Advanced Master's Degree
Blockchain and NFT Economics in Video Games

tech technological university

Advanced Master's Degree
Blockchain and NFT Economics in Video Games

» Modality: **online**
» Duration: **2 years**
» Certificate: **TECH Technological University**
» Schedule: **at your own pace**
» Exams: **online**

Website: **www.techtitute.com/us/videogames/advanced-master-degree/advanced-master-degree-blockchain-economics-nft-video-games**

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Introduction

In the last year, the number of video game companies that have included among their strategies the use of Non-Fungible Tokens, in order to offer unique content in the market, has grown exponentially, proportionally increasing the demand of connoisseurs in this sector. However, finding a degree that allows professionals to develop comprehensive, specialized and up-to-date knowledge on this subject has become as complex a task as mining a Bitcoin. For this reason, TECH and its team of Blockchain and NFT experts decided to launch this advanced 100% online program, aimed at providing the graduate with all the information they need to perfectly manage the tools, techniques and strategies that characterize blockchain and its implication in the video game industry.

We present to you the program that will mark a before and after in your professional career in the video game industry, thanks to the exhaustive knowledge of NFT and Blockchain technology"

Blockchain technology has been a part of the video game industry for some years now, with Sky Mavis being a pioneer in its use with the launch of Axie Infinity. However, the development of NFTs and the possibilities that have arisen from their application in the world of cryptocurrencies and digital assets has led Gaming industry giants such as SEGA, Square Enix and Zynga, among others, to incorporate these techniques into their design and marketing strategies.

This is a sector in continuous expansion that requires specialized and specific knowledge for its management, not only in terms of the technology involved in the Blockchain, but also its business application and DeFi services. For that reason, and in order for the graduate to find in a single program all the information that will allow them to meet the industry's demand for highly qualified professionals in the area, TECH and its team of experts has decided to launch this Advanced Master's Degree in Blockchain and NFT Economics in Video Games.

Through a multidisciplinary program, you will delve into the development of public blockchains and their application in the Gaming industry, with special emphasis on the best tools to achieve secure and successful projects. In short, it is a program that combines, in a single and very complete intensive, theoretical and practical program, the specifications of Blockchain programming and its economy based on Crypto-Gaming.

In addition, among the characteristics that make this program the best in the market, it is worth highlighting its 100% online format, adapted to each graduate. Thanks to this, you will be able to access the virtual classroom 24 hours a day and from any device with an Internet connection, thereby allowing you to customize this educational experience based on your own availability, without schedules or on-site classes.

This **Advanced Master's Degree in Blockchain and NFT Economics in Video Games** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in *Blockchain* economics and video game development
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies in the computer and programming industry
- Theoretical lessons, questions to the expert, forums for discussion of controversial issues and individual reflection papers
- Content that is accessible from any fixed or portable device with an Internet connection

Thanks to the skills you will develop with this program, you will be able to seamlessly manage Hyperledger Besu and Fabric to adapt Blockchain specifications to the business world"

" *The use of the most cutting-edge teaching methodology in the design of this program will help you learn in detail the legal implications of the Blockchain and generate specialized knowledge about the Whitepaper"*

A 100% online program with no schedules or on-site classes with which you will be able to manage the design of the Blockchain architecture from wherever you want and whenever you want.

You will have a multitude of additional material in different formats to study, for example, the characteristics of Ethereum, Stellar and Polkadot management.

Its teaching staff includes professionals from the field of computer science and video game development, who bring their work experience to this program, as well as renowned specialists from leading companies 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 an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

TECH is aware that perfectly managing Blockchain technology in a sector as specific as video games can be a complex task to carry out. However, since the idea of developing this degree came up, the objective of the university and its team of experts has been to provide the best theoretical and practical learning, bringing together in a single program all the information that the graduate needs to master this technology to perfection. This will contribute to your professional development and growth, making you a highly valued specialist in the labor market.

If one of your main objectives is to be able to generate innovative projects and strategies based on NFT technology with total guarantee of success, this program will give you the keys to achieve it"

General Objectives

- Draw conclusions regarding good security practices
- Consider the vulnerabilities associated with Blockchain
- Analyze the future impact of running public blockchain
- Develop design criteria for applications on production Hyperledger Besu clients
- Provide a foundation in the management and configuration of Hyperledger Besu-based networks
- Promote best practices when developing applications with dependency on Blockchain networks, particularly those based on Ethereum and on Hyperledger Besu client
- Integrate the student's existing knowledge in a refined way based on the needs of industry and business with their notions of quality, effort measurement and development valuation, expanding their value as a Blockchain application developer
- Generate specialized knowledge about what Hyperledger Fabric encompasses and how it works
- Examine the resources that Hyperledger provides free of charge
- Analyze the features of Hyperledger Fabric
- Develop Fabric's current main application case studies
- Determine what Open Finance is
- Analyze the evolution of the crypto world up to today
- Identify the regulations applicable to the different business models offered by technology
- Establish the basics of knowledge of the crypto world and its key aspects
- Identify potential legal risks in real projects
- Determine the logistic processes to define the main needs and gaps of the current logistic process

- Demonstrate the potential of the technology and validate that the solution fits the need
- Implement the solution in phases so that value can be extracted from the beginning of the project and can be adjusted as use and learning occur
- Analyze why or why not to apply a Blockchain solution in our environment
- Generate specialized knowledge on the logical concept of distributed technologies as a comparative advantage
- Identify systematically and in detail of its various components the functioning of Blockchain, technology, developing how its advantages and disadvantages are linked to the way in which its architecture functions
- Analyze the main features of decentralized finance in the context of the Blockchain economy
- Establish the fundamental characteristics of non-fungible tokens, their operation and deployment from their emergence to the present day
- Understand the link between NFTs and Blockchain and examine strategies for generating and extracting value from non-fungible tokens
- Expose the characteristics of the main cryptocurrencies, their use, levels of integration with the global economy and virtual gamification projects

Specific Objectives

Module 1. Development with Public Blockchain: Ethereum, Stellar and Polkadot

- ◆ Broaden skills in the world of Blockchain development
- ◆ Develop practical examples based on cases
- ◆ Compile generic knowledge about the Blockchain in practice
- ◆ Analyze the operation of a public Blockchain
- ◆ Gain experience in Solidity
- ◆ Establish a relationship between the different public Blockchains
- ◆ Create a project on a public Blockchain

Module 2. Blockchain Technology. Cryptography and Security

- ◆ Establish methodologies for information analysis and deception detection on the Internet
- ◆ Plan an Internet search strategy
- ◆ Determine the most appropriate tools to detect a criminal act on the Internet
- ◆ Deploy an environment with the following tools: Logstash, Elasticsearch and Kibana
- ◆ Address the risks faced by analysts in a research exercise
- ◆ Conduct research processes based on wallet or address availability
- ◆ Identify possible indications of mixers being used to blur transaction trails

Module 3. Corporate Blockchain Development: Hyperledger Besu

- ◆ Identify key configuration points in the consensus protocols available with Hyperledger Besu
- ◆ Rightsize a Besu Hyperledger service to support business applications
- ◆ Develop automated test protocols for quality validation in Hyperledger Besu environments
- ◆ Establish safety criteria for a production environment with Hyperledger Besu
- ◆ Compile the different types of configurations on Hyperledger Besu clients
- ◆ Establish the foundations for developing Digital Identity solutions based on Blockchain

- Strengthen knowledge of the functioning of the consensus mechanisms implemented in Hyperledger Besu
- Define the most interesting technological *Stack* in the implementation of infrastructure and development of applications based on Hyperledger Besu

Module 4. Corporate Blockchain Development: Hyperledger Fabric

- Generate specialized knowledge about Hyperledger and Fabric
- Determine the inner workings of transactions
- Solve a problem with Fabric
- Deploy Fabric
- Gain experience in Fabric deployments

Module 5. Sovereign Identity Based on Blockchain

- Analyze the different *Blockchain* technologies that enable the development of Digital Identity models
- Analyze Self-Sovereign Digital Identity proposals
- Assess the impact on public administration of implementing Self-Sovereign Digital Identity models
- Foundations for developing *Blockchain*-based Digital Identity solutions
- Generate specialized knowledge on Digital Identity
- Determine the inner workings of identities in *Blockchain*

Module 6. Blockchain and its New Applications: DeFi and NFT

- Evaluate the importance of Stable Coins
- Examine Maker, Augur and Gnosis protocol
- Determine the AAVe protocol
- Identify the importance of Uniswap
- Study the Sushiswap philosophy in depth

- Analyze dY/dX and Synthetix
- Identify the best markets for NFT exchange

Module 7. Blockchain. Legal Implications

- Generate specialized knowledge on the *Whitepaper* concept
- Determine the legal requirements for cryptoassets
- Establish the legal implications in the regulation of cryptocurrencies
- Develop the regulation of tokens and ICOs
- Contrast and compare the current regulations against the EIDAS regulations
- Examine the current regulation of NFTs

Module 8. Blockchain Architecture Design

- Develop the foundations of the architecture
- Generate specialized knowledge in *Blockchain* networks
- Assess stakeholders
- Determine infrastructure requirements
- Identify deployment options
- Program for production start-up training

Module 9. Blockchain Applied to Logistics

- Examine the operational and systemic reality of the company to understand the needs for improvements and future solution with the Blockchain
- Identify the To Be model with the solution best suited to the company's needs and challenges
- Analyze a Business Case with a plan and macro solution agreement for executive approval
- Demonstrate the potential and scope of the application and its benefits by means of a POC for operational approval
- Establish a project plan with the owner and stackholders to start work on functional definition and prioritization of sprints

◆ Develop the solution according to the user stories to initiate testing and validation to go into production

◆ Carry out a concrete Change Management and Blockchain implementation plan to bring the whole team to a new digital mindset and a more collaborative culture

Module 10. Blockchain and Business

◆ Mentally analyze why we should or should not implement a Blockchain project in our environment

◆ Examine the challenges we face when implementing a product based on DLT technology

◆ Adapt knowledge and mental tools to understand the project-oriented Blockchain concept

◆ Conjugate all the possibilities that the vast Blockchain universe gives us, distributed, DeFi, etc. Determine when a Blockchain project is correct or not

◆ Discern between a meaningful project and the hypesurrounding this technology

Module 11. Blockchain

◆ Identify the components of Blockchain Technology

◆ Determine the advantages of Blockchain in entrepreneurship projects

◆ Select ad hoc network types with the objectives proposed when planning a gamified economy project

◆ Choose and manage a Wallet (Digital Wallet)

Module 12. DeFi

◆ Acquire the necessary knowledge to make use of DeFi-based projects

◆ Identify the advantages that decentralized finance offers to the gamified economy

◆ Identify the different levels of risk that can be assumed in the use of DeFi

◆ Describe how decentralized markets constitute applications framed in the DeFi

◆ Identify the layers relevant to the gamified economy sector

Module 13. NFT

- Mint the new NFTs
- Determine the properties of the NFT
- Generate innovation strategies based on NFT technology
- Introduce NFT in gamified economies
- Understand the functioning of the NFT mining system in gamified economies
- Identify the value of an NFT in the marketplace
- Employ NFT valorization strategies

Module 14. Cryptocurrency Analysis

- Discriminate the cryptocurrencies that are most suitable for future ventures
- Perform behavioral estimates of cryptocurrencies
- Interpret cryptocurrency booms and busts
- Establish criteria in the selection of Stablecoins

Module 15. Networks

- Discriminate the selection of optimal networks of the proposed purposes in a future undertaking, through the examples of use and main characteristics of each one of them
- Understand how networks work and establish a strategy based on them
- Develop plans to improve user level accessibility from the networks

Module 16. Metaverse

- Analyze the immersion form of your game through the analysis of costs, technological resources and objectives of future ventures
- Categorize spaces within a Metaverse according to their place in the economic system
- Formulate jobs related to the economic system of the Metaverse
- Manage *landing* systems within a Metaverse

Module 17. External Platforms

- Know the tools of the main platforms that offer services related to cryptocurrencies, Blockchain, decentralized economies and NFT
- Use external platforms to increase value generation within a Blockchain gaming project
- Understand how DEX works

Module 18. Analysis of Variables in Gamified Economies

- Categorize elements within a game in relation to their incidence within the final economy of the game
- Identify the degrees to which economy variables within a game fall within their category
- Understand the proportional and inverse proportional relationships between two or more economic variables

Module 19. Gamified Economic Systems

- Build a game economy
- Develop a long-term sustainable economic environment
- Describe the critical points of the *Blockchain* economy in a venture project
- Identify how the network of elements that make up the economic system of a Blockchain game behaves
- Orient the economics of a game to the proposed profitability goals

Module 20. Blockchain Video Game Analysis

- Discern which economic strategies have shown the greatest stability and profitability in current market projects
- Identify stability and profitability margins in gamified economy projects
- Master the market trends in *Blockchain* gaming from its participation, stability and profitability

Delving into NFT monetization strategies in gamified economies through consumables and mining will allow you to develop more ambitious projects with a greater guarantee of success"

03
Skills

During the university period, the student learns everything necessary to carry out a professional practice adapted to the specifications of the sector, which can then be improved in the labor market. However, in environments such as those related to Blockchain and the video game industry, it is necessary to constantly update their knowledge, so that the skills they develop in their jobs are the most appropriate based on the immediate relevance of the profession. That is why this course will help them avoid developing outdated and obsolete projects, expanding and perfecting their specialized creative and IT skills.

"

Among the skills you will acquire during the program is the administration of landing systems within a metaverse"

General Skills

- Determine the extent to which information can be collected from _Wallets_ that we physically hold, only when we have an address.
- Face the deployment of a Hyperledger Fabric project
- Assess the impact on data privacy and security that current digital identity models present.
- Identify the benefits of using _Blockchain_ technology for the deployment of digital identity-based solutions.
- Assess new forms of passive income
- Examine the main advantages for citizens of the implementation of Self-Sovereign Digital Identity Models.
- Compile use cases in which Blockchain-based Digital Identity Models are transforming organizations' processes.
- Understand the revolutionary nature of the _Blockchain_ and to plan entrepreneurial objectives according to how it works.
- Identify the potential and advantages of the DeFi model for future ventures and the main differences with other economic models.
- Analyze the relationship and ways of implementing non-fungible _Tokens_ with gamified economies.
- Understand the functioning and constitution of the Metaverse.
- Plan ways of integrating external _Blockchain_ platforms to our gamification project.
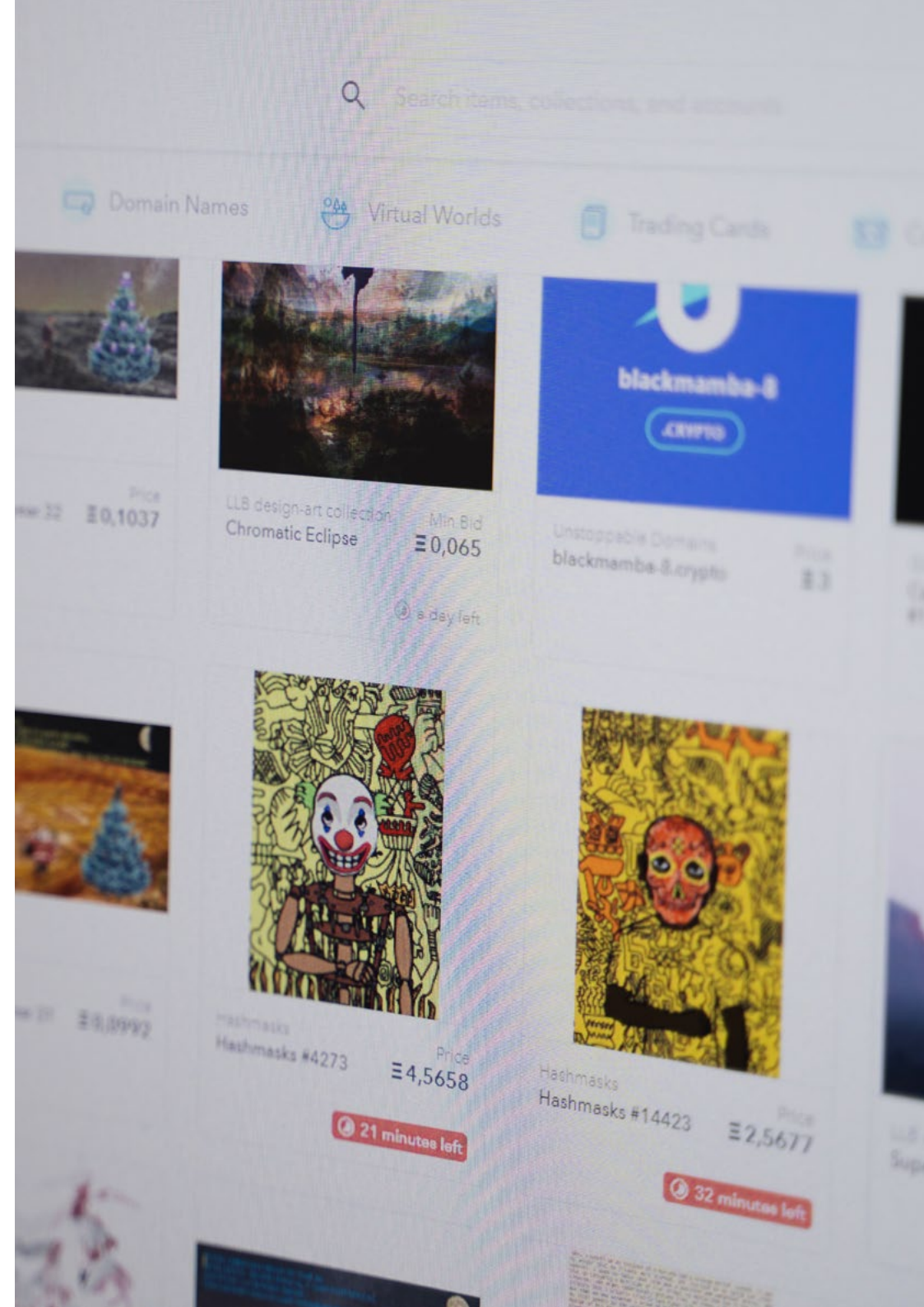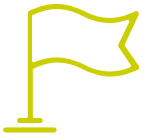
Specific Skills

- Generate specialized knowledge about Ethereum as a public Blockchain
- Master the Stellar platform
- Specializing in Polkadot and Substrate
- Determine the right Blockchain network for each project
- Achieve a secure, stable and scalable Blockchain network
- Establish the best solution and applicability of the blockchain for the need of the company and all participants
- Explore the capability of certain Blockchain implementations and their impact on the financial and pharmaceutical field
- Analyze the best way to implement a Blockchain process focusing on the basics of the technology
- Assess risk levels in DeFi projects
- DeFi lending and Trading strategies
- Learn about the different ways of building a decentralized virtual space and to analyze the economic opportunities related to this commercial phenomenon
- Establish the differences between Bitcoin and Altcoins
- Diagnose the degree of usefulness of external platforms in a given Blockchain gamification project
- Differentiate the level of impact of the various variables in gamified economies

- Identify the types of assets in the creation of a gamified economy
- Establish economies based on gamified economic variables and generate long-term sustainable economies
- Analyze the possibilities of success of an economic system based on the study of its internal economy
- Select projects whose characteristics are similar to our venture as an object of study and validation of future strategies to generate profitability and value in our digital assets

In this program you will find an exclusive module dedicated to the analysis of cryptocurrencies, so that you can include this digital asset in an informed way in your Blockchain projects"

04
Course Management

The objective of this program is for the graduate to become a specialist versed in Blockchain and NFT Economics in Video Games. For this reason, TECH has selected for its management and teaching the best team to help you achieve it: experts from different IT sectors, but with extensive experience in the management and leadership of projects related to this technology. They are a group of professionals committed to your academic and professional growth and will provide you with all the tools at their disposal to ensure that you complete this degree having achieved your most ambitious goals.

"

The guarantee of being able to resolve any doubts about the program directly with a teaching team specialized in Blockchain is another of TECH's ways of demonstrating its commitment to your professional growth"

Management

Mr. Torres Palomino, Sergio

- IT Engineer with expertise in Blockchain
- Blockchain Lead at Telefónica
- Blockchain Architect at Signeblock
- Blockchain Developer at Blocknitive
- Writer and Publisher at O´Really Media Books
- Professor in postgraduate studies and Blockchain related courses
- Degree in Computer Engineering from San Pablo CEU University
- Master's Degree in Big Data Architecture
- Master's Degree in Big Data and Business Analytics

Mr. Olmo Cuevas, Alejandro

- Game designer and Blockchain economies for video games
- Founder of Seven Moons Studios Blockchain Gaming
- Founder of the Niide project
- Writer of fantastic narrative and poetic prose

Professors

Mr. Triguero Tirado, Enrique
- Chief Technical Officer of Blockchain Infrastructure at UPC-Threepoints
- Chief Technical Officer at Ilusiak
- Project Management Officer at Ilusiak and Deloitte
- ELK Engineer at Everis
- Systems Architect at Everis
- Graduated in Technical Engineering in Computer Systems at the Polytechnic University of Valencia
- Master in Blockchain and its Applications to Business by ThreePoints and Polytechnic University of Valencia

Mr. Callejo Gonzáles, Carlos
- CEO and Founder of Block Impulse
- Chief Technology Officer at Stoken Capital
- Advisor at Club Crypto Actual
- Advisor in Cryptocurrencies for All Plus
- Master's Degree in Applied Blockchain
- Superior Degree in Information Systems and Telecommunications

Mr. de Araujo, Rubens Thiago
- Manager of the project IT Blockchain for Supply Chain at Telefónica Global Technology
- Logistics Innovation and Projects Manager at Telefónica Brazil
- Teacher of university programs in his specialty
- Master's Degree in PMI Project Management from SENAC University. Brazil
- Graduate in Technological Logistics from SENAC University. Brazil

Ms. Foncuberta, Marina
- Senior Associate Attorney at ATH21, Blockchain, Cybersecurity, IT, Privacy and Data Protection
- Professor at San Pablo CEU University: subject "Law and new technologies: Blockchain
- Attorney Pinsent Masons, Blockchain Cybersecurity, IT, Privacy and Data Protection Department
- Lawyer as part of Secondment Program, Technology, Privacy and Data Protection Department, Wizink
- Lawyer as part of the Secondment Program, Cybersecurity, IT, Privacy and Data Protection Department, IBM
- Law Degree and Postgraduate Certificate in Business Studies from the Universidad Pontifica Comillas
- Master's Degree in Intellectual and Industrial Property, Universidad Pontificia Comillas (ICADE), Madrid
- Program on Law and Blockchain: "Blockchain: Legal implications

Mr. Olalla Bonal, Martín
- Senior Blockchain Practice Manager at EY
- Blockchain Client Technical Specialist for IBM
- Director of Architecture for Blocknitive
- Non-Relational Distributed Databases Team Coordinator for wedoIT (IBM Subsidiary)
- Infrastructure Architect at Bankia
- Head of Layout Department at T-Systems
- Department Coordinator for Bing Data Spain S.L

Mr. Vaño Francés, Juan Francisco

- Engineer in Computer Science
- Solidity Engineer at Vivatopia
- Senior Computer Technician at R. Belda Lloréns
- Computer Science Engineer at the Polytechnic University of Valencia
- Specialized in DApp programming and Smart Contract development with Solidity
- Data Science Tools Course

Ms. Salgado Iturrino, María

- Software Engineer with expertise in Blockchain
- Blockchain Manager Iberia & LATAM at Inetum
- Identity Comission Core Team Leader at Alastria Blockchain Ecosystem
- Software Developer at Indra
- Teacher in postgraduate studies related to Blockchain
- Degree in Software Engineering from the Complutense University of Madrid
- Master's Degree in Computer Engineering from the Polytechnic University of Madrid
- University Expert in Blockchain Application Development

Mr. Olmo Cuevas, Víctor

- Co-Founder, Game Designer and Game Economist at Seven Moons Studios Blockchain Gaming
- Web designer and professional video game player
- Professional Online Poker Player and Teacher
- Graphic Designer at Arvato Services Bertelsmann
- Project Analyst and Investor at Crypto Play to Earn Gaming Scene
- Chemical laboratory technician
- Graphic Designer

Mr. García de la Mata, Íñigo

- Senior Manager and Software Architect of the Innovation Team at Grant Thornton
- Blockchain Engineer at Alastria Blockchain Ecosystem
- Professor in Blockchain University courses at UNIR
- Professor and Blockchain Bootcamp and Geekshub
- Consultant at Ascendo Consulting Healthcare & Pharma
- Engineer at ARTECHE
- Bachelor's Degree in Industrial Engineering with a Major in Electronics
- Master's Degree in Electronics and Control from Comillas Pontifical University
- Degree in Computer Engineering from the Spanish Open University (UNED)
- TFG tutoring at Comillas Pontifical University

Mr. Gálvez González, Danko Andrés

- Commercial advisor at Niide, a gamified economy project on Blockchain
- HTML and CCS programmer in learning didactics projects
- Movistar and Virgin Mobile Sales Executive
- Bachelor's Degree in Education from Playa Ancha Educational Sciences University

Ms. Gálvez González, María Jesús

- Dideco Advisor and Head of the Women's Area of the Municipality of El Tabo
- Teacher at the Professional Institute AIEP
- Head of the Social Department of the Municipality of El Tabo
- Degree in Social Work from the University of Santo Tomás
- Master's Degree in Strategic People Management and Organizational Human Talent Management
- Diploma in Social Economy from the University of Santiago de Chile

Ms. Carrascosa Cobos, Cristina

- Lawyer expert in Technology Law and use of ICTs
- Director and Founder of ATH21
- Columnist at CoinDesk
- Lawyer at Cuatrecasas Law Firm
- Lawyer at Broseta Law Firm
- Lawyer at Pinsent Masons Law Firm
- Master's Degree in Corporate Counseling from IE Law *School*
- Master's Degree in Taxation and Taxation by CEF
- Degree in Law from the University of Valencia

Mr. Herencia, Jesús

- Director of Digital Assets at OARO
- Founder and Blockchain Consultant at Shareyourworld
- IT Manager at Crédit Agricole Leasing & Factoring
- CEO of Blockchain Open Lab
- IT Manager at Mediasat
- Diploma in Computer Systems Engineering from the Polytechnic University of Madrid
- Secretary General of AECHAIN
- Member of: Academic Committee for the Promotion of Cryptoassets and DLT Technology Research, Ethereum Madrid and AECHAIN

05
Structure and Content

The use of the Relearning methodology in the design of this Advanced Master's Degree has allowed TECH to considerably reduce the teaching load of its content. In its place, the graduate will find dozens of hours of additional supplementary material in high quality audiovisual format, readings on the immediate current affairs of the Blockchain sector and research articles to learn about the advances of this technology. This, together with the versatility of the 100% online format, allows this university to offer a complete program with a degree of personalization adapted to the demands of each student.

Through the practical analysis of video games such as Star Atlas, Outer Ring or Upland you will be able to learn in detail the usability of Blockchain in this sector and develop similar mechanics, but your own, based on successful prototypes"

Module 1. Public Blockchain. Development: Ethereum, Stellar and Polkadot

1.1.   Ethereum. Public Blockchain
- 1.1.1.   Ethereum
- 1.1.2.   EVM and GAS
- 1.1.3.   Etherescan

1.2.   Ethereum Development. Solidity
- 1.2.1.   Solidity
- 1.2.2.   Remix
- 1.2.3.   Compilation and Execution

1.3.   Ethereum Framework. Brownie
- 1.3.1.   Brownie
- 1.3.2.   Ganache
- 1.3.3.   Brownie Deployment

1.4.   Testing smart contracts
- 1.4.1.   Test Driven Development (TDD)
- 1.4.2.   Pytest
- 1.4.3.   Smart Contracts

1.5.   Web Connection
- 1.5.1.   Metamask
- 1.5.2.   web3.js
- 1.5.3.   Ether.js

1.6.   Real Project: Fungible Token
- 1.6.1.   ERC20
- 1.6.2.   Creating Our Token
- 1.6.3.   Deployment and Validation

1.7.   Stellar Blockchain
- 1.7.1.   Stellar Blockchain
- 1.7.2.   Ecosystem
- 1.7.3.   Compared to Ethereum

1.8.   Programming in Stellar
- 1.8.1.   Horizon
- 1.8.2.   Stellar SDK
- 1.8.3.   Fungible Token Project

1.9.   Polkadot Project
- 1.9.1.   Polkadot Project
- 1.9.2.   Ecosystem
- 1.9.3.   Interaction with Ethereum and other Blockchain.

1.10.   Programming Polkadot
- 1.10.1.   Substrate
- 1.10.2.   Creating Parachain on Substrate
- 1.10.3.   Polkadot Integration

Module 2. Blockchain Technology. Cryptography and Security

2.1.   Cryptography in Blockchain

2.2.   A Hash in Blockchain

2.3.   Private Sharing Multi-Hasing (PSM Hash)

2.4.   Digital Signatures in Blockchain

2.5.   Key Management. Wallets

2.6.   Encryption

2.7.   On-Chain and Off-Chain Data

2.8.   Security and Smart Contracts

Module 3. Corporate Blockchain. Development: Hyperledger Besu

3.1.   Besu Configuration
- 3.1.1.   Key Configuration Parameters in Production Environments
- 3.1.2.   Finetuning for Connected Services
- 3.1.3.   Good Configuration Practices

3.2.   Blockchain Configuration
- 3.2.1.   Key Configuration Parameters for PoA
- 3.2.2.   Key Configuration Parameters for PoW
- 3.2.3.   Genesis Block Configurations

Module 5. Sovereign Identity Based on *Blockchain*

Module 6. Blockchain and its New Applications: DeFi and NFT

6.9.   Capitulation of Industries

    6.9.1.   Design Industry

    6.9.2.   Fan Token Industry

    6.9.3.   Project Financing

6.10.   NFT Markets

    6.10.1.   Opensea

    6.10.2.   Rarible

    6.10.3.   Customized Platforms

Module 7. Blockchain. Legal implications

7.1.   Bitcoin

    7.1.1.   Bitcoin

    7.1.2.   Whitepaper Analysis

    7.1.3.   Operation of the Proof of Work

7.2.   Ethereum

    7.2.1.   Ethereum. Origins

    7.2.2.   Proof of Stake Operation

    7.2.3.   DAO Case

7.3.   Current Status of the Blockchain

    7.3.1.   Growth of Cases

    7.3.2.   Blockchain Adoption by Large Companies

7.4.   MiCA (Market in Cryptoassets)

    7.4.1.   Birth of the Standard

    7.4.2.   Legal Implications (Obligations, Obligated Parties, etc.)

    7.4.3.   Summary of the Standard

7.5.   Prevention of Money Laundering

    7.5.1.   Fifth Directive and its Transposition

    7.5.2.   Obligated Parties

    7.5.3.   Intrinsic Obligations

7.6.   Tokens

    7.6.1.   Tokens

    7.6.2.   Types

    7.6.3.   Applicable Regulations in Each Case

7.7.   ICO/STO/IEO: Corporate Financing Systems

    7.7.1.   Types of Financing

    7.7.2.   Applicable Regulations

    7.7.3.   Success Stories

7.8.   NFT (Non-Fungible Tokens)

    7.8.1.   NFT

    7.8.2.   Applicable Regulations

    7.8.3.   Use Cases and Success (Play to Earn)

7.9.   Taxation and Cryptoassets

    7.9.1.   Taxation

    7.9.2.   Income from Work

    7.9.3.   Income from Economic Activities

7.10.   Other Applicable Regulations

    7.10.1.   General Data Protection Regulation

    7.10.2.   DORA (Cybersecurity)

    7.10.3.   EIDAS Regulations

Module 8. Blockchain Architecture Design

8.1.   Blockchain Architecture Design

    8.1.1.   Architecture

    8.1.2.   Infrastructure Architecture

    8.1.3.   Software Architecture

    8.1.4.   Integration Deployment

8.2.   Types of Networks

    8.2.1.   Public Networks

    8.2.2.   Private Networks

    8.2.3.   Permitted Networks

    8.2.4.   Differences

8.3.   Participant Analysis

    8.3.1.   Company Identification

    8.3.2.   Customer Identification

    8.3.3.   Consumer Identification

    8.3.4.   Interaction Between Parties

8.4. Proof-of-Concept Design

    8.4.1. Functional Analysis

    8.4.2. Implementation Phases

8.5. Infrastructure Requirements

    8.5.1. Cloud

    8.5.2. Physical

    8.5.3. Hybrid

8.6. Security Requirements

    8.6.1. Certification

    8.6.2. HSM

    8.6.3. Encryption

8.7. Communications Requirements

    8.7.1. Network Speed Requirements

    8.7.2. I/O Requirements

    8.7.3. Transaction Requirements Per Second

    8.7.4. Affecting Requirements with the Network Infrastructure

8.8. Software Testing, Performance and Stress Testing

    8.8.1. Unit Testing in Development and Pre-Production Environments

    8.8.2. Infrastructure Performance Testing

    8.8.3. Pre-Production Testing

    8.8.4. Production Testing

    8.8.5. Version Control

8.9. Operation and Maintenance

    8.9.1. Support: Alerts

    8.9.2. New Versions of Infrastructure Components

    8.9.3. Risk Analysis

    8.9.4. Incidents and Changes

8.10. Continuity and Resilience

    8.10.1. Disaster Recovery

    8.10.2. Backup

    8.10.3. New Participants

Module 9. Blockchain Applied to Logistics

9.1. Operational AS IS Mapping and Possible Gaps

    9.1.1. Identification of Manually Executed Processes

    9.1.2. Identification of Participants and their Particularities

    9.1.3. Case Studies and Operational Gaps

    9.1.4. Presentation and Mapping Executive Staff

9.2. Map of Current Systems

    9.2.1. Current Systems

    9.2.2. Master Data and Information Flow

    9.2.4. Governance Model

9.3. Application of Blockchainto Logistics

    9.3.1. Blockchain Applied to La Logistics

    9.3.2. Traceability-Based Architectures for Business Processes

    9.3.3. Critical Success Factors in Implementation

    9.3.4. Practical Advice

9.4. TO BE Model

    9.4.1. Operational Definition for Supply Chain Control

    9.4.2. Structure and Responsibilities of the Systems Plan

    9.4.3. Critical Success Factors in Implementation

9.5. Construction of the Business Case

    9.5.1. Cost Structure

    9.5.2. Projected Benefits

    9.5.3. Approval and Acceptance of the Plan by the Owners

9.6. Creation of Proof of Concept (POC)

    9.6.1. Importance of a POC for New Technologies

    9.6.2. Key Aspects

    9.6.3. Examples of POCs with Low Cost and Effort

9.7. Project Management

    9.7.1. Agile Methodology

    9.7.2. Decision of Methodologies Among all Participants

    9.7.3. Strategic Development and Deployment Plan

Module 10. Blockchain and Business

Module 11. Blockchain

Module 12. DeFi

12.1. DeFi
- 12.1.1. DeFi
- 12.1.2. Origin
- 12.1.3. Criticism

12.2. Market Decentralization
- 12.2.1. Economic Advantages
- 12.2.2. Creation of Financial Products
- 12.2.3. Loans of DeFi

12.3. Components DeFi
- 12.3.1. Layer 0
- 12.3.2. Software Protocol Layer
- 12.3.3. Application Layer and Aggregation Layer

12.4. Decentralized Exchanges
- 12.4.1. Exchange of Tokens
- 12.4.2. Adding Liquidity
- 12.4.3. Eliminating Liquidity

12.5. DeFi Markets
- 12.5.1. MarketDAO
- 12.5.2. Argus Prediction Market
- 12.5.3. Ampleforth

12.6. Keys
- 12.6.1. Yield Farming
- 12.6.2. Liquidity Mining
- 12.6.3. Componibility

12.7. Differences with Other Systems
- 12.7.1. Traditional
- 12.7.2. Fintech
- 12.7.3. Comparison

12.8. Risk to Consider
- 12.8.1. Incomplete Decentralization
- 12.8.2. Security/Safety
- 12.8.3. Usage Errors

12.9. DeFi Applications
- 12.9.1. Lending
- 12.9.2. Trading
- 12.9.3. Derivatives

12.10. Projects Under Development
- 12.10.1. AAVE
- 12.10.2. DydX
- 12.10.3. Money on Chain

Module 13. NFT

13.1. NFT
- 13.1.1. NFTs
- 13.1.2. NFT Linkage and Blockchain
- 13.1.3. Creation of NFT

13.2. Creating an NFT
- 13.2.1. Design and Content
- 13.2.2. Generation
- 13.2.3. Metadata and Freeze Metada

13.3. NFT Sales Options in Gamified Economies
- 13.3.1. Direct Sales
- 13.3.2. Auction
- 13.3.3. Whitelist

13.4. NFT Market Research
- 13.4.1. Opensea
- 13.4.2. Immutable Marketplace
- 13.4.3. Gemini

13.5. NFT Monetization Strategies in Gamified Economies
- 13.5.1. Value in Use
- 13.5.2. Aesthetic Value
- 13.5.3. Actual Value

13.6. NFT Monetization Strategies in Gamified Economies: Mining
- 13.6.1. NFT Mining
- 13.6.2. Merge
- 13.6.3. Burn

Module 14. Cryptocurrency Analysis

Module 15. Networks

16.9.   Decentraland

16.9.1.   Decentraland as the Most Profitable Metaverse on Record

16.9.2.   Game Mechanics

16.9.3.   Profitability Strategies Employed

16.10. Goals

16.10.1. Meta: The Company with the Greatest Impact on Developing a Metaverse

16.10.2. Market Impact

16.10.3. Project Details

Module 17. External Platforms

17.1.   DEX

17.1.1.   Features

17.1.2.   Utilities

17.1.3.   Implementation in Gamified Economies

17.2.   Swaps

17.2.1.   Features

17.2.2.   Main Swaps

17.2.3.   Implementation in Gamified Economies

17.3.   Oracles

17.3.1.   Features

17.3.2.   Main Swaps

17.3.3.   Implementation in Gamified Economies

17.4.   Staking

17.4.1.   Liquidity Pool

17.4.2.   Staking

17.4.3.   Farming

17.5.   Blockchain Development Tools

17.5.1.   Geth

17.5.2.   Mist

17.5.3.   Truffe

17.6.   Blockchain Development Tools: Embark

17.6.1.   Embark

17.6.2.   Ganache

17.6.3.   Blockchain Testnet

17.7.   Marketing Studies

17.7.1.   Defi Pulse

17.7.2.   Skew

17.7.3.   Trading View

17.8.   Tracking

17.8.1.   CoinTracking

17.8.2.   CryptoCompare

17.8.3.   Blackfolio

17.9.   Trading Bots

17.9.1.   Aspects

17.9.2.   SFOX Trading Algorithms

17.9.3.   AlgoTrader

17.10. Mining Tools

17.10.1. Aspects

17.10.2. NiceHash

17.10.3. What to Mine

Module 18. Analysis of Variables in Gamified Economies

18.1.   Gamified Economic Variables

18.1.1.   Advantages of Fragmentation

18.1.2.   Similarities with the Real Economy

18.1.3.   Division Criteria

18.2.   Search

18.2.1.   Individual

18.2.2.   By Group

18.2.3.   Global

18.3.   Resources

18.3.1.   By Game - Design

18.3.2.   Tangibles

18.3.3.   Intangibles

18.4.   Entities

18.4.1.   Players

18.4.2.   Single Resource Entities

18.4.3.   Multiple Resource Entities

18.5. Sources

18.5.1. Generation Conditions

18.5.2. Localization

18.5.3. Production Ratio

18.6. Exits

18.6.1. Consumables

18.6.2. Maintenance Costs

18.6.3. Time Out

18.7. Converters

18.7.1. NPC

18.7.2. Manufacture

18.7.3. Special Circumstances

18.8. Exchange

18.8.1. Public Markets

18.8.2. Private Stores

18.8.3. External Markets

18.9. Experience

18.9.1. Acquisition Mechanics

18.9.2. Apply Experience Mechanics to Economic Variables

18.9.3. Penalties and Experience Limits

18.10. Deadlocks

18.10.1. Resource Cycle

18.10.2. Linking Economy Variables with Deadlocks

18.10.3. Applying Deadlocks to Game Mechanics

Module 19. Gamified Economic Systems

19.1. Systems Free to Play

19.1.1. Characterization of Free to Play economies and main monetization points

19.1.2. Architectures in Free to Play Economies

19.1.3. Economical Design

19.2. Freemium Systems

19.2.1. Characterization of Freemium Economies and Main Monetization Points

19.2.2. Play to Earn Economy Architectures

19.2.3. Economical Design

19.3. Pay to Play Systems

19.3.1. Characterization of Pay to Play Economies and Main Monetization Points

19.3.2. Architectures in Free to Play Economies

19.3.3. Economical Design

19.4. PvP-Based Systems

19.4.1. Characterization of Economies Based on Pay to Play and Main Monetization Points

19.4.2. Architecture in PvP Economies

19.4.3. Economic Design Workshop

19.5. Seasons System

19.5.1. Characterization of Seasons-Based Economies and Main Points of Profitability

19.5.2. Architecture in Season Economies

19.5.3. Economical Design

19.6. Economic Systems in Sandbox or Mmorpg

19.6.1. Characterization of Sandbox-Based Economies and Main Cost-Effectiveness Points

19.6.2. Architecture in Sandbox Economies

19.6.3. Economical Design

19.7. Trading Card Game System

19.7.1. Characterization of Trading Card Game-Based Economies and Main Cost-Effectiveness Points

19.7.2. Architecture in Trading Card Game Economies

19.7.3. Economic Design Workshop

19.8. PvE Systems

19.8.1. Characterization of PvE-Based Economies and Main Cost-Effectiveness Points

19.8.2. Architecture in PvE Economies

19.8.3. Economic Design Workshop

19.9. Betting Systems

19.9.1. Characterization of Bet-Based Economies and Main Monetization Points

19.9.2. Architecture in Betting Economies

19.9.3. Economical Design

19.10. Systems Dependent on External Economies

19.10.1. Characterization of Dependent Economies and Main Monetization Points

> *Leading video game companies such as Electronic Arts have already assumed that NFT is the future of the industry. Will you join the new generation of professionals specialized in this Blockchain technology?"*

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 business 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. Over the course of 4 years, you will be presented with multiple practical case studies. You will have to combine all your knowledge, and research, argue, and defend your 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 8 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 we live in.

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%
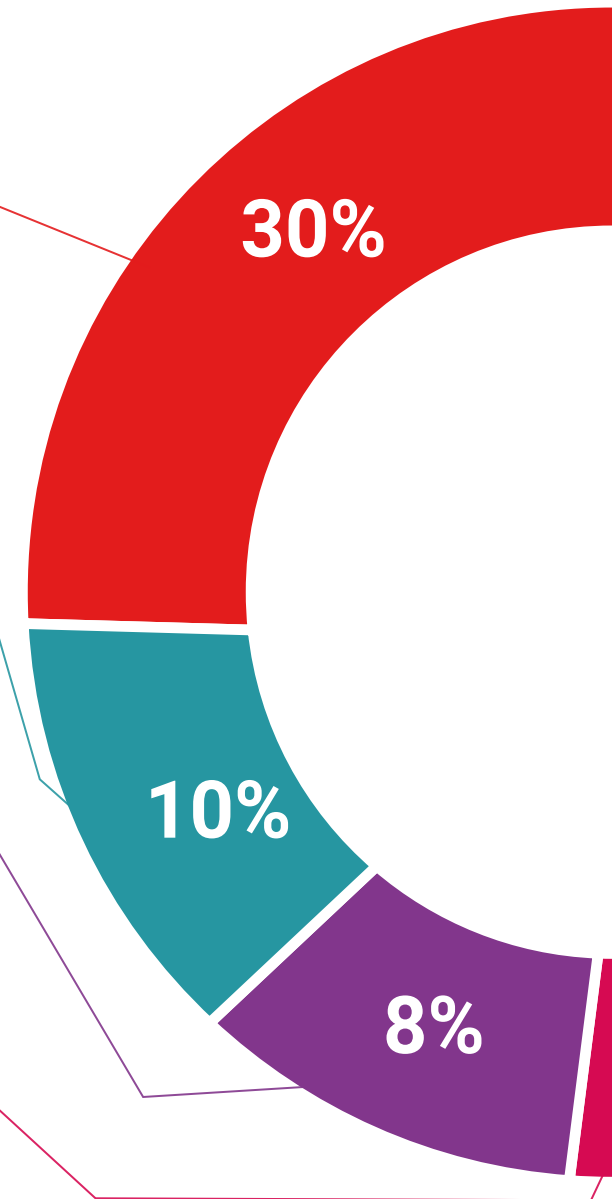
Case Studies

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.

07

Certificate

The Advanced Master's Degree in Nombre del Porgrama guarantees students, in addition to the most rigorous and up-to-date education, access to a Advanced Master's Degree 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 **Advanced Master's Degree in Blockchain and NFT Economics in Video Games** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Advanced Master's Degree** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Advanced Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

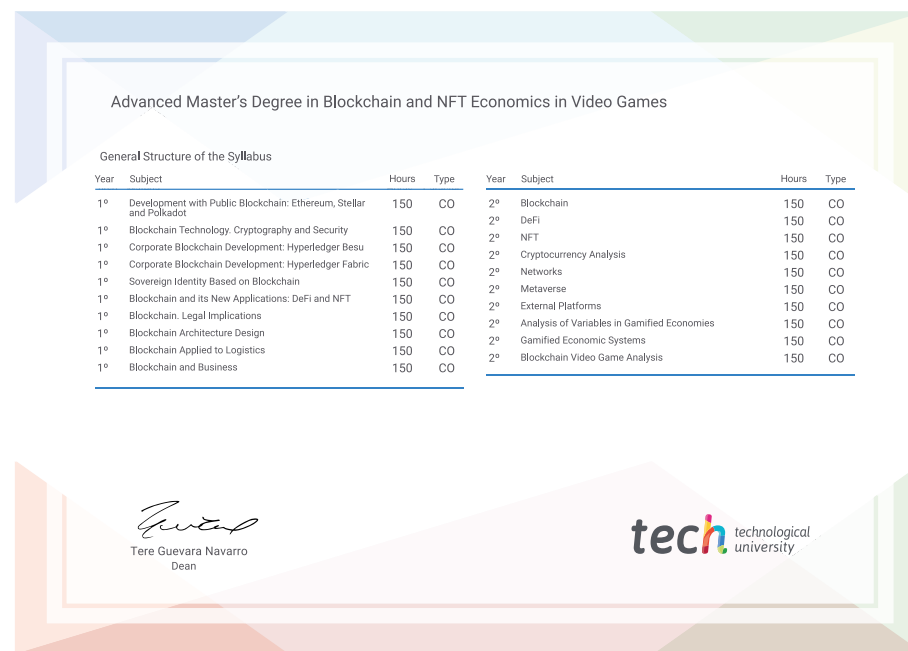Title: **Advanced Master's Degree in Blockchain and NFT Economics in Video Games**

Modality: **online**

Duration: **2 years**

tech technological university

Awards the following
DIPLOMA
to

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

ADVANCED MASTER'S DEGREE
in

Blockchain and NFT Economics in Video Games

This is a qualification awarded by this University, equivalent to 3,000 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

Advanced Master's Degree in Blockchain and NFT Economics in Video Games

General Structure of the Syllabus

Year	Subject	Hours	Type	Year	Subject	Hours	Type
1º	Development with Public Blockchain: Ethereum, Stellar and Polkadot	150	CO	2º	Blockchain	150	CO
1º	Blockchain Technology. Cryptography and Security	150	CO	2º	DeFi	150	CO
1º	Corporate Blockchain Development: Hyperledger Besu	150	CO	2º	NFT	150	CO
1º	Corporate Blockchain Development: Hyperledger Fabric	150	CO	2º	Cryptocurrency Analysis	150	CO
1º	Sovereign Identity Based on Blockchain	150	CO	2º	Networks	150	CO
1º	Blockchain and its New Applications: DeFi and NFT	150	CO	2º	Metaverse	150	CO
1º	Blockchain. Legal Implications	150	CO	2º	External Platforms	150	CO
1º	Blockchain Architecture Design	150	CO	2º	Analysis of Variables in Gamified Economies	150	CO
1º	Blockchain Applied to Logistics	150	CO	2º	Gamified Economic Systems	150	CO
1º	Blockchain and Business	150	CO	2º	Blockchain Video Game Analysis	150	CO

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

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- » Certificate: **TECH Technological University**
- » Schedule: **at your own pace**
- » Exams: **online**

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in Video Games

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