Postgraduate Diploma
Blockchain Technology

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Postgraduate Diploma

Blockchain Technology

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

Website: www.techtitute.com/in/informatics/postgraduate-diploma/postgraduate-diploma-blockchain-technology

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01

Introduction

Having a decentralized Internet that turns its users into owners is the main objective of Web 3.0. To achieve this, professionals in this field have worked conscientiously on the design of increasingly complex and specialized Blockchain Technology, thanks to which it is possible to carry out transactions securely, quickly and transparently, without intermediaries This is precisely what the crypto economy is based on, a sector that is undoubtedly booming. With the aim of enabling IT professionals to specialize in the most efficient and effective strategies and protocols for digital asset management, TECH Technological University and its team of experts have developed this program. Through 450 hours of the best 100% online content the graduate will work on mastering the Enterprise Blockchain through the most comprehensive knowledge about Bitcoin and Ethereum.

TECH presents a program focused on DeFi, for you to master the Bitcoin and Ethereum environment in just 6 months of education, and 100% online"

Cryptoeconomics professionals predict an uncertain future for this area of computer science due to the inflation it generates and the fluctuations it has experienced in recent years in the financial market. However, this is a sector that is currently booming and in which technological and digital development, as well as the decentralization of Web 3, have brought a series of benefits thanks to which it would be possible to generate a successful and prolonged business activity for a very long time.

To achieve this, it is necessary for professionals in this field to work conscientiously on the development of protocols and strategies that favor the stability of assets, as well as the security of transactions and the environment.

It is precisely on this topic that the program that TECH Technological University has developed is based, and on the tools necessary to achieve this: Blockchain Technology. And is that, with this Postgraduate Diploma, the IT professional will be able to enter the world of Bitcoin and Ethereum in a specialized way, knowing in detail its intricacies and the guidelines to create Frameworks with greater transparency, efficiency, speed and instant traceability. In addition, it also focuses on the management of Hyperledger Fabric, so that the graduate masters the keys to this technological project based on the Blockchain and DLT.

For this, you will have 450 hours of the best theoretical-practical material, as well as additional material, the latter presented in different forms: videos in detail, research articles, complementary readings, self-knowledge exercises, dynamic summaries and much more! All available in a convenient and accessible 100% online format so you can access the Virtual Campus whenever you want and from any device with an internet connection. It is, therefore, a unique opportunity to jump on the Cryptoeconomics bandwagon through an academic experience that will guide your career as a computer scientist to the pinnacle of Web 3.

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

- The development of case studies presented by digital business and IT experts
- 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

You will have business use cases to put into practice your skills in the use of Blockchain in entities and in the generation of Joint Ventures based on this technology"

You will work intensively on improving blockchain traceability to increase the security and efficiency of Bitcoin transactions"

You will be able to access the Virtual Campus from wherever you want and whenever you want thanks to its flexible compatibility: no schedules or limits.

The best program to delve into Ethereum programming and currently available compilers.

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

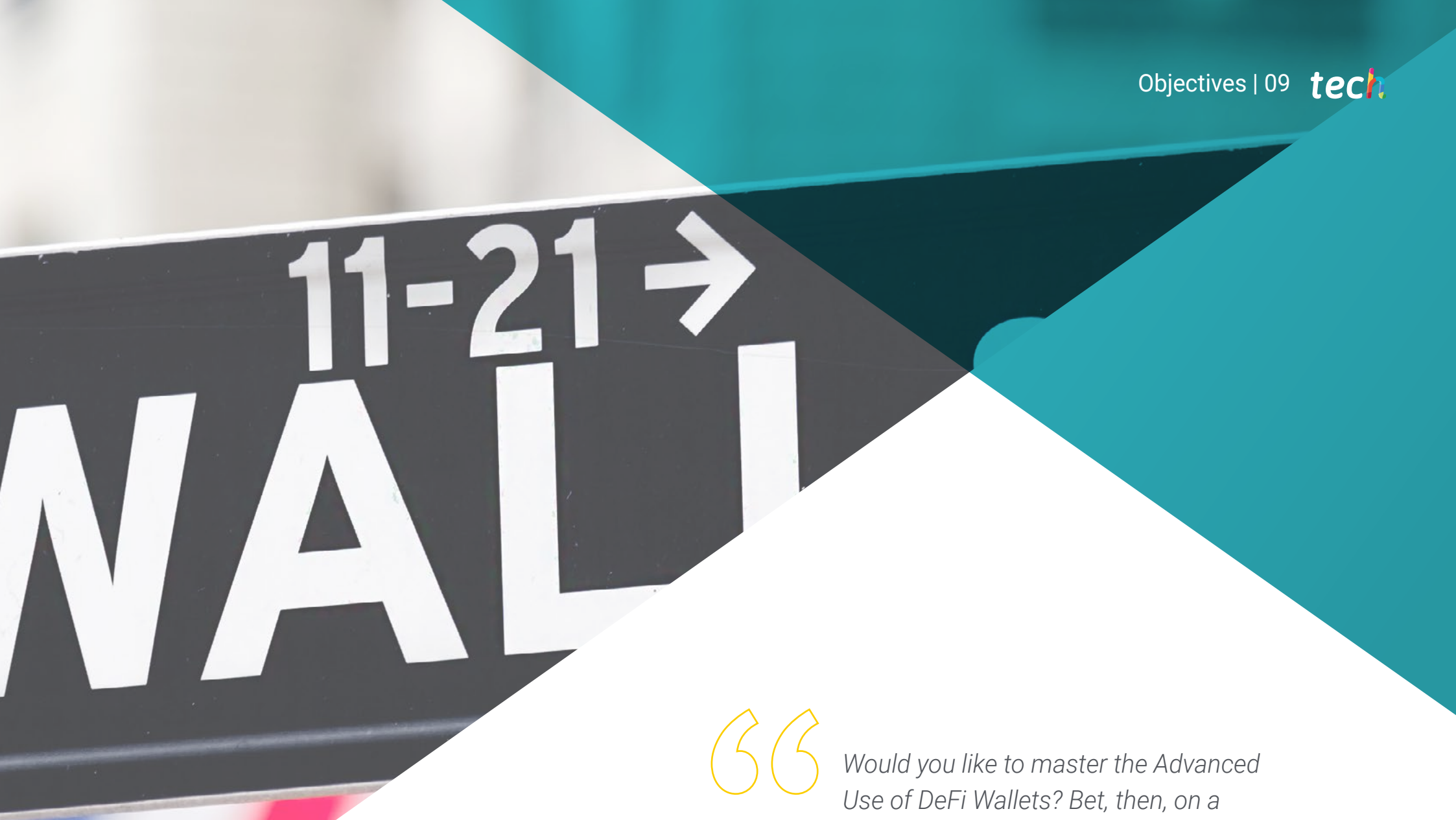
The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

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 This will be done with the help of an innovative system of interactive videos made by renowned experts.

02

Objectives

Cryptoeconomics and its multiple areas of action are the perfect space for the IT professional to perform their duties in a successful and beneficial way. For that reason, the objective of this Postgraduate Diploma is to provide the graduate with the most comprehensive and updated information on Bitcoin, Ethereum and business Blockchain, so that they can immerse themselves in the decentralized finance sector in a specialized way and with ample possibilities of succeeding in it through the mastery of its main technologies.



Would you like to master the Advanced Use of DeFi Wallets? Bet, then, on a program like this one, which will give you everything you need to achieve it in only 450 hours of education"

General Objectives

- Analyze the history of Bitcoin
- Understand how Bitcoin works
- Determine all Bitcoin stakeholders
- Generate specialized knowledge about Ethereum
- Analyze its operation
- Master Ethereum wallets
- Establish differences between public and private platforms
- Analyze how Blockchain is applied when cryptocurrencies do not apply to the case study
- Determine how integration with other technologies brings added value

The best program in the current academic market to learn about the Bitcoin mining models that are getting the best results in virtual farms"

Specific Objectives

Module 1. Bitcoin: The Birth of Cryptoeconomics

- Distinguish the different directions and types of transactions
- Determine the different uses of Bitcoin in the real world
- Installing and setting up the most used Bitcoin Wallets

Module 2. Ethereum. DeFi Basis

- Deploy Smart Contracts
- Distinguish the different Token standards
- Use the different test and Maninet networks

Module 3. Corporate Blockchain

- Get an in-depth understanding of the Hyperledger ecosystem and in particular Hyperledger Fabric, the framework for building private networks
- Analyze real business Blockchain use cases in different sectors and the benefits they bring to the companies that operate them

03

Course Management

For the course management of this Postgraduate Diploma, TECH Technological University has selected a team of people versed in the digital financial area and with extensive experience in the self-management of projects related to Cryptoeconomics and Blockchain. It is, therefore, a group of professionals who know the sector in detail and who will be able to guide the graduate in his or her quest for success by sharing their own strategies, as well as the best advice for the exhaustive management of the Wallets and the most effective consensus models in the current environment.

A degree designed for you to succeed in the Blockchain field through the hand of the best professionals and driven by their successful experiences in this sector"

Management

Dr. Gil de la Guardia, Alberto

- Founding member of Le Crypto Club
- Co-director of several university programs related to Blockchain Technology and the Crypto world
- Doctorate in International Public Law at the Complutense University of Madrid.
- Master's Degree in Financial Studies from San Pablo CEU University
- Master's Degree in Blockchain Technology and Bitcoin from the European University of Madrid
- Degree in Law from the University of Salamanca

Professors

Mr. Martín Arenas, Carlos

- Blockchain Architect and Developer at Esferize
- Architect and Blockchain developer at Transfesa Logistics
- Blockchain Developer and Consultant at Sopra Steria
- Founding partner of ADNBLOCK
- Superior Technician in Computer Applications Development by Joyfe College
- Expert in Bitcoin and Blockchain programming by UEM

Mr. Martín Arenas, Daniel

- Blockchain Developer at Dimática Software Development
- Blockchain Developer and Consultant at Sopra Steria
- Programmer at Cibernos
- Founding partner of ADNBLOCK
- Superior Technician in Computer Applications Development by Joyfe College.
- Master's Degree in Blockchain Technology and Bitcoin from the European University of Madrid
- Professional Certificate in Software Development from the IES Melchor Gaspar de Jovellanos High School

Mr. Fernández Belando, David

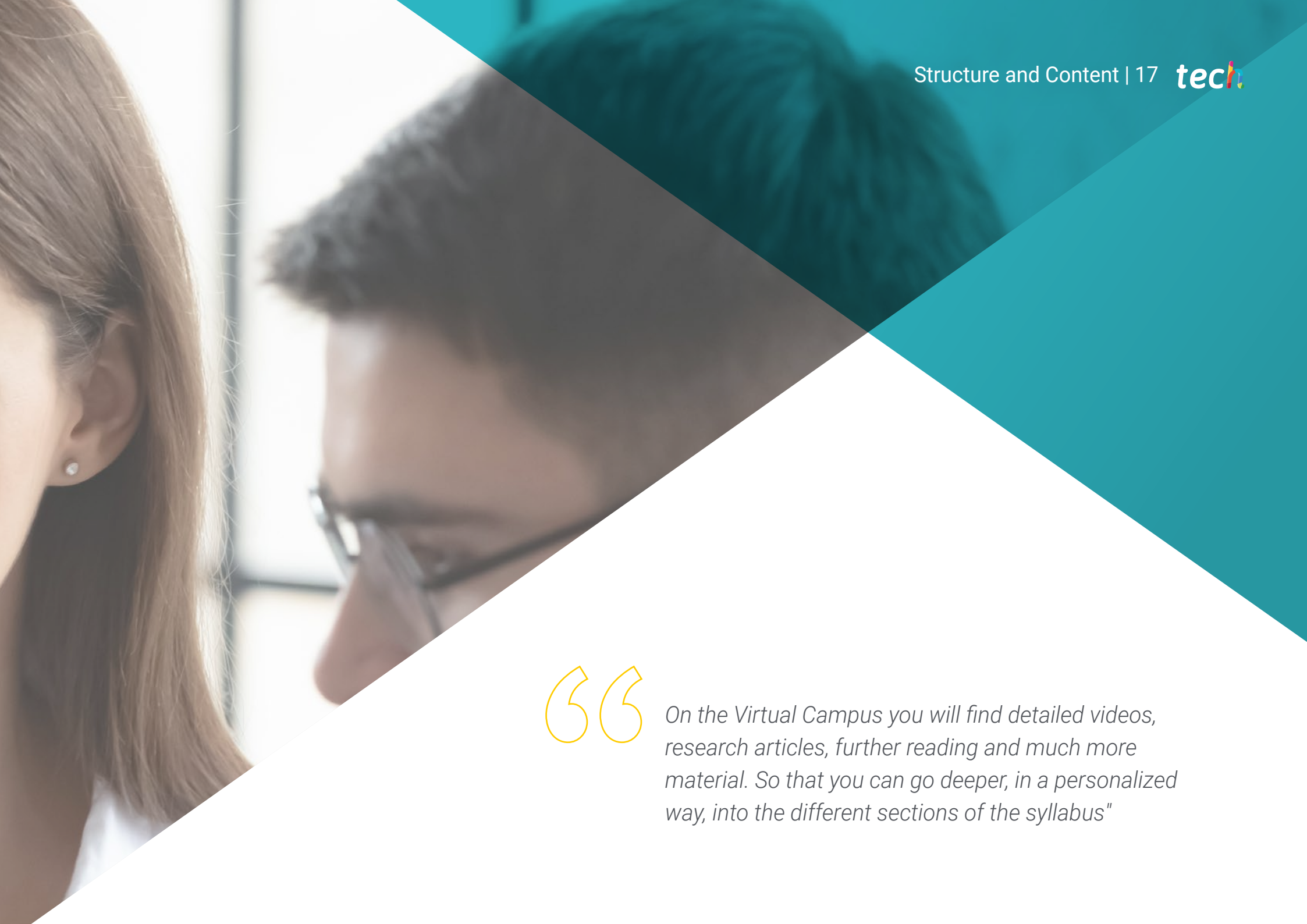
- Founding partner of ADNBLOCK
- IBM Blockchain Essentials
- IBM Blockchain. Foundation Developer
- Bitcoin and Blockchain Expert at Universidad Europea de Madrid
- Information Technology Engineer from the Universidad Nacional de Educación a Distancia (National University of Distance Education)

Make the most of this opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

04

Structure and Content

TECH Technological University has used the prestigious and effective Relearning methodology for the development of this Postgraduate Diploma, thanks to which the graduate will not have to invest extra hours in memorizing. This fantastic strategy consists of reiterating the most important concepts of the subject to be covered during the course of the academic experience, so that the student acquires the knowledge gradually, naturally and progressively. In addition, the inclusion of additional high-quality material will favor its durability for a much longer period of time.



On the Virtual Campus you will find detailed videos, research articles, further reading and much more material. So that you can go deeper, in a personalized way, into the different sections of the syllabus"

Module 1. Bitcoin. The Birth of Cryptoeconomics

1.1. Bitcoin Fundamentals
- 1.1.1. Bitcoin
- 1.1.2. Bitcoin White Paper
- 1.1.3. How Bitcoin Works

1.2. Bitcoin Addresses
- 1.2.1. Bitcoin Address Generation
- 1.2.2. Bitcoin Address Types
- 1.2.3. Smart Contracts in Bitcoin

1.3. P2P Networks
- 1.3.1. P2P Networks
- 1.3.2. P2P Bitcoin Networks
- 1.3.3. Use of P2P Networks in Crypto Projects

1.4. Game Theory
- 1.4.1. Game Theory
- 1.4.2. Bitcoin Gaming Applicability
- 1.4.3. Main Games Applied in the Real World

1.5. Consensus Model
- 1.5.1. Consensus Models in Distributed Systems
- 1.5.2. Bitcoin Consensus
- 1.5.3. BIP Analysis (Bitcoin Improvement Proposals)

1.6. Bitcoin Mining
- 1.6.1. Bitcoin Mining
- 1.6.2. Current Bitcoin Mining Model
- 1.6.3. Mining Farms

1.7. Transactions: types
- 1.7.1. Bitcoin Transactions
- 1.7.2. Blockchain Traceability
- 1.7.3. Block Explorers

1.8. Nodes: types
- 1.8.1. Bitcoin Nodes
- 1.8.2. Full Node Uses. Best Practices
- 1.8.3. Full Nodes vs. Light Nodes

1.9. Bitcoin Wallets
- 1.9.1. Types of Wallets
- 1.9.2. Use of Bitcoin Wallets
- 1.9.3. Security in the use of Wallets

1.10. Other Bitcoin Uses
- 1.10.1. Bitcoin as Data Repository
- 1.10.2. DeFi with Bitcoin
- 1.10.3. Bitcoin as Digital Notary

Module 2. Ethereum. DeFi Basis

2.1. Ethereum Fundamentals
- 2.1.1. Ethereum
- 2.1.2. Ethereum Yellow paper
- 2.1.3. How Ethereum Works

2.2. Smart Contracts
- 2.2.1. Analysis of the Main Smart Contracts
- 2.2.2. Ethereum Deployment
- 2.2.3. Smart Contracts in DeFi

2.3. Tokens
- 2.3.1. ERC20 Tokens
- 2.3.2. ERC720 Tokens (NFT tokens)
- 2.3.3. Other Token Standards

2.4. Consensus Model
- 2.4.1. Ethereum Consensus
- 2.4.2. Ethereum from POW to POS
- 2.4.3. POW Impact on DeFi

2.5. Ethereum Networks
- 2.5.1. Main Net
- 2.5.2. Test Net
- 2.5.3. Private Net

2.6. Ethereum Programming
- 2.6.1. Available Compilers
- 2.6.2. Solidity Applied to DeFi
- 2.6.3. Ganache and its Utilities

2.7. Ethereum Components
- 2.7.1. Ethereum Virtual Machine
- 2.7.2. Accounts and Addresses
- 2.7.3. Ether the DeFi Currency

2.8. Ethereum DAOs and DAPPs
- 2.8.1. DAOs
- 2.8.2. DAPPs
- 2.8.3. Main DAPPs in DeFi

2.9. Oracles
- 2.9.1. The Oracles
- 2.9.2. Oracle Types
- 2.9.3. Oracle Analysis

2.10. Ethereum Wallets
- 2.10.1. Types of Ethereum Wallets
- 2.10.2. Metamask
- 2.10.3. Advanced Use of DeFi Wallets

Module 3. Corporate Blockchain

3.1. Platform Types, Characteristics and Voting Process
- 3.1.1. Consensual Blockchain
- 3.1.2. Participatory Blockchain
- 3.1.3. Democratic Blockchain

3.2. Hyperledger, Enterprise Blockchain Platform
- 3.2.1. Hyperledger Ecosystem
- 3.2.2. Hyperledger Fabric
- 3.2.3. Community. Hyperledger Labs

3.3. Corporate Case Studies
- 3.3.1. Blockchain in the Company
- 3.3.2. Blockchain-Based Consortia and Joint Ventures
- 3.3.3. Production Case Studies

3.4. Traceability
- 3.4.1. Blockchain Traceability
- 3.4.2. Immutability and GDPR Conflict
- 3.4.3. Legal Validity

3.5. Document Certification
- 3.5.1. Digitalization and Blockchain
- 3.5.2. Blockchain Certification
- 3.5.3. IPFS

3.6. Blockchain + IoT
- 3.6.1. Synergy between Technologies
- 3.6.2. Blockchain + IoT Applications in the Pharmaceutical Industry
- 3.6.3. Blockchain + IoT Applications in Supply Chain

3.7. Other Corporate Blockchain
- 3.7.1. Corda
- 3.7.2. Quorum
- 3.7.3. Hyperledger Besu
- 3.7.4. Blockchain as a Service

3.8. Risks: Case Studies by Sector
- 3.8.1. Blockchain in Banking
- 3.8.2. Blockchain in Retail
- 3.8.3. Blockchain in the Public Sector

3.9. Private Network Consensus
- 3.9.1. BFT / IBFT
- 3.9.2. Raft
- 3.9.3. Granpa (Polkadot/Substrate)

3.10. Blockchain Vs. Centralized Databases vs. Decentralized Databases
- 3.10.1. Differences
- 3.10.2. Similarities
- 3.10.3. The Best Technological Alternative Choice

Do not hesitate and bet on a program adapted to you and to the current labor market, so that you can succeed with the best experts and reach your most ambitious professional goals in just 6 months"

05

Methodology

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

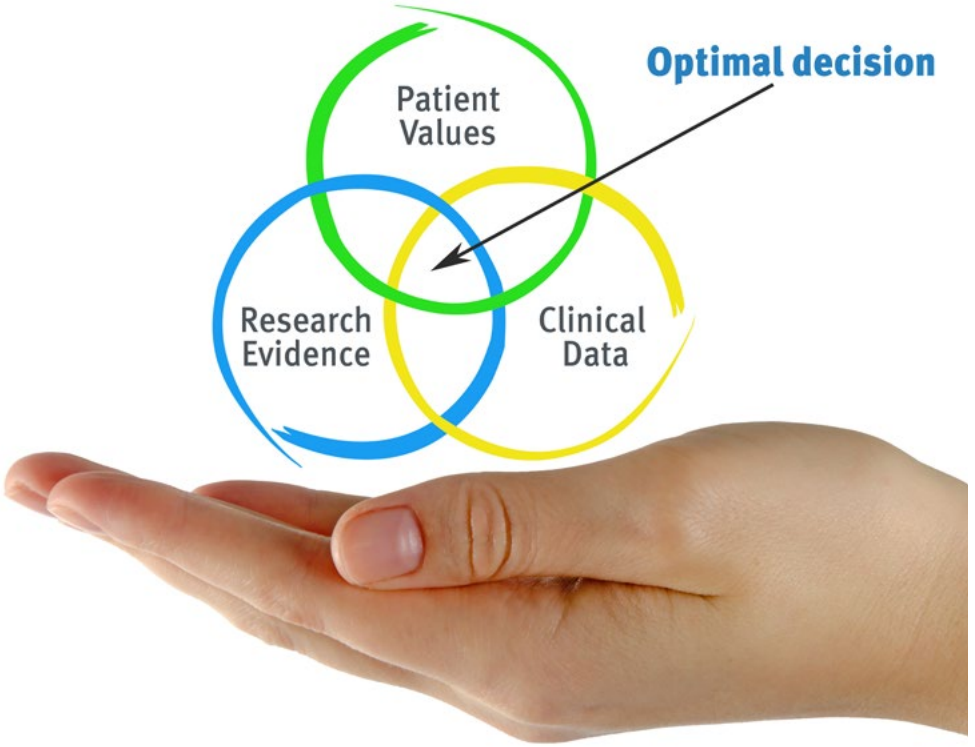
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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.

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

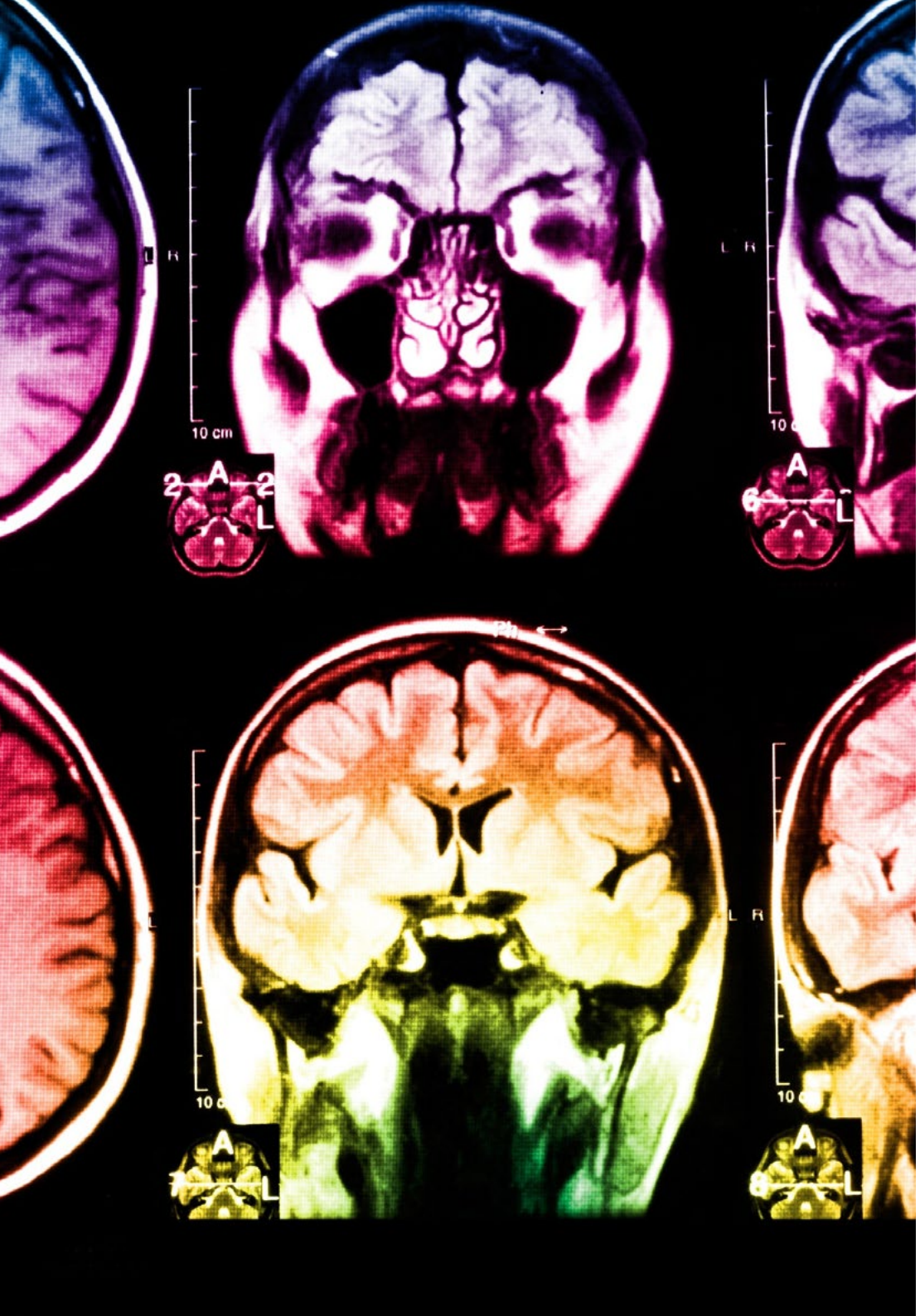
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

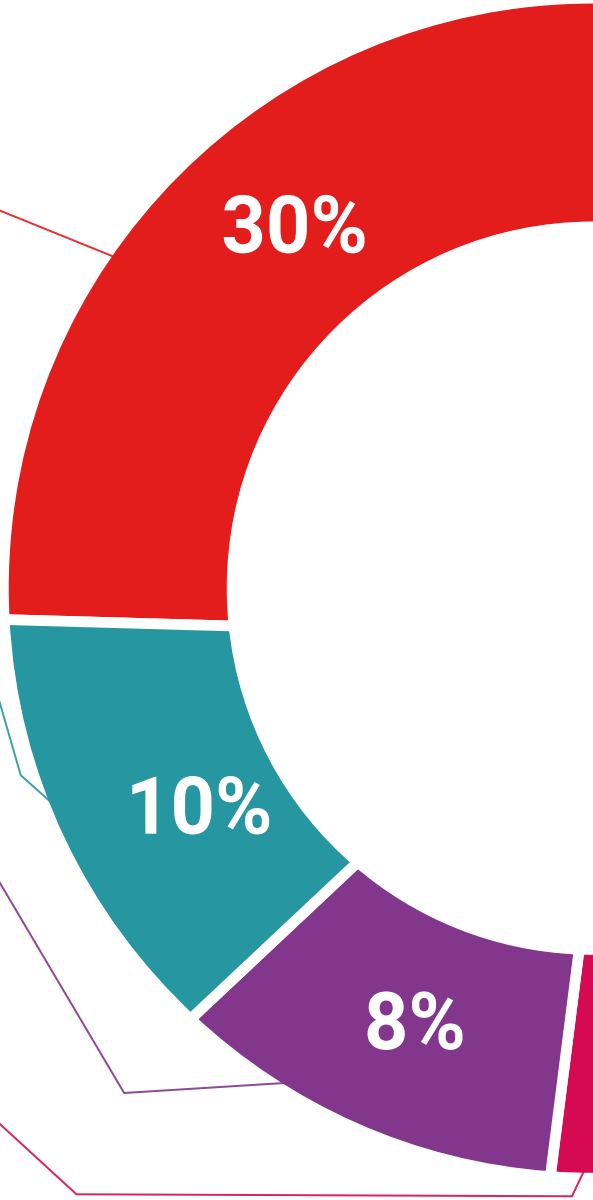
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

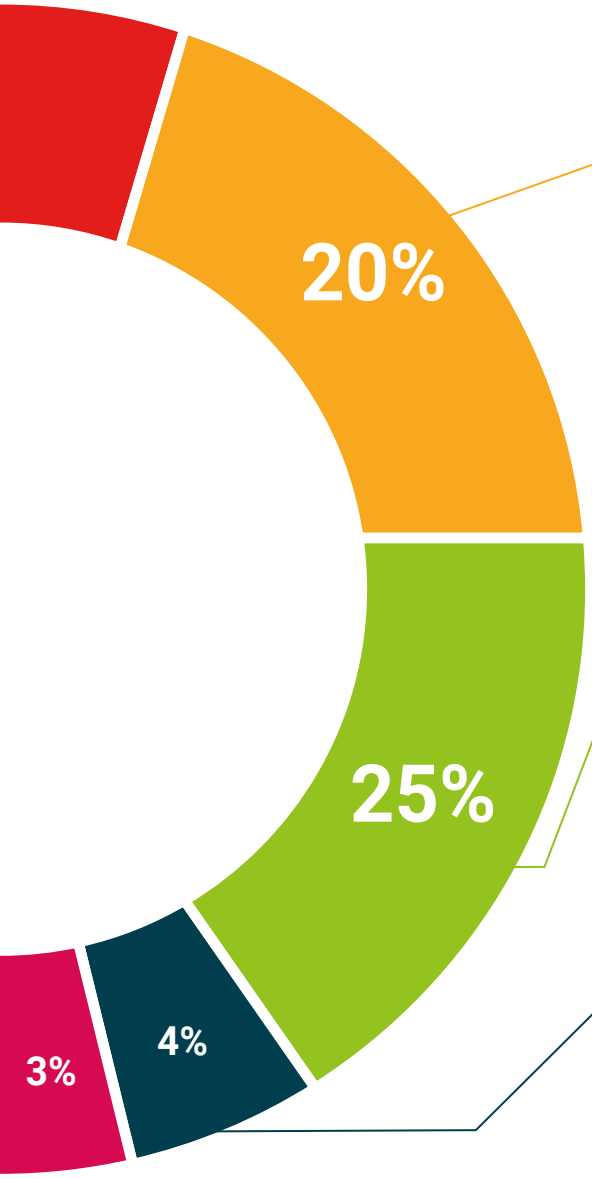
Practising Skills and Abilities

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 Diploma in Blockchain Technology guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Blockchain Technology** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Blockchain Technology**

Official Nº of hours: **450 h.**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Blockchain Technology

This is a qualification awarded by this University, equivalent to 450 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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Postgraduate Diploma
Blockchain Technology

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

Postgraduate Diploma
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