

# Postgraduate Certificate Ethereum. DeFi Basis



## Postgraduate Certificate Ethereum. DeFi Basis

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

Website: [www.techtitute.com/us/information-technology/postgraduate-certificate/ethereum-defi-basis](https://www.techtitute.com/us/information-technology/postgraduate-certificate/ethereum-defi-basis)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

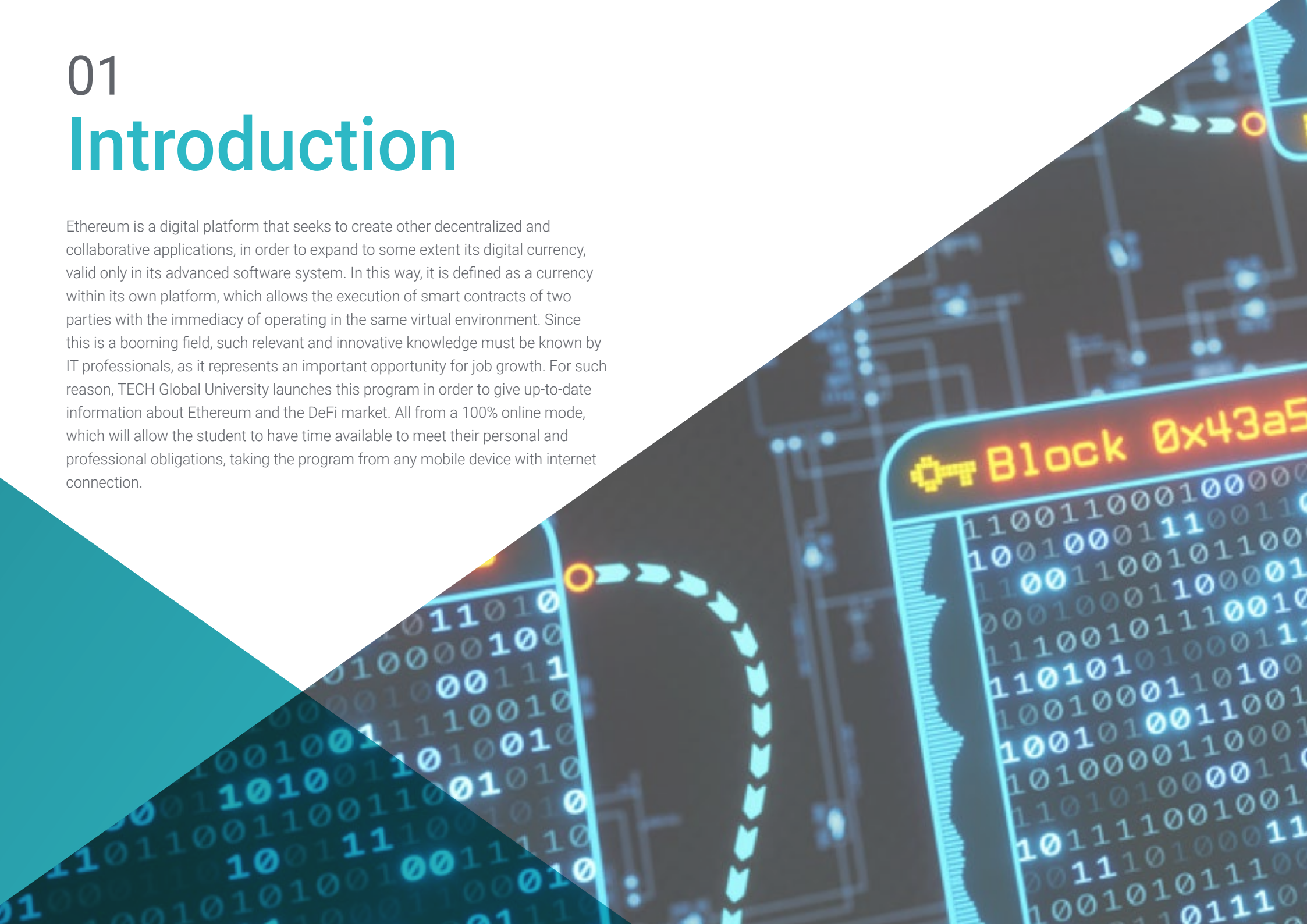
---

*p. 28*

# 01

# Introduction

Ethereum is a digital platform that seeks to create other decentralized and collaborative applications, in order to expand to some extent its digital currency, valid only in its advanced software system. In this way, it is defined as a currency within its own platform, which allows the execution of smart contracts of two parties with the immediacy of operating in the same virtual environment. Since this is a booming field, such relevant and innovative knowledge must be known by IT professionals, as it represents an important opportunity for job growth. For such reason, TECH Global University launches this program in order to give up-to-date information about Ethereum and the DeFi market. All from a 100% online mode, which will allow the student to have time available to meet their personal and professional obligations, taking the program from any mobile device with internet connection.



“

*Update your knowledge of the digital economy and innovate in its world from Ethereum, a platform that you will know in depth at the end of this very complete program"*

Given the imminent growth of digital currencies and their commercialization from advanced software systems, IT professionals need to know about the latest developments that affect, for this particular case, Ethereum, an internet platform that allows the fulfillment of contracts in a faster way and without the need for intermediaries, even having its own virtual currency.

To this extent, Ethereum plays a fundamental role in DeFi (decentralized finance) since it moves thousands of contracts that are ultimately beneficial to the covenanting parties, saving on intermediaries, commissions, contractors and so on, not to mention that they are managed from the Ethereum currency itself.

This new world of virtual finance requires a range of knowledge that encompasses terminology and concepts that are relatively new to the industry. Therefore, faced with a new emerging market that offers great possibilities for computer scientists, TECH Global University has decided to launch this program, which will be taught in a 100% online format, familiarizing the student with the digital world that lies ahead. One of the advantages of opting for this degree is that the student can download the content of the program and review it as many times as needed, from any device with an internet connection.

This **Postgraduate Certificate in Ethereum. DeFi Basis** 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



*Delve into DeFi and identify the fundamental role played by Ethereum, both as a platform and as a Cryptocurrency"*

“

*A 100% virtual program where you can delve into the world of Decentralized Finance, specifically those related to the Ethereum environment”*

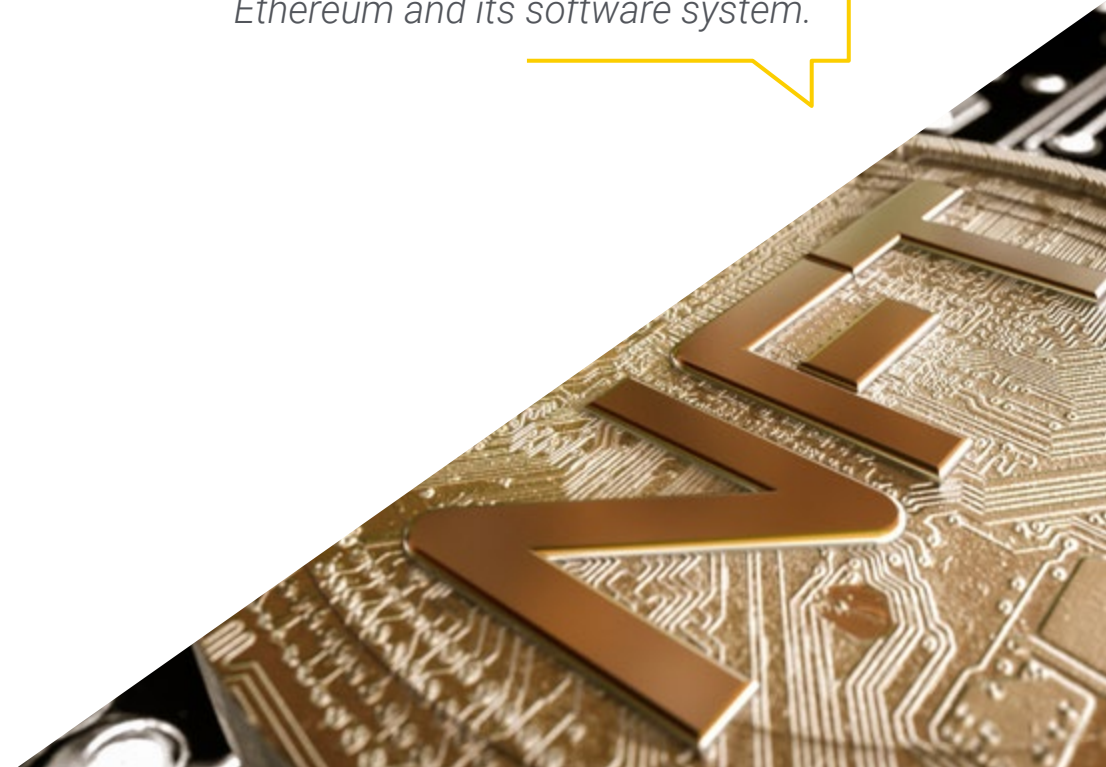
The program’s teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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.

*Learn how to manage Ethereum Wallets and boost your programming skills at the same time in this Diploma.*

*A program designed to the needs of the current market, which will allow you to deepen your knowledge of Ethereum and its software system.*



# 02 Objectives

TECH Global University's main objective for this program on Ethereum. DeFi Basis, is to provide up-to-date information on the latest developments in the digital sector. For such reason, the development of this degree will delve into the functioning of the Blockchainsystem and its cryptocurrency model, which is of vital importance within its transactions and digital contracts. These objectives will be achieved through a high-level academic process, which will allow the professional not only to achieve their goals, but also to improve their skills.







“

*Improve your skills and delve deeper into the world of DeFi, as it is the new digital trading system”*



## 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
- ◆ Analyze DeFi advantages
- ◆ Understand how it works
- ◆ Perform DeFi project analysis
- ◆ Analyze the most used DeFi analysis tools
- ◆ Generate specialized knowledge on the most widely used DeFi technology
- ◆ Familiarize yourself with the most relevant DeFi protocols in the crypto ecosystem
- ◆ Understand money and the key difference between fiat and crypto
- ◆ Learn how to value a Blockchain Tokenomics
- ◆ Become familiar with wallets and web 3
- ◆ Establish differences between public and private platforms
- ◆ Analyze how Blockchain is applied when cryptocurrencies do not apply to the case study
- ◆ Analyze the main Defi protocols
- ◆ Substantiate its operation
- ◆ Identify the main market movements
- ◆ Examinar y proponer entradas y salidas de inversión
- ◆ Evaluate and develop investment strategies
- ◆ 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 principles of crypto-asset security
- ◆ Examine the main threats in cyberspace
- ◆ Discover best practices for crypto asset custody



## Specific Objectives

---

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



*Achieve the title of this program and be part of financial processes that have global repercussions, allowing you to learn the basics of current software and why not, create your own virtual currency"*

03

# Course Management

In its commitment to academic excellence, TECH Global University has selected first-class teaching staff. They are active specialists with more than 10 years of experience in the different branches of the sector, with in-depth knowledge in the fields of design, marketing, positioning and software systems. In addition to this, the professors will be open to dialogue to solve any doubts or concerns that may arise during the course of the course.



“

*A highly qualified teaching staff to make the development of your program an enriching and beneficial experience for your future, which will allow you to become a specialist in Ethereum and DeFi management"*

## 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. Fernández Belando, David

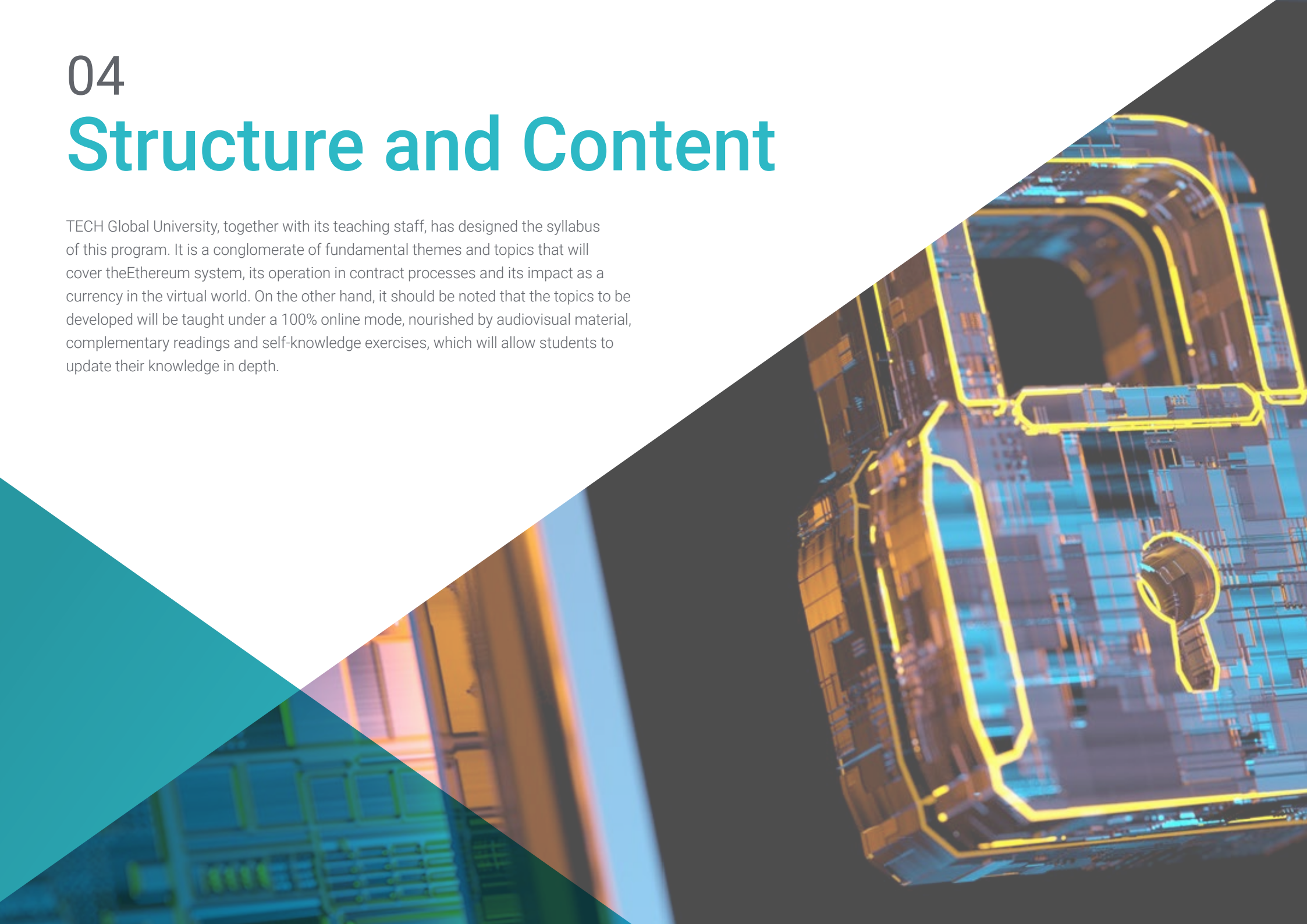
- ♦ Founding partner of ADNBLOCK
- ♦ Information Technology Engineering at the National University of Distance Education
- ♦ Bitcoin and Blockchain Expert Postgraduate Degree at the European University of Madrid
- ♦ IBM Blockchain Essentials
- ♦ IBM Blockchain Foundation Developer



# 04

# Structure and Content

TECH Global University, together with its teaching staff, has designed the syllabus of this program. It is a conglomerate of fundamental themes and topics that will cover the Ethereum system, its operation in contract processes and its impact as a currency in the virtual world. On the other hand, it should be noted that the topics to be developed will be taught under a 100% online mode, nourished by audiovisual material, complementary readings and self-knowledge exercises, which will allow students to update their knowledge in depth.





“

*A program full of audiovisual material, graphic pieces and complementary readings that you can download from the Virtual Campus”*

## Module 1. Ethereum. DeFi Basis

- 1.1. Ethereum Fundamentals
  - 1.1.1. Ethereum
  - 1.1.2. Ethereum Yellow paper
  - 1.1.3. How Ethereum Works
- 1.2. Smart Contracts
  - 1.2.1. Analysis of the Main Smart Contracts
  - 1.2.2. Ethereum Deployment
  - 1.2.3. Smart Contracts in DeFi
- 1.3. Tokens
  - 1.3.1. ERC20 Tokens
  - 1.3.2. ERC720 Tokens (NFT tokens)
  - 1.3.3. Other Token Standards
- 1.4. Consensus Model
  - 1.4.1. Ethereum Consensus
  - 1.4.2. Ethereum from POW to POS
  - 1.4.3. POW Impact on DeFi
- 1.5. Ethereum Networks
  - 1.5.1. Main Net
  - 1.5.2. Test Net
  - 1.5.3. Private Net
- 1.6. Ethereum Programming
  - 1.6.1. Available Compilers
  - 1.6.2. Solidity Applied to DeFi
  - 1.6.3. Ganache and its Utilities
- 1.7. Ethereum Components
  - 1.7.1. Ethereum Virtual Machine
  - 1.7.2. Accounts and Addresses
  - 1.7.3. Ether the DeFi Currency
- 1.8. Ethereum DAOs and DAPPs
  - 1.8.1. DAOs
  - 1.8.2. Dapps
  - 1.8.3. Main DAPPs in DeFi



- 1.9. Oracles
  - 1.9.1. The Oracles
  - 1.9.2. Oracle Types
  - 1.9.3. Oracle Analysis
- 1.10. Ethereum Wallets
  - 1.10.1. Types of Ethereum Wallets
  - 1.10.2. Metamask
  - 1.10.3. Advanced Use of DeFi Wallets

“

*Don't miss this opportunity,  
enroll now and learn more about  
Ethereum and DeFi"*

# 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

This Postgraduate Certificate in Ethereum. DeFi Basis guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



“

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

This program will allow you to obtain your **Postgraduate Certificate in Ethereum. DeFi Basis** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: **Postgraduate Certificate in Ethereum. DeFi Basis**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



## Postgraduate Certificate Ethereum. DeFi Basis

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

# Postgraduate Certificate Ethereum. DeFi Basis

