Postgraduate Diploma

Security in Crypto Environments

tech technological university

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Postgraduate Diploma
Security in Crypto Environments

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

Website: www.techtitute.com/in/information-technology/postgraduate-diploma/postgraduate-diploma-security-crypto-environments

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01

Introduction

The use of Blockchain technology to ensure the Security of Crypto Environments has become a necessary and highly relevant issue to fight against cyber-attacks and vulnerabilities that can affect the structure and information of these digital ecosystems. It is an IT framework that requires specialized knowledge of programming, encryption and blockchain automation. This is why the stability of this sector depends, to a large extent, on information and computer science professionals. Based on this, TECH Technological University has developed a complete, 100% online program that will allow graduates in this field to become versed in Security in Crypto Environments through the exhaustive knowledge of their strategies and protocols to guarantee their regulation and the privacy of their users' information.

The best program to specialize in Security in Crypto Environments is right in front of you. Are you going to miss the opportunity to become a specialist in this environment?"

The creation of a secure, public and non-editable transaction record has been the main objective of Crypto Environments since their origin in 2009. To this end, the creators of the first cryptocurrency, the coveted and highly traded Bitcoin, developed Blockchain technology in order to provide maximum per-concession security. However, comprehensive risk management systems for blockchain networks require a specific and complex construction that provides maximum security against attacks and fraud, but also implies that once cryptographic activities have been carried out, they cannot be edited or reversed. What does this mean? That any error, no matter how small, can mean failure for a given digital ecosystem.

For this reason, a thorough knowledge of programming and computing for this sector has become an indispensable requirement, as well as a highly demanded feature in the labor market. That is why TECH Technological University, together with its team of experts in Computer Science and Information Engineering, has developed this University Expert in Security in Cryptos Environments. The graduate will have 450 hours of the best theoretical, practical and additional material to delve into the environment of privacy and traceability in operations, in order to ensure the inviolability of its contents and prevent possible attacks that violate the stability of the company and its digital assets. To do this, you will need to possess specialized knowledgeof today's Cryptoeconomics, something you will work on during the module 2 course. Finally, you will dive into Compliance and its keys to perfectly master the rules and regulations of this environment.

All this in a 100% online, 6-month course of multidisciplinary education. In addition to the best syllabus, you will have use cases based on real contexts, with which you will be able to put your IT skills into practice and improve them in a guaranteed way. Thus, you will attend a complete academic experience thanks to which you will be able to adapt your profile to the most demanding current labor demand and succeed in a sector with a promising future as is the Cryptographic.

This **Postgraduate Diploma in Security in Crypto Environments** 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

Would you like to specialize in the Cryptoeconomics sector and in the evaluation of decentralized governance models? Bet on this program, and you will achieve it in just 6 months"

In the Virtual Campus you will find 450 hours of the best theoretical, practical and additional content, attending a training tailored to your needs and academic requirements"

Thanks to the completeness of this program, you will become a true expert in Blockchain compliance in a 100% online way.

You will work intensively on examining the main parameters for creating trust structures and systems in crypto projects.

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

The objective of this Postgraduate Diploma in Security in Crypto Environments is to serve as a guide for the graduate in his specialization, as well as to provide him with all the material he needs to achieve it in only 6 months of training. Based on this, it will provide them with the latest and most complete theoretical and practical content, as well as the best educational technology in the current educational field. In this way, you will be able to achieve your own goals in a guaranteed way and in less time than you think.

TECH's goal with this and all of its programs is for graduates to surpass their own in a guaranteed way through the course of an unparalleled academic experience"

General Objectives

- Analyze DeFi advantages
- Understand how it works
- Perform DeFi project analysis
- Manage the DeFi ecosystem
- Establish the basis for crypto world compliance
- Analyze existing regulations
- Establish parameters to initiate projects with legal certainty
- Evaluate privacy within Blockchain technology
- Identify legal security in existing projects
- Determine the basic rules for presenting potential projects

If your objectives include mastering the main strategies to generate privacy and traceability in operations, this Postgraduate Diploma is perfect for you"

Specific Objectives

Module 1. Cryptocurrency and Blockchain Security

- Analyze factors affecting cryptocurrency security
- Determine the main types of threats to the assets
- Learn to trace all movements of our cryptocurrencies

Module 2. Cryptoeconomics

- Evaluate a decentralized governance model and its obstacles
- Conduct an analysis of identified risks
- Generate specialized knowledge on consumer and investor protection
- Examine the effectiveness and impact on monetary policy
- Determine financial instability risks
- Analyze criminal activity
- Assess environmental impact

Module 3. Compliance Regulations and Crypto Privacy

- Apply Blockchain compliance
- Determine the regulatory standards that apply to the DLT
- Demonstrate the importance of regulations to ensure project security
- Analyze the importance of privacy and data configuration in block transactions
- Obtain the basic authorizations to start projects
- Examine project confidence parameters

03

Course Management

The teaching team of this Postgraduate Diploma is formed by a group of professionals versed in the field of Cryptoeconomics, which, in addition to being part of successful projects, have led their own. Therefore, it is a group of specialists who know in detail these digital ecosystems, as well as their most effective strategies and vulnerabilities, something they will share with the graduates during the course of the program.

The teaching team has selected use cases based on real crypto situations for you to work on perfecting your skills in a practical and multidisciplinary way"

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. Gómez García, Fernando

- DEYDE Data Quality Infrastructure Manager
- Systems and Security Administrator at IDEGroup
- Nutrytec Laboratorios S.A. Systems Manager
- Systems analyst at AT LEAST S.A
- Professor of Blockchain Technology in various higher education programs
- Bitcoin and Blockchain Expert Postgraduate Degree by the EU European University
- Advanced Course in Security Management by the Universidad Rey Juan Carlos
- Degree in Computer Engineering from the Distance University of Madrid

Mr. Montalvo Aguilera, Hermógenes

- Consultant and legal advisor in Blockchain, legal smart contracts and enterprise tokenization
- Lawyer expert in Compliance, Blockchain and Tokenomics by Esade Business School
- Cybersecurity Course
- Master's Degree in Law from the Universidad Oberta de Catalunya
- Master's Degree in Blockchain by Tutellus
- Graduate in Law from the Universidad Oberta de Catalunya

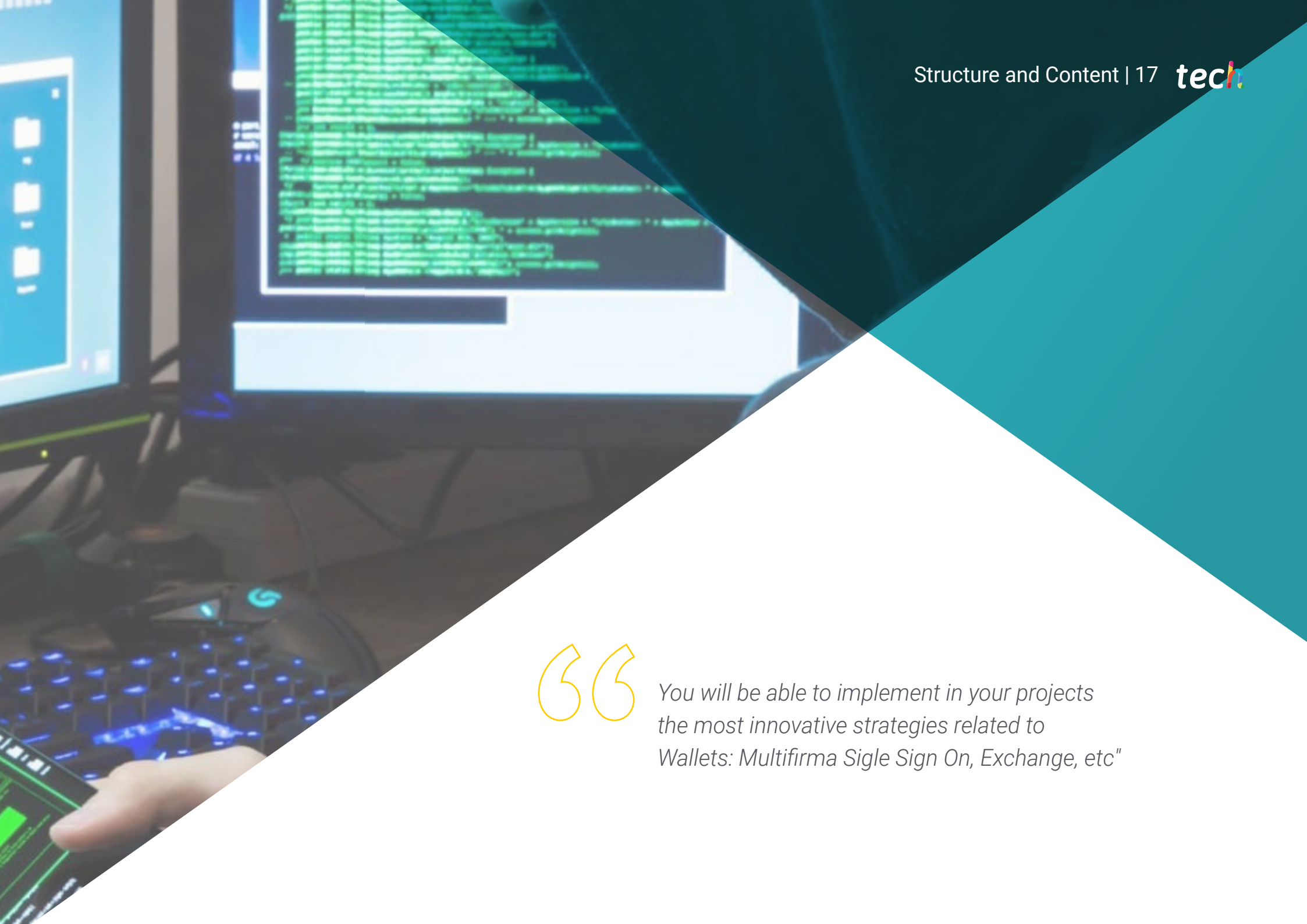
Mr. Fernández Ramos, Jesús

- Mangaging Partner at FRK Investments
- 2ndWind Media Partner
- Partner and Tokener at beToken Capital
- Blue Sky Learning Partner
- General Partner of Yara Ventures
- Member of the Board of Directors of ARCHITEChTures
- Independent Expert for the European Commission on R&D projects
- Telecommunications Engineer by the UPC - ETSETB BCN
- Diploma Work (Optoelectronics) by the Vrije Universiteit Brussel

04

Structure and Content

For the development of the structure and content of this Postgraduate Diploma, TECH Technological University has had the support of the teaching team, which, being formed by experts in the sector, knows in detail its intricacies and the most innovative and effective guidelines and protocols. Thanks to this, it has been possible to shape a highly enabling academic experience with which the graduate will acquire everything he/she needs to become a specialist highly prepared to fight against cyber-attacks in Crypto Environments.



You will be able to implement in your projects the most innovative strategies related to Wallets: Multifirma Sigle Sign On, Exchange, etc"

Module 1. Cryptocurrency and Blockchain Security

1.1. Cryptocurrency Security
- 1.1.1. Cryptography Blockchain Basis
- 1.1.2. Hash Functions
- 1.1.3. Public and Private Keys, Uses in Cryptocurrencies

1.2. Privacy and Traceability in Operations
- 1.2.1. Analysis and Traceability of Cryptocurrency Transactions
- 1.2.2. Anonymity Techniques (Proxy, VPN)
- 1.2.3. Digital Identity

1.3. TOR Network. Security/Safety
- 1.3.1. TOR Networks
- 1.3.2. Network Connections and Nodes
- 1.3.3. Freenet and IP2

1.4. VPNs. Security/Safety
- 1.4.1. VPNs. Operation
- 1.4.2. Types, Characteristics and Properties
- 1.4.3. User Profile and Authentication

1.5. User Management and Permits
- 1.5.1. Access Rights Management
- 1.5.2. Segregation of Roles and Access Functions
- 1.5.3. Implementation of Access Rights in Systems

1.6. Wallet Transaction Security
- 1.6.1. Hot and Cold Wallets
- 1.6.2. Hardware and Software Wallet Transactions
- 1.6.3. Multi-Signature

1.7. Cybersecurity and Cryptocurrencies
- 1.7.1. The Pillars of Security in Cryptocurrencies and Tokens
- 1.7.2. Risk, Threat and Vulnerability Assessment
- 1.7.3. Minimum Privileges Law Differences and Similarities between Europe and America

1.8. SSO and MFA
- 1.8.1. Single Sign On
- 1.8.2. Logical Access Control. MFA Authentication
- 1.8.3. Passwords. Importance
- 1.8.4. Authentication Attacks

1.9. Safe Custody of Crypto Assets
- 1.9.1. Differences between Exchange and wallet
- 1.9.2. Public Keys, Private Keys and Seed or Seed Phrases
- 1.9.3. Shared Custody

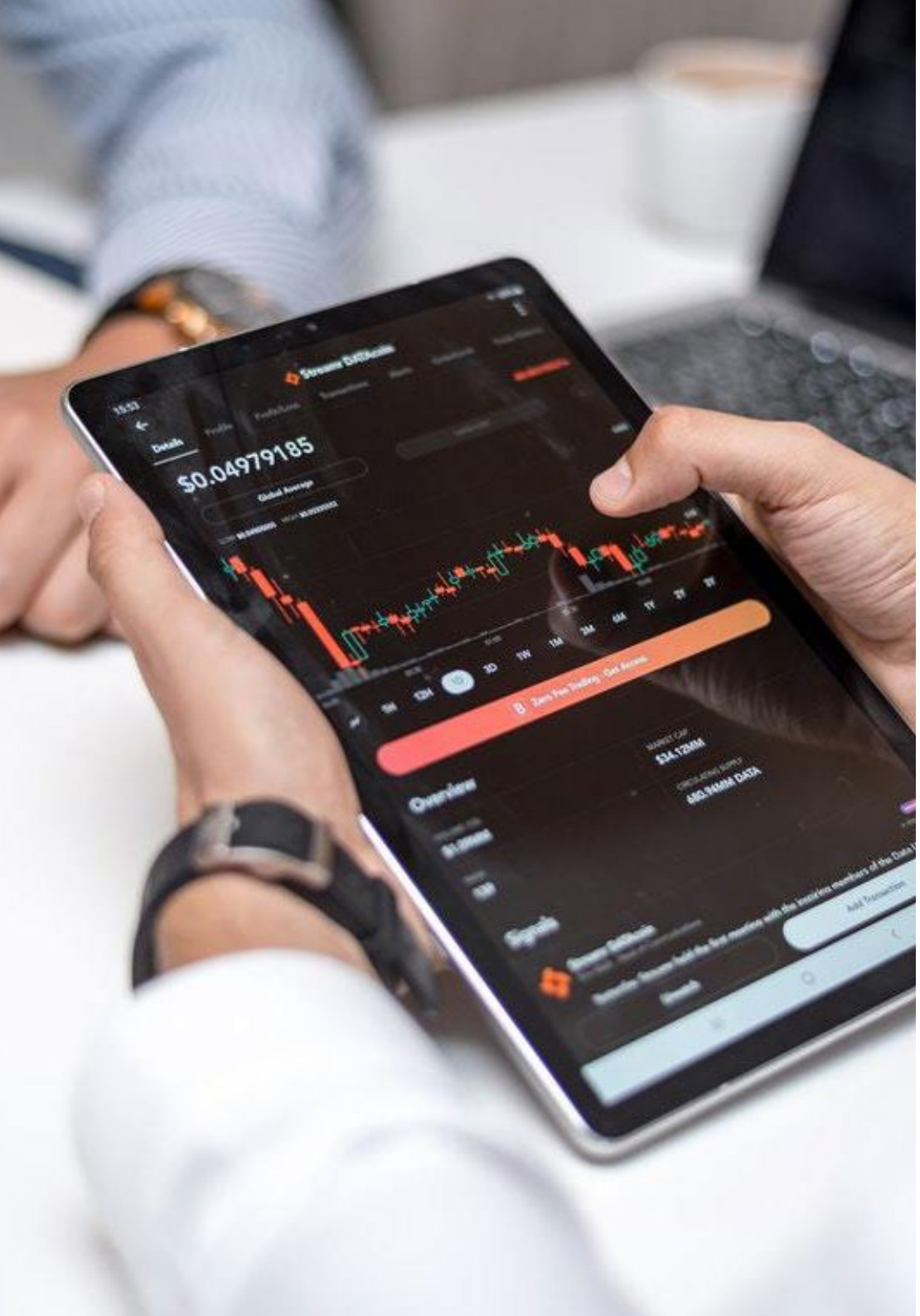
1.10. Cryptocurrency Hackers
- 1.10.1. Types of Crypto Attacks
- 1.10.2. Cryptocurrency Security Standards
- 1.10.3. Prevention of Attacks on Cryptocurrencies

Module 2. Cryptoeconomics

2.1. Cryptocurrencies and Money
- 2.1.1. Fiat Money. Operation
- 2.1.2. Bitcoin vs. Ethereum. The rest
- 2.1.3. The Role of Stable Currencies

2.2. Central Banks and CBDCs
- 2.2.1. CBDCs
- 2.2.2. The Digital Yuan Case
- 2.2.3. Bitcoin vs. CBDCs
- 2.2.4. El Salvador

2.3. Blockchain evaluation and valorization
- 2.3.1. Cash Flow Method
- 2.3.2. Country Method
- 2.3.3. Technical Analysis vs. Fundamental Analysis



2.4. Wallets
- 2.4.1. Wallets. Key Elements
- 2.4.2. Protected Wallets
- 2.4.3. Unprotected Wallets
- 2.4.4. Wallets Promoted by Countries

2.5. Tokenomics
- 2.5.1. Tokenomics: importance
- 2.5.2. NFTs or Tokens
- 2.5.3. Type of Tokens Utility vs. Security vs. Governance

2.6. Web3 Economics
- 2.6.1. The Cryptos. New Economy Basis
- 2.6.2. NFTs and Games
- 2.6.3. NFTs y Communities
- 2.6.4. Combined Models of NFTs and Tokens

2.7. Digital Identity
- 2.7.1. Cryptos as a Paradigm of Digital Identity
- 2.7.2. Digital Identity and DeFi
- 2.7.3. Soul bound NFTs

2.8. New Banking
- 2.8.1. Crypto Banks
- 2.8.2. Crypto Loans
- 2.8.3. Crypto Interests
- 2.8.4. Banking System Evolution

2.9. Crypto Project Launch
- 2.9.1. ICO
- 2.9.2. IDO
- 2.9.3. ILO
- 2.9.4. NFTs
- 2.9.5. Tokenomics and Superfluid

2.10. Medium-Term Paradigms
- 2.10.1. Quantum Computing
- 2.10.2. Big Data and Blockchain
- 2.10.3. Decentralization Utopia

Module 3. Compliance Regulations and Crypto Privacy

3.1. Digital Identity
- 3.1.1. Digital Identity Transformation
- 3.1.2. Self - Sovereign Identity
- 3.1.3. Regulatory Framework in the Different International Legal Systems

3.2. Digital Signature
- 3.2.1. Electronic Signature
- 3.2.2. Digital Certificate
- 3.2.3. Certification Authorities

3.3. Compliance
- 3.3.1. Compliance
- 3.3.2. Blockchain Compliance
- 3.3.3. Compliance Models

3.4. Cryptos and Icos Legality
- 3.4.1. Regulatory Framework
- 3.4.2. ICOS Launch
- 3.4.3. From ICOS to IDOS

3.5. Crypto Taxation
- 3.5.1. Tax Treatment of Cryptoassets in the European Union Legal System
- 3.5.2. Crypto-Asset Taxation Consultations
- 3.5.3. Tax Accounting Treatment in the European Union

3.6. International Regulation in the Different Jurisdictions Regarding the Holding of Cryptoassets Special Treatment in the Americas
- 3.6.1. MICA
- 3.6.2. DORA
- 3.6.3. EIDAS
- 3.6.4. The Future of Cryptos According to the European Commission

3.7. Cybersecurity
- 3.7.1. Cybersecurity in Blockchain
- 3.7.2. Decentralization
- 3.7.3. Blue Team

3.8. Ethics and Digital Errors
- 3.8.1. Good Faith in the Legality of U.S. Projects
- 3.8.2. Digital Transformation Mistakes
- 3.8.3. Organization Structuring Parameters

3.9. Regtech and Legaltech Solutions
- 3.9.1. REGTECH Solutions
- 3.9.2. LEGALTECH Solutions
- 3.9.3. Practical Examples

3.10. Blockchain Certificates
- 3.10.1. BlockchainCertification
- 3.10.2. Sector Business Opportunity
- 3.10.3. BlockTac

A program that will make you an indispensable asset in the fight against cyber-attacks in Crypto Environments and elevate your career to the top of the industry"

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

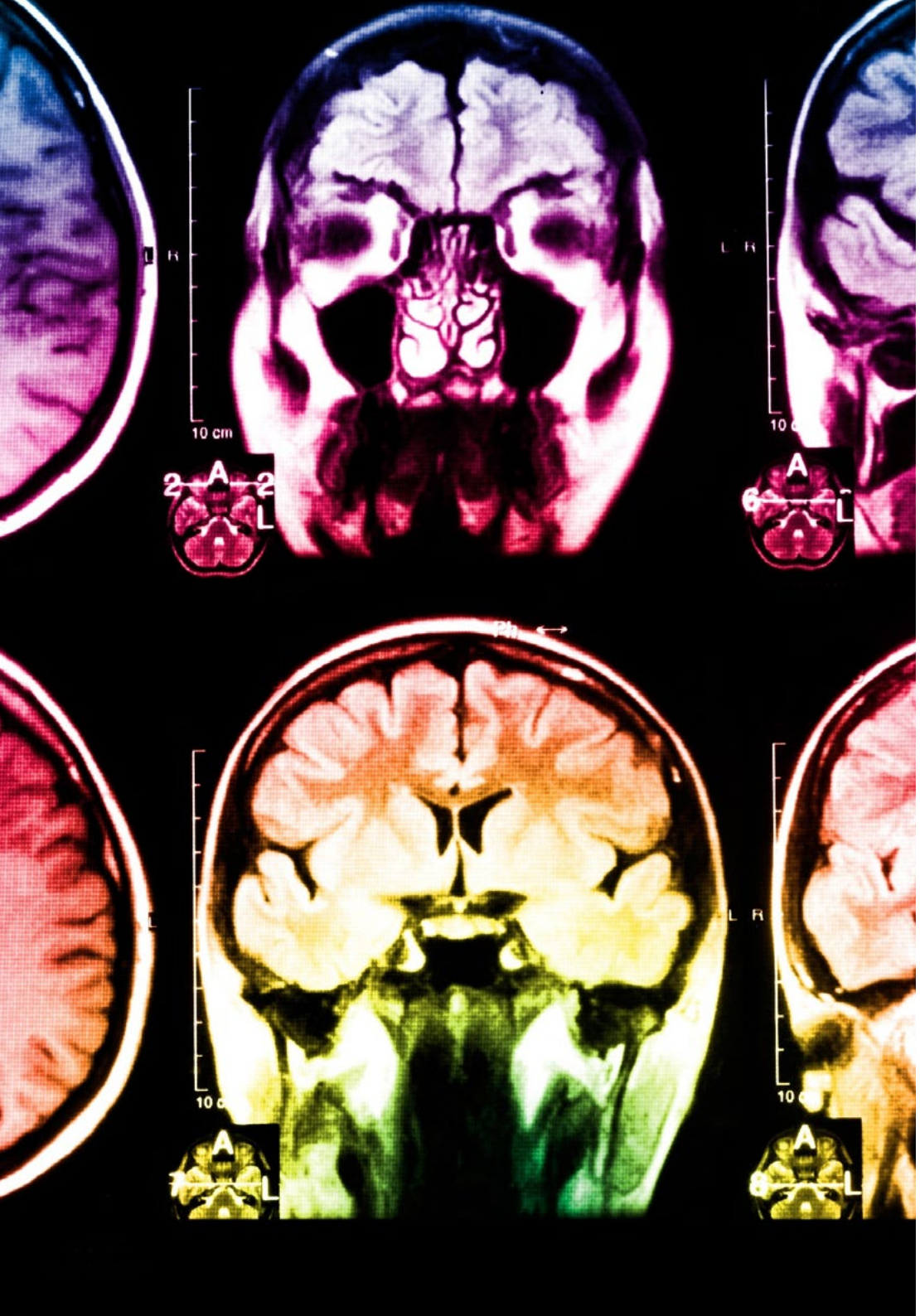
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

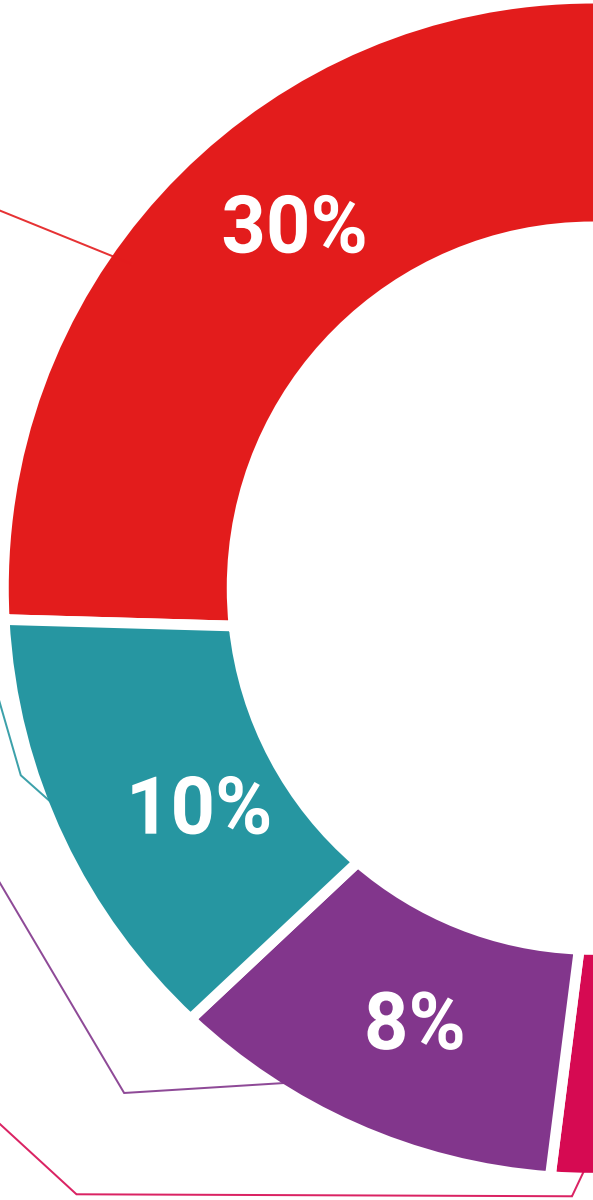
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

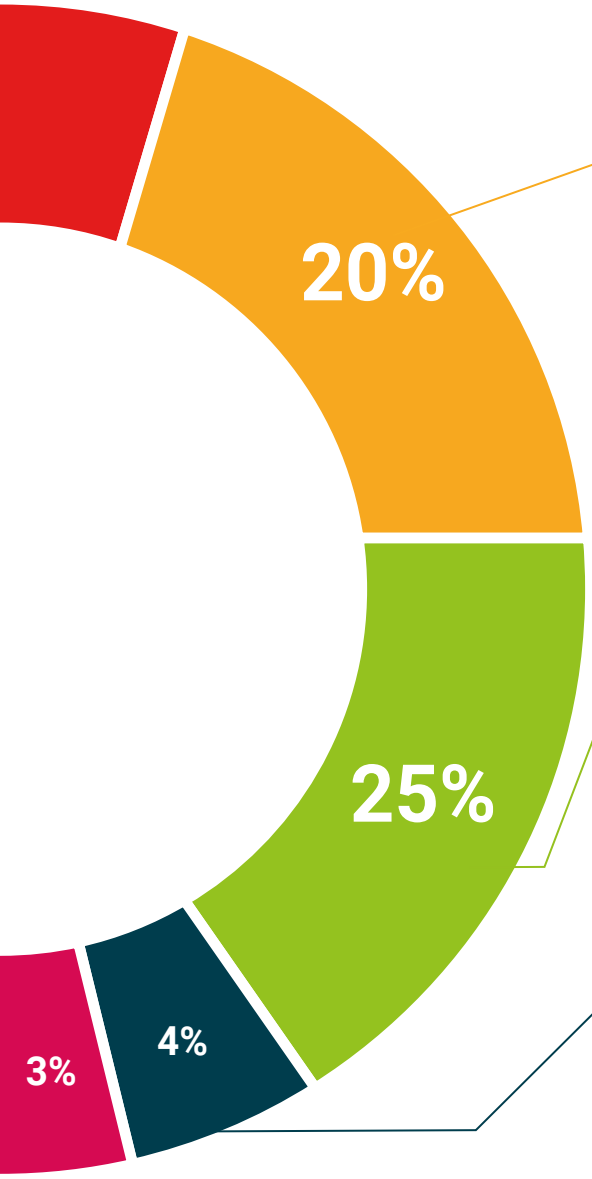
Practising Skills and Abilities

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 Security in Crypto Environments 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 Security in Crypto Environments** 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 Security in Crypto Environments**

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

Security in Crypto Environments

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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