 4.0"

03

Course Management

With the idea in mind of providing its students with a first-class education, TECH has selected high-caliber specialists in the field of technological solutions to teach this program. Given that the teaching resources available throughout this educational experience are developed by these experts, the contents that the students will receive will be applicable in their professional life.

"

This Postgraduate Certificate is led and taught by experts in Blockchain and Quantum Computing to provide you with the most up-to-date knowledge in this subject"

Management

Mr. Segovia Escobar, Pablo

- Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- Project Manager at Indra
- Master's Degree in Business Administration and Management from the National University of Distance Education
- Postgraduate in Strategic Management Function
- Member of: Spanish Association of People with High Intellectual Quotient
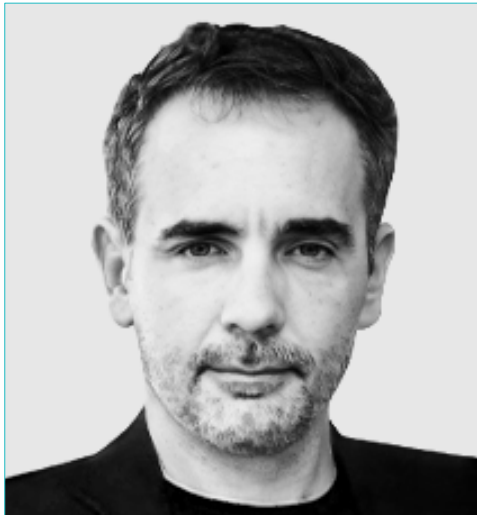
Mr. Diezma López, Pedro

- Chief Innovation Officer and CEO of Zerintia Technologies
- Founder of the technology company Acuilae
- Member of the Kebala Group for the incubation and promotion of businesses
- Consultant for technology companies such as Endesa, Airbus or Phone
- 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
- ◆ Computer Systems Engineer from the Complutense University of Madrid

A unique, key, and decisive educational experience to boost your professional development"

Structure and Content

The syllabus of this program is made up of 1 module with which the computer scientists will significantly increase their knowledge in the following areas Blockchain and Quantum Computing. All the teaching materials that you will benefit from during the duration of this Postgraduate Certificate are available in formats such as complementary readings, explanatory video, or interactive summary. As a result of this and through a 100% online methodology, you will acquire an education completely adapted to your study preferences.

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This plan is designed by specialists in the field of technology solutions, who will provide you with the most up-to-date teaching resources on Blockchain and Quantum Computing"

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

Enroll in this Postgraduate Certificate to enjoy a pleasant and individualized learning experience, which can be carried out through multimedia and textual teaching formats that are different from each other"

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.

"

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.

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.

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

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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

30%

10%

8%

20%

25%

4%

3%
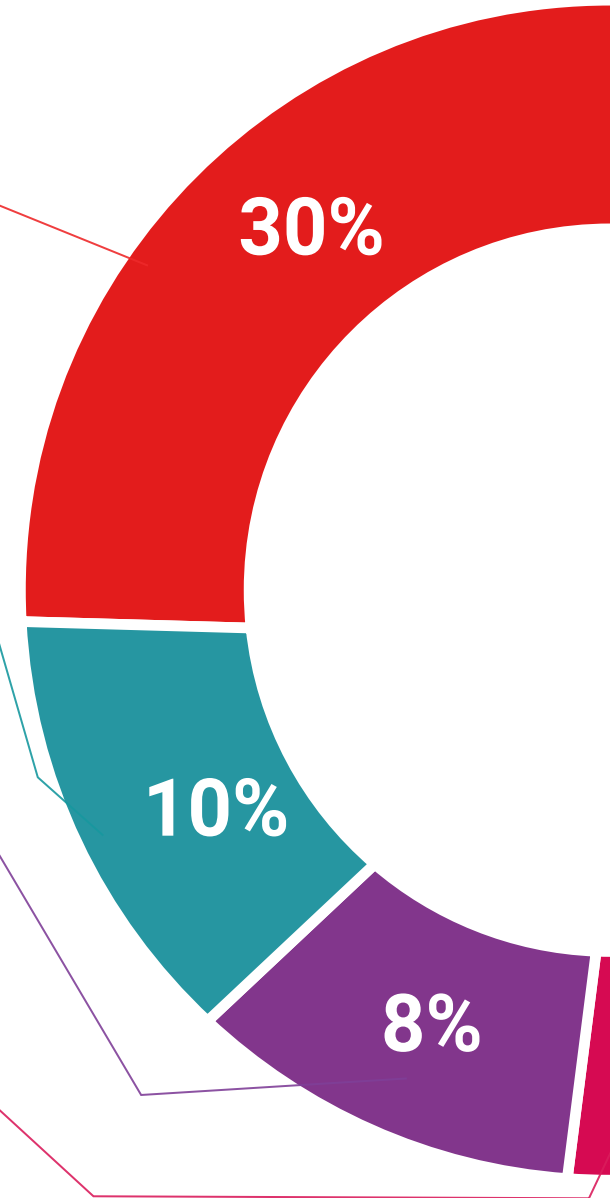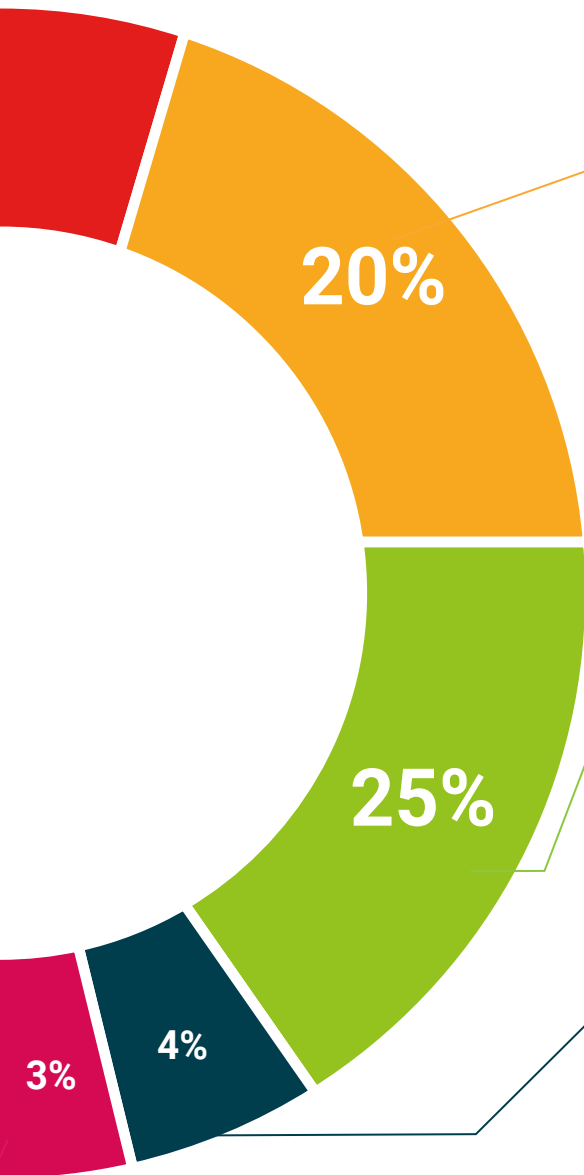
Case Studies

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.

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.

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 Nº of Hours: **150 h.**

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Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Blockchain and Quantum Computing

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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