Advanced Master's Degree

Blockchain Economics and NFT in Video Games

tech technological university

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

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

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

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01

Introduction

Blockchain and NFT technology is making waves in the Gaming environment. 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, above all, up-to-date knowledge on this subject has become as complex a task as mining a Bitcoin. Or at least it was until 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 handle the tools, techniques and strategies that characterize blockchain and its implication in the video game industry.

We present to you the degree 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 Postgraduate Diploma 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 Postgraduate Diplomas has decided to launch this Advanced Master's Degree in Blockchain Economics and NFT 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 degree 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, thus allowing you to customize this academic experience based on your own availability, without schedules or face-to-face classes.
your own availability, without schedules or face-to-face classes.

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

- 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 development
- 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 handle Hyperledger Besu and Fabric to adapt Blockchain specifications to the business world"

The use of the most cutting-edge pedagogical methodology in the design of this degree 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.

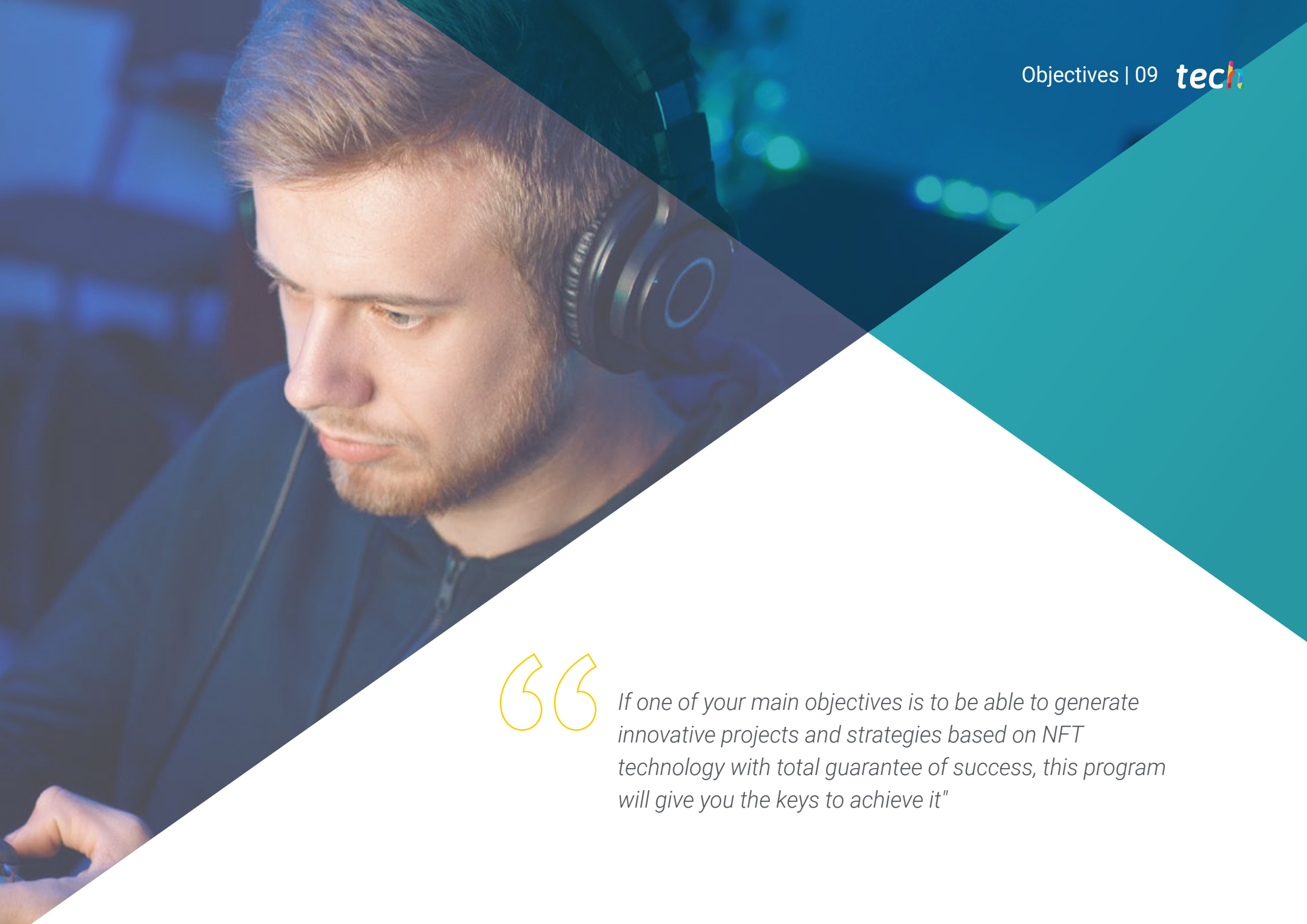
The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive training experience designed to train for real-life situations.

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 training, 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 Blockchains
- 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. Blockchain Technology: Technologies Involved andCyberspace 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 2. Public Blockchain Development: 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 3. Corporate Blockchain Development: Hyperledger Besu

- Identify key configuration points in the consensus protocols available with Hyperledger Besu
- Right-sizing a Besu Hyperledger service to support enterprise 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
- Determining the sizing criteria for an application with Hyperledger Besu
- 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
- Analyzing what can be done with this technology
- 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
- Analyze what can be done with this technology
- Determine the inner workings of identities in Blockchain

Module 6. Blockchain. Legal implications

- Generate specialized knowledge on the Whitepaper concept
- Determining the legal requirements for cryptoassets
- Establish the legal implications in the regulation of cryptocurrencies
- Developing the regulation of tokens and ICOs
- Contrast and compare the current regulations against the EIDAS regulations

Module 7. Blockchain Architecture Design

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

Module 8. 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 9. Blockchain and Business

- 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 Blockchainuniverse gives us, distributed, DeFi, etc. Determine when a Blockchainproject is correct or not
- Discern between a meaningful project and the Hype surrounding this technology

Module 10. 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 11. NFT

- Mining New NFTs
- Determine the properties of NFT
- Generate innovation strategies based on NFT technology
- Introducing NFT in gamified economies
- Understand the functioning of the NFT mining system in gamified economies.
- Identify the value of an NFT in the marketplace
- Employing NFT valorization strategies

Module 12. Cryptocurrency Analysis

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

Module 13. 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 14. 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.
- Managing *Landing* systems within a Metaverse

Module 15. External Platforms

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

Module 16. 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 17. Gamified Economic Systems

- Building a game economy
- Developing 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
- Orienting the economics of a game to the proposed profitability goals

Module 18. 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

03

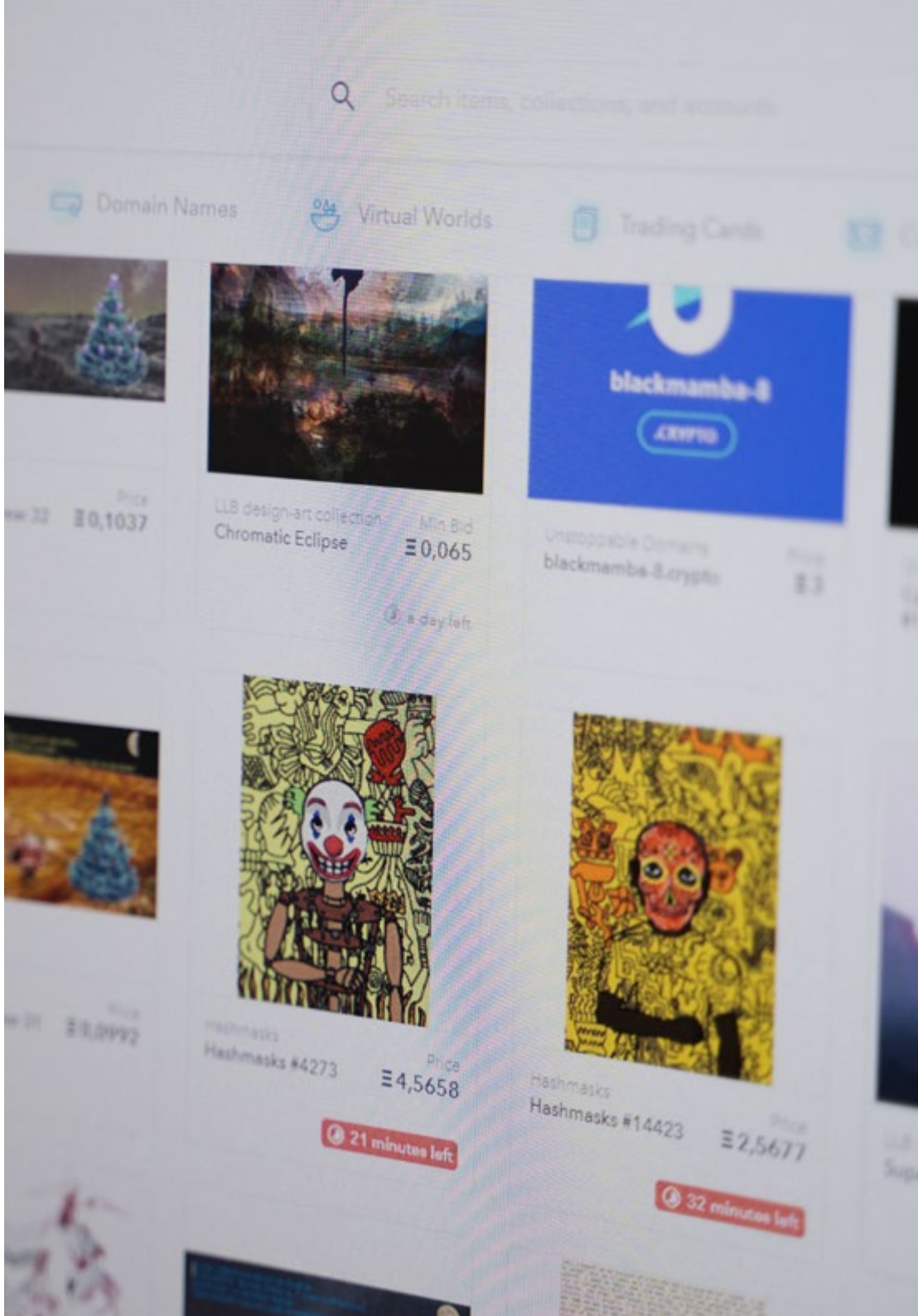
Skills

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 your knowledge, so that the skills you develop in your job are the most appropriate based on the immediate actuality of the profession. That is why this course will help you avoid developing outdated and obsolete projects, expanding and perfecting your specialized creative and IT skills.

Among the competencies that you will acquire with this course 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
- Facing 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
- Evaluate 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.
- Establishing 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 degree 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"

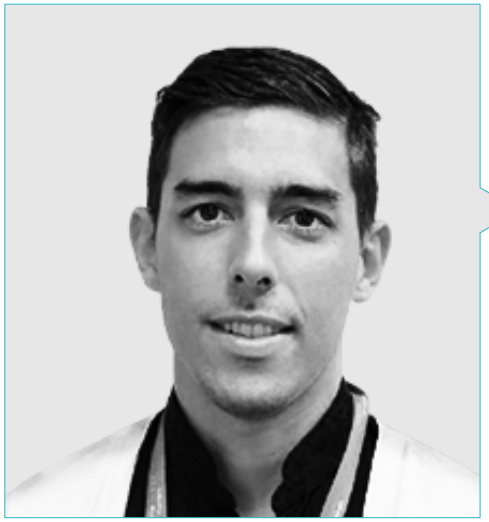
04

Course Management

The objective of this degree is for the graduate to become a specialist versed in Blockchain Economics and NFT 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 degree directly with a teaching team specializing in Blockchain is another of TECH's ways of demonstrating its commitment to your professional growth"

Management



Mr. Torres Palomino, Sergio

- Blockchain Architect Telefónica
- Blockchain Architect Signeblock
- Blockchain Developer Blocknitive
- Big Data Engineer Golive Services
- Big Data Engineer IECISA
- 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

Ms. Gálvez González, María Jesús

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

Professors

Mr. Mora, José Juan

- Kolokium Blockchain Technologies. CTO
- Telefónica Electronic Purchasing. Systems Manager
- Systems Manager
- Systems Manager
- Ydilo AVS. Systems Administrator
- Telefónica Mobile Solutions, Systems Administrator
- Postgraduate Certificate in Computer Science from the University of Huelva.
- MBA, Master's Degree in Business Administration from the UNED (UNED)

Mr. Callejo, Carlos

- Academic Director for 5 editions of the Master's Degree in Applied Blockchain at UEMC and UCAM.
- CEO Block Impulse
- CTO Stocken Capital
- Master in Applied Blockchain
- FP2 Information Systems and Telecommunications
- Co-author of the book Cryptocurrencies For Dummies
- Trainer in the infoproduct Cryptocurrencies for everyone Plus

Ms. Carrascosa, Cristina

- Lawyer and Managing Partner of ATH21
- Cuatrecasas Law Firm
- Broseta Law Firm
- Despacho Pinsent Masons
- Degree in Law from the University of Valencia
- Master's Degree in Business Consulting from IE Law School and Master's Degree in Taxation and Taxation from CEF
- Director of the Blockchain Program at IE Law School
- Co-author of Blockchain: the industrial revolution of the internet.

Mr. Herencia, Jesús

- Blockchain and DLT Consultant
- IT Director in Banking (Credit Agricole)
- Diploma in Computer Systems Engineering UPM
- Co-Director of Blockchain Specialist Course at the School of Legal Practice at UCM
- Lecturer at EAE on Cryptoassets and Blockchain

Mr. Olalla Bonal, Martín

- Blockchain Technical Specialist at IBM SPGI
- Blockchain Technical Sales Specialist. IBM
- Director of Architecture. Blocknitive
- Digital Electronics Technician
- Arquitecto de Blockchain - Arquitecto de Infraestructura IT - Gestor de proyectos IT. Business areas: Software, Infrastructure, Telecommunications

Mr. de Araujo, Rubens Thiago

- Program/Project Manager IT Blockchain para Supply Chain en Telefónica Global Technology
- Logistics Innovation and Projects Manager at Telefónica Brazil
- Graduate in Technological Logistics and Master in PMI Project Management from SENAC University (Brazil)
- Master's Degree in PMI Project Management from SENAC University (Brazil)
- Graduate in Technological Logistics from SENAC University (Brazil)
- Lecturer in Internal Training Leadership at Telefónica Brazil for Supply Chain Training and the use of new technologies "Logistics 4.0"
- Teacher in Multiplier of internal mini-courses of Change Management in Integrated Logistics

Mr. García de la Mata, Íñigo

- Architecture Leader at Grant Thornton, Innovation Department
- Bachelor's Degree in Industrial Engineering with a Major in Electronics
- Industrial Engineering, Master's Degree in Electronics from Universidad Pontificia de Comillas
- Degree in Computer Engineering from UNED
- Lecturer in Blockchain University courses at UNIR
- Lecturer and Blockchain Bootcamp and Geekshub
- TFG tutoring at Comillas Pontifical University

Ms. Foncuberta Marina

- Lawyer ATH21, Blockchain, Cybersecurity, IT, Privacy and Data Protection.
- Attorney Pinsent Masons, Blockchain Cybersecurity, IT, Privacy and Data Protection Department.
- Lawyer as part of the 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
- Professor at San Pablo CEU University: subject "Law and new technologies: Blockchain"

Ms. Salgado Iturrino, María

- Blockchain Manager Iberia & LATAM Inetum
- Identity Comission Core Team Leader Alastria
- Conwet Research Lab. niversidad Politécnica de Madrid
- Software Developer Internship Indra
- Professor of Blockchain Applied to Business Polytechnic University of Madrid
- Degree in Software Engineering from the Complutense University of Madrid (UCM)
- Master's Degree in Computer Engineering from the Polytechnic University of Madrid (UPM)

Mr. Olmo Cuevas, Alejandro

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

Mr. Gálvez González, Danko Andrés

- Commercial Advisor at Niide, Blockchain gamified economy project.
- HTML and CCS programmer in learning didactics projects
- Movistar and Virgin Mobile Sales Executive
- Bachelor's Degree in Education from the Universidad de Playa Ancha Educational Sciences

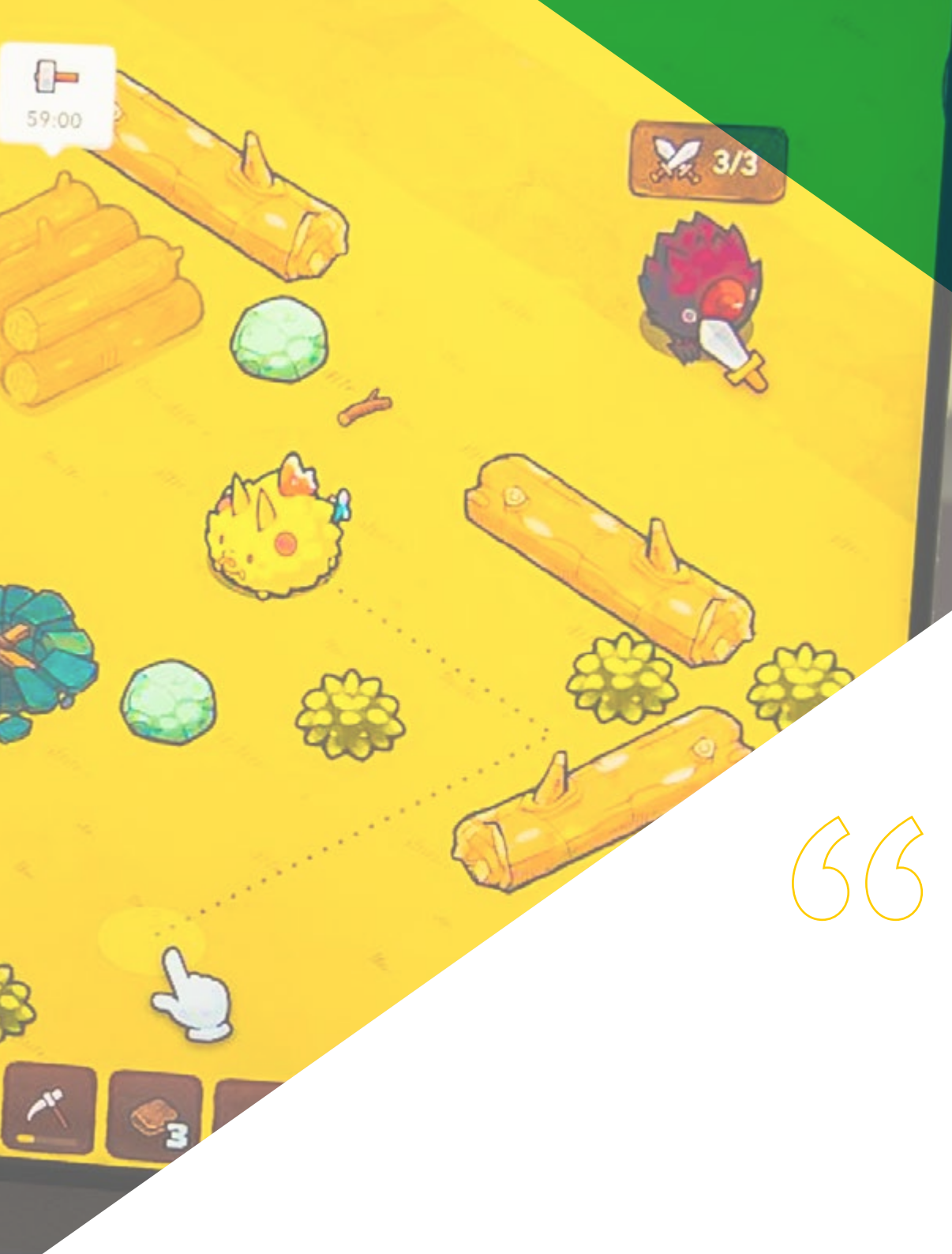
Mr. Olmo Cuevas, Víctor

- 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

05

Structure and Content

The use of the Relearning methodology in the design of this Advanced Master's Degree program 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 degree 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. Blockchain Technology: Technologies Involved and Cyberspace Security

1.1. Cyber Research Techniques
- 1.1.1. Intelligence Analysis
- 1.1.2. Potential Deception on the Internet
- 1.1.3. Advanced Use of Search Tools

1.2. ELK Stacks
- 1.2.1. Logstash
- 1.2.2. ElasticSearch
- 1.2.3. Kibana

1.3. Internet Attribution Techniques
- 1.3.1. Social Media Research Tools
- 1.3.2. Domain and Address Research Tools
- 1.3.3. VirusTotal

1.4. OPSEC and Privacy in Web Research
- 1.4.1. Identity Management
- 1.4.2. Masking the Analyst
- 1.4.3. Operating Systems

1.5. Structural Analysis Techniques
- 1.5.1. Hypothesis Generation and Testing
- 1.5.2. Hypotheses Generation Techniques
- 1.5.3. Structured Hypothesis Refutation Techniques

1.6. Threat Modeling
- 1.6.1. STIX Format
- 1.6.2. MITRE ATT&CK Framework
- 1.6.3. TLP Information Classification
- 1.6.4. Intelligence Competition Strategies
- 1.6.5. Documenting Threats with OpenCTI

1.7. Researching Wallets and Purses
- 1.7.1. Wallet Operation
- 1.7.2. Cracking Wallets
- 1.7.3. Transaction Monitoring

1.8. Connected Services Vulnerabilities
- 1.8.1. Difference between Bugs, Vulnerabilities and Exploits
- 1.8.2. Vulnerability Assessment Metrics
- 1.8.3. Obligations upon Detecting Personal Data Affectation

1.9. Metasploit
- 1.9.1. Object Identification
- 1.9.2. Information Gathering
- 1.9.3. Exploiting Vulnerabilities
- 1.9.4. Malicious App Example

Module 2. Public Blockchain Development: Ethereum, Stellar and Polkadot

2.1. Ethereum: Public Blockchain
- 2.1.1. Ethereum
- 2.1.2. EVM and GAS
- 2.1.3. Etherescan

2.2. Running Ethereum: Solidity
- 2.2.1. Solidity
- 2.2.2. Remix
- 2.2.3. Compilation and Execution

2.3. Ethereum Framework: Brownie
- 2.3.1. Brownie
- 2.3.2. Ganache
- 2.3.3. Brownie Deployment

2.4. Testing Smart Contracts
- 2.4.1. Test Driven Development (TDD)
- 2.4.2. Pytest
- 2.4.3. Smart Contracts

2.5. Real Project: Fungible Token
- 2.5.1. ERC20
- 2.5.2. Creating Our Token
- 2.5.3. Deployment and Validation

2.6. Stellar Blockchain
- 2.6.1. Stellar Blockchain
- 2.6.2. Ecosystem
- 2.6.3. Compared to Ethereum

2.7. Programming Stellar
- 2.7.1. Horizon
- 2.7.2. Stellar SDK
- 2.7.3. Fungible Token Project

2.8. Polkadot Project
- 2.8.1. Polkadot Project
- 2.8.2. Ecosystem
- 2.8.3. Interacting with Ethereum and Other Blockchains

2.9. Programming Polkadot
- 2.9.1. Substrate
- 2.9.2. Creating Parachain on Substrate
- 2.9.3. Polkadot Integration

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

3.3. Securing Besu
- 3.3.1. Securing the RPC with TLS
- 3.3.2. Securing the RPC with NGINX
- 3.3.3. Security by Means of a Node Scheme

3.4. Besu in High Availability
- 3.4.1. Node Redundancy
- 3.4.2. Balancers for Transactions
- 3.4.3. Transaction Pool over Messaging Queue

3.5. Offchain Tools
- 3.5.1. Privacy - Tessera
- 3.5.2. Identidad - Alastria ID
- 3.5.3. Data Indexing - Subgraph

3.6. Applications Developed on Besu
- 3.6.1. ERC 20 Token-Based Applications
- 3.6.2. ERC 721 Token-Based Applications
- 3.6.3. ERC 1155 Token-Based Applications

3.7. Besu Deployment and Automation
- 3.7.1. Besu about Docker
- 3.7.2. Besu about Kubernetes
- 3.7.3. Besu in Blockchain as a Service

3.8. Besu Interoperability with Other Clients
- 3.8.1. Interoperability with Geth
- 3.8.2. Interoperability with Open Ethereum
- 3.8.3. Interoperability with Other DLTs

3.9. Plugins for Besu
- 3.9.1. Most Common Plugins
- 3.9.2. Plugin Development
- 3.9.3. Installation of plugins

3.10. Configuration of Development Environments
- 3.10.1. Creation of a Developing Environment
- 3.10.2. Creation of a Customer Integration Environment
- 3.10.3. Creating a Pre-Production Environment for Load Testing

Module 4. Corporate Blockchain Development: Hyperledger Fabric

4.1. Hyperledger
- 4.1.1. Hyperledger Ecosystem
- 4.1.2. Hyperledger Tools
- 4.1.3. Hyperledger Frameworks

4.2. Hyperledger Fabric – Components of its Architecture. State-of-the-Art
- 4.2.1. State of the Art of Hyperledger Fabric
- 4.2.2. Nodes
- 4.2.3. Orderers
- 4.2.4. CouchDB and LevelDB
- 4.2.5. CA

4.3. Hyperledger Fabric- Components of its Architecture. Process of a Transaction
- 4.3.1. Process of a Transaction
- 4.3.2. Chain Codes
- 4.3.3. MSP

4.4. Enabling Technologies
- 4.4.1. Go
- 4.4.2. Docker
- 4.4.3. Docker Compose
- 4.4.4. Other Technology

4.5. Pre-Requisite Installation and Environment Preparation
- 4.5.1. Server Preparation
- 4.5.2. Download Prerequisites
- 4.5.3. Download from Official Hyperledger Repository

4.6. First Deployment
- 4.6.1. Automatic Test-Network Deployment
- 4.6.2. Guided Test-Network Deployment
- 4.6.3. Review of Deployed Components

4.7. Second Deployment
- 4.7.1. Deployment of Private Data Collection
- 4.7.2. Integration against a Fabric Network
- 4.7.3. Other Projects

4.8. Chain Codes
- 4.8.1. Structure of a Chain Code
- 4.8.2. Deployment and Upgrade of Chaincodes
- 4.8.3. Other Important Chaincode Functions

4.9. Connection to other Hyperledger Tools (Caliper and Explorer)
- 4.9.1. Hyperledger Explorer Installation
- 4.9.2. Hyperledger Caliper Installation
- 4.9.3. Other Important Tools

4.10. Certification
- 4.10.1. Types of Official Certifications
- 4.10.2. Preparation for CHFA
- 4.10.3. PeProfile Developer vs. Administrator Profiles

Module 5. Sovereign Identity Based on Blockchain

5.1. Digital Identity
- 5.1.1. Personal Data
- 5.1.2. Social Networks
- 5.1.3. Control Over Data
- 5.1.4. Authentication
- 5.1.5. Identification

5.2. *Blockchain* Identity
- 5.2.1. Digital Signature
- 5.2.2. Public Networks
- 5.2.3. Permitted Networks

5.3. Sovereign Digital Identity
- 5.3.1. Requirements
- 5.3.2. Components.
- 5.3.3. Applications

5.4. Decentralized Identifiers (DIDs)
- 5.4.1. Layout
- 5.4.2. DID Methods
- 5.4.3. DID Documents

5.5. Verifiable Credentials
- 5.5.1. Components.
- 5.5.2. Flows
- 5.5.3. Security and Privacy
- 5.5.4. Blockchain to Register Verifiable Credentials

5.6. Blockchain Technologies for Digital Identity
- 5.6.1. Hyperledger Indy
- 5.6.2. Sovrin
- 5.6.3.
- 5.6.4. IDAlastria

5.7. European Blockchain and Identity Initiatives
- 5.7.1. eIDAS
- 5.7.2. EBSI
- 5.7.3. ESSIF

5.8. Digital Identity of Things (IoT)
- 5.8.1. IoT Interactions
- 5.8.2. Semantic Interoperability
- 5.8.3. Data Security

5.9. Digital Identity of the Processes
- 5.9.1. Date:
- 5.9.2. Codes
- 5.9.3. Interfaces

5.10. Blockchain Digital Identity Use Cases
- 5.10.1. Health
- 5.10.2. Educational
- 5.10.3. Logistics
- 5.10.4. Public Administration

Module 6. Blockchain. Legal implications

6.1. Bitcoin
- 6.1.1. Bitcoin
- 6.1.2. Whitepaper Analysis
- 6.1.3. Operation of the Proof of Work

6.2. Ethereum
- 6.2.1. Ethereum: Origins
- 6.2.2. Proof of Stake Operation
- 6.2.3. DAO Case

6.3. Current Status of the Blockchain
- 6.3.1. Growth of Cases
- 6.3.2. Blockchain Adoption by Large Companies

6.4. MiCA (Market in Cryptoassets)
- 6.4.1. Birth of the Standard
- 6.4.2. Legal Implications (Obligations, Obligated Parties, etc.)
- 6.4.3. Summary of the Standard

6.5. Prevention of Money Laundering
- 6.5.1. Fifth Directive and its Transposition
- 6.5.2. Obligated Parties
- 6.5.3. Intrinsic Obligations

6.6. Tokens
- 6.6.1. Tokens
- 6.6.2. Types
- 6.6.3. Applicable Regulations in Each Case

6.7. ICO/STO/IEO: Corporate Financing Systems
- 6.7.1. Types of Financing
- 6.7.2. Applicable Regulations
- 6.7.3. Success Stories

6.8. Taxation and Cryptoassets
- 6.8.1. Taxation
- 6.8.2. Income from Work
- 6.8.3. Income from Economic Activities

6.9. Other Applicable Regulations
- 6.9.1. General Data Protection Regulation
- 6.9.2. DORA (Cybersecurity)
- 6.9.3. EIDAS Regulations

Module 7. *Blockchain* Architecture Design

7.1. Blockchain Architecture Design
- 7.1.1. Architecture
- 7.1.2. Infrastructure Architecture
- 7.1.3. Software Architecture
- 7.1.4. Integration Deployment

7.2. Types of Networks
- 7.2.1. Public Networks
- 7.2.2. Private Networks
- 7.2.3. Permitted Networks
- 7.2.4. Differences

7.3. Participant Analysis
- 7.3.1. Company Identification
- 7.3.2. Customer Identification
- 7.3.3. Consumer Identification
- 7.3.4. Interaction Between Parties

7.4. Proof-of-Concept Design
- 7.4.1. Functional Analysis
- 7.4.2. Implementation Phases

7.5. Infrastructure Requirements
- 7.5.1. Cloud
- 7.5.2. Physical
- 7.5.3. Hybrid

7.6. Security Requirements
- 7.6.1. Certificate
- 7.6.2. HSM
- 7.6.3. Encryption

7.7. Communications Requirements
- 7.7.1. Network Speed Requirements
- 7.7.2. I/O Requirements
- 7.7.3. Transaction Requirements Per Second
- 7.7.4. Affecting Requirements with the Network Infrastructure

7.8. Software Testing, Performance and Stress Testing
- 7.8.1. Unit Testing in Development and Pre-Production Environments
- 7.8.2. Infrastructure Performance Testing
- 7.8.3. Pre-Production Testing
- 7.8.4. Production Testing
- 7.8.5. Version Control

7.9. Operation and Maintenance
- 7.9.1. Support: Alerts
- 7.9.2. New Versions of Infrastructure Components
- 7.9.3. Risk Analysis
- 7.9.4. Incidents and Changes

7.10. Continuity and Resilience
- 7.10.1. Disaster Recovery
- 7.10.2. Backup
- 7.10.3. New Participants

Module 8. *Blockchain* Applied to Logistics

8.1. Operational AS IS Mapping and Possible Gaps
- 8.1.1. Identification of Manually Executed Processes
- 8.1.2. Identification of Participants and their Particularities
- 8.1.3. Case Studies and Operational Gaps
- 8.1.4. Presentation and Mapping Executive Staff

8.2. Map of Current Systems
- 8.2.1. Current Systems
- 8.2.2. Master Data and Information Flow
- 8.2.4. Governance Model

8.3. Application of Blockchainto Logistics
- 8.3.1. Blockchain Applied to La Logistics
- 8.3.2. Traceability-Based Architectures for Business Processes
- 8.3.3. Critical Success Factors in Implementation
- 8.3.4. Practical Advice

8.4. To Be Model
- 8.4.1. Operational Definition for Supply Chain Control
- 8.4.2. Structure and Responsibilities of the Systems Plan
- 8.4.3. Critical Success Factors in Implementation

8.5. Construction of the Business Case
- 8.5.1. Cost structure
- 8.5.2. Projected Benefits
- 8.5.3. Approval and Acceptance of the Plan by the Owners

8.6. Creation of Proof of Concept (POC)
- 8.6.1. Importance of a POC for New Technologies
- 8.6.2. Key Aspects
- 8.6.3. Examples of POCs with Low Cost and Effort

8.7. Project Management
- 8.7.1. Agile Methodology
- 8.7.2. Decision of Methodologies Among all Participants
- 8.7.3. Strategic Development and Deployment Plan

8.8. Systems Integration: Opportunities and Needs
- 8.8.1. Structure and Development of the Systems Planning
- 8.8.2. Data Master Model
- 8.8.3. Roles and Responsibilities
- 8.8.4. Integrated Management and Monitoring Model

8.9. Development and Implementation with Supply Chain Team
- 8.9.1. Active Participation of the Customer (Business)
- 8.9.2. Systemic and Operational Risk Analysis
- 8.9.3. Key to Success: Testing Models and Post-Production Support

8.10. Change Management: Follow-up and Update
- 8.10.1. Management Implications
- 8.10.2. Rollout Plan and Training Program
- 8.10.3. KPI Tracking and Management Models

Module 9. Blockchain and Business

9.1. Applying Technology throughout the Company
- 9.1.1. Applying *Blockchain*
- 9.1.2. *Blockchain* Benefits
- 9.1.3. Common Implementation Mistakes

9.2. *Blockchain* Implementation Cycle
- 9.2.1. From P2P to Distributed Systems
- 9.2.2. Key Aspects for Proper Implementation
- 9.2.3. Improving Current Implementations

9.3. *Blockchain* vs. Traditional Technologies: Basics
- 9.3.1. APIs Data and Flows
- 9.3.2. *Tokenization* as a Cornerstone for Projects
- 9.3.3. Incentives

9.4. Selecting *Blockchain* Type
- 9.4.1. Public Blockchain
- 9.4.2. Private *Blockchain*
- 9.4.3. Consortiums

9.5. *Blockchain* and the Public Sector
- 9.5.1. *Blockchain* in the Public Sector
- 9.5.2. Central Bank Digital Currency (CBDC)
- 9.5.3. Conclusions

9.6. *Blockchain* and the Financial Sector Start
- 9.6.1. CBDC and Finance
- 9.6.2. Native Digital Assets
- 9.6.3. Where It Does Not Fit

9.7. *Blockchain* and the Pharmaceutical Sector
- 9.7.1. Searching for Meaning in the Field
- 9.7.2. Logistics and Pharma
- 9.7.3. Application

9.8. Pseudo Private Blockchains: The Point of Consortiums
- 9.8.1. Reliable Environments
- 9.8.2. Analysis and Delving Deeper
- 9.8.3. Valid Implementations

9.9. Blockchain. Usage Case in Europe EBSI
- 9.9.1. EBSI (European Blockchain Services Infraestructure)
- 9.9.2. The Business Model
- 9.9.3. Future

9.10. The Future of Blockchain
- 9.10.1. Trilemma
- 9.10.2. Automization
- 9.10.3. Conclusions

Module 10. DeFi

10.1. DeFi
- 10.1.1. DeFi
- 10.1.2. Origin
- 10.1.3. Criticism

10.2. Market Decentralization
- 10.2.1. Economic Advantages
- 10.2.2. Creation of Financial Products
- 10.2.3. Loans of DeFi

10.3. Components DeFi
- 10.3.1. Layer 0
- 10.3.2. Software Protocol Layer
- 10.3.3. Application Layer and Aggregation Layer

10.4. Decentralized Exchanges
- 10.4.1. Exchange of Tokens
- 10.4.2. Adding Liquidity
- 10.4.3. Eliminating Liquidity

10.5. DeFi Markets
- 10.5.1. MarketDAO
- 10.5.2. Argus Prediction Market
- 10.5.3. Ampleforth

10.6. Keys
- 10.6.1. Yield Farming
- 10.6.2. Liquidity Mining
- 10.6.3. Componibility

10.7. Differences with Other Systems
- 10.7.1. Traditional
- 10.7.2. Fintech
- 10.7.3. Comparison

10.8. Risk to Consider
- 10.8.1. Incomplete Decentralization
- 10.8.2. Security/Safety
- 10.8.3. Usage Errors

10.9. DeFi Applications
- 10.9.1. Loans
- 10.9.2. Trading
- 10.9.3. Derivatives

10.10. Projects Under Development
- 10.10.1. AAVE
- 10.10.2. DydX
- 10.10.3. Money on Chain

Module 11. NFT

11.1. NFT
- 11.1.1. NFTs
- 11.1.2. NFT Linkage and Blockchain
- 11.1.3. Creation of NFT

11.2. Creating an NFT
- 11.2.1. Design and Content
- 11.2.2. Generation
- 11.2.3. Metadata and Freeze Metada

11.3. NFT Sales Options in Gamified Economies
- 11.3.1. Direct Sales
- 11.3.2. Auction
- 11.3.3. Whitelist

11.4. NFT Market Research
- 11.4.1. Opensea
- 11.4.2. Immutable Marketplace
- 11.4.3. Gemini

11.5. NFT Monetization Strategies in Gamified Economies
- 11.5.1. Value in Use
- 11.5.2. Aesthetic Value
- 11.5.3. Actual Value

11.6. NFT Monetization Strategies in Gamified Economies: Mining
- 11.6.1. NFT Mined
- 11.6.2. Merge
- 11.6.3. Burn

11.7. NFT Monetization Strategies in Gamified Economies: Consumables
- 11.7.1. NFT Consumable
- 11.7.2. NFT Envelopes
- 11.7.3. Quality of NFT

11.8. Analysis of Gamified Systems Based on NFT
- 11.8.1. Alien Worlds
- 11.8.2. Gods Unchained
- 11.8.3. R-Planet

11.9. NFT as an Investment and Labor Incentive
- 11.9.1. Investment Participation Privileges
- 11.9.2. Collections Linked to Specific Dissemination Work
- 11.9.3. Sum of Forces

11.10. Areas of Innovation in Development
- 11.10.1. Music at NFT
- 11.10.2. NFT Video
- 11.10.3. NFT Books

Module 12. Cryptocurrency Analysis

12.1. Bitcoin
- 12.1.1. Bitcoins
- 12.1.2. Bitcoin as a Market Indicator
- 12.1.3. Advantages and Disadvantages for Gamified Economies

12.2. Altcoins
- 12.2.1. Main Characteristics and Differences with Respect to Bitcoin
- 12.2.2. Market Impact
- 12.2.3. Analysis of Binding Projects

12.3. Ethereum
- 12.3.1. Main Features and Operation
- 12.3.2. Hosted Projects and Market Impact
- 12.3.3. Advantages and Disadvantages for Gamified Economies

12.4. Binance Coin
- 12.4.1. Main Features and Operation
- 12.4.2. Hosted Projects and Market Impact
- 12.4.3. Advantages and Disadvantages for Gamified Economies

12.5. Stablecoins
- 12.5.1. Features
- 12.5.2. Projects in Operation as of Stablecoins
- 12.5.3. Uses of Stablecoins in Gamified Economies

12.6. Main Stablecoins
- 12.6.1. USDT
- 12.6.2. USDC
- 12.6.3. BUSD

12.7. Trading
- 12.7.1. Trading in Gamified Economies
- 12.7.2. Balanced Portfolio
- 12.7.3. Unbalanced Portfolio

12.8. Trading: DCA
- 12.8.1. DCA
- 12.8.2. Positional Trading
- 12.8.3. Daytrading

12.9. Risk
- 12.9.1. Price Formation
- 12.9.2. Liquidity
- 12.9.3. Global Economy

12.10. Legal Aspects
- 12.10.1. Mining Regulation
- 12.10.2. Consumer Rights
- 12.10.3. Warranty and Security

Module 13. Networks

13.1. The Revolution of the Smart Contract
- 13.1.1. The Birth of the Smart Contract
- 13.1.2. Application Hosting
- 13.1.3. Security in IT Processes

13.2. Metamask
- 13.2.1. Aspects
- 13.2.2. Impact on Accessibility
- 13.2.3. Asset Management at Metamask

13.3. Tron
- 13.3.1. Aspects
- 13.3.2. Hosted Applications
- 13.3.3. Disadvantages and Benefits

13.4. Ripple
- 13.4.1. Aspects
- 13.4.2. Hosted Applications
- 13.4.3. Disadvantages and Benefits

13.5. Ethereum
- 13.5.1. Aspects
- 13.5.2. Hosted Applications
- 13.5.3. Disadvantages and Benefits

13.6. Polygon MATIC
- 13.6.1. Aspects
- 13.6.2. Hosted Applications
- 13.6.3. Disadvantages and Benefits

13.7. Wax
- 13.7.1. Aspects
- 13.7.2. Hosted Applications
- 13.7.3. Disadvantages and Benefits

13.8. ADA Cardano
- 13.8.1. Aspects
- 13.8.2. Hosted Applications
- 13.8.3. Disadvantages and Benefits

13.9. Solana
- 13.9.1. Aspects
- 13.9.2. Hosted Applications
- 13.9.3. Disadvantages and Benefits

13.10. Projects and Migrations
- 13.10.1. Networks Suitable for the Project
- 13.10.2. Migration
- 13.10.3. Crosschain

Module 14. Metaverse

14.1. Metaverse
- 14.1.1. Metaverse
- 14.1.2. Impact on the World Economy
- 14.1.3. Impact on the Development of Gamified Economies

14.2. Forms of Accessibility
- 14.2.1. VR
- 14.2.2. Computers
- 14.2.3. Mobile Devices

14.3. Metaverse Types
- 14.3.1. Traditional Metaverse
- 14.3.2. Centralized Blockchain Metaverse
- 14.3.3. Decentralization Blockchain Metaverse

14.4. Metaverso as a Workspace
- 14.4.1. Idea of the Work within the Metaverse
- 14.4.2. Creation of Services within the Metaverse
- 14.4.3. Critical Points to Consider in Job Generation

14.5. Metaverso as a Space for Socialization
- 14.5.1. User Interaction Systems
- 14.5.2. Mechanics of Socialization
- 14.5.3. Forms of Monetization

14.6. Metaverso as an Entertainment Space
- 14.6.1. Training Spaces in the Metaverse
- 14.6.2. Forms of Training Space Management
- 14.6.3. Categories of Training Spaces in the Metaverse

14.7. System for Purchase and Lease of Spaces in the Metaverse
- 14.7.1. Lands
- 14.7.2. Auctions
- 14.7.3. Direct Sales

14.8. Second Life
- 14.8.1. Second Life as a Pioneer in the Metaverse Industry
- 14.8.2. Game Mechanics
- 14.8.3. Profitability Strategies Employed

14.9. Decentraland
- 14.9.1. Decentraland as the Most Profitable Metaverse on Record
- 14.9.2. Game Mechanics
- 14.9.3. Profitability Strategies Employed

14.10. Goals
- 14.10.1. Meta: The Company with the Greatest Impact on Developing a Metaverse
- 14.10.2. Market Impact
- 14.10.3. Project Details

Module 15. External Platforms

15.1. DEX
- 15.1.1. Features
- 15.1.2. Utilities
- 15.1.3. Implementation in Gamified Economies

15.2. Swaps
- 15.2.1. Features
- 15.2.2. Main Swaps
- 15.2.3. Implementation in Gamified Economies

15.3. Oracles
- 15.3.1. Features
- 15.3.2. Main Swaps
- 15.3.3. Implementation in Gamified Economies

15.4. Staking
- 15.4.1. Liquidity Pool
- 15.4.2. Staking
- 15.4.3. Farming

15.5. Blockchain Development Tools
- 15.5.1. Geth
- 15.5.2. Mist
- 15.5.3. Truffe

15.6. Blockchain Development Tools: Embark
- 15.6.1. Embark
- 15.6.2. Ganache
- 15.6.3. Blockchain Testnet

15.7. Marketing Studies
- 15.7.1. DefiPulse
- 15.7.2. Skew
- 15.7.3. Trading View

15.8. Tracking
- 15.8.1. CoinTracking
- 15.8.2. CryptoCompare
- 15.8.3. Blackfolio

15.9. Trading Bots
- 15.9.1. Aspects
- 15.9.2. SFOX Trading Algorithms
- 15.9.3. AlgoTrader

15.10. Mining Tools
- 15.10.1. Aspects
- 15.10.2. NiceHash
- 15.10.3. What to Mine

Module 16. Analysis of Variables in Gamified Economies

16.1. Gamified Economic Variables
- 16.1.1. Advantages of Fragmentation
- 16.1.2. Similarities with the Real Economy
- 16.1.3. Division Criteria

16.2. Search
- 16.2.1. Individual
- 16.2.2. By Group
- 16.2.3. Global

16.3. Resources
- 16.3.1. By Game - Design
- 16.3.2. Tangibles
- 16.3.3. Intangibles

16.4. Entities
- 16.4.1. Players
- 16.4.2. Single Resource Entities
- 16.4.3. Multiple Resource Entities

16.5. Sources
- 16.5.1. Generation Conditions
- 16.5.2. Localisation
- 16.5.3. Production Ratio

16.6. Exits
- 16.6.1. Consumables
- 16.6.2. Maintenance Costs
- 16.6.3. Time Out

16.7. Converters
- 16.7.1. NPC
- 16.7.2. Manifactura
- 16.7.3. Special Circumstances

16.8. Exchange
- 16.8.1. Public Markets
- 16.8.2. Private Stores
- 16.8.3. External Markets

16.9. Experience
- 16.9.1. Acquisition Mechanics
- 16.9.2. Apply Experience Mechanics to Economic Variables
- 16.9.3. Penalties and Experience Limits

16.10. Deadlocks
- 16.10.1. Resource Cycle
- 16.10.2. Linking Economy Variables with Deadlocks
- 16.10.3. Applying Deadlocks to Game Mechanics

Module 17. Gamified Economic Systems

17.1. Systems Free to Play
- 17.1.1. Characterization of Free to Play economies and main monetization points
- 17.1.2. Architectures in Free to Play Economies
- 17.1.3. Economical Design

17.2. Freemium Systems
- 17.2.1. Characterization of Freemium Economies and Main Monetization Points
- 17.2.2. Play to Earn Economy Architectures
- 17.2.3. Economical Design

17.3. Pay to Play Systems
- 17.3.1. Characterization of Pay to Play Economies and Main Monetization Points
- 17.3.2. Architectures in Free to Play Economies
- 17.3.3. Economical Design

17.4. PvP-Based Systems
- 17.4.1. Characterization of Economies Based on Pay to Play and Main Monetization Points
- 17.4.2. Architecture in PvP Economies
- 17.4.3. Economic Design Workshop

17.5. Seasons System
- 17.5.1. Characterization of Seasons-Based Economies and Main Points of Profitability
- 17.5.2. Architecture in Season Economies
- 17.5.3. Economical Design

17.6. Economic Systems in Sandbox or Mmorpg
- 17.6.1. Characterization of Sandbox-Based Economies and Main Points of Profitability
- 17.6.2. Architecture in Sandbox Economies
- 17.6.3. Economical Design

17.7. Trading Card Game System
- 17.7.1. Characterization of Trading Card Game-Based Economies and Main Cost-Effectiveness Points
- 17.7.2. Architecture in Trading Card Game Economies
- 17.7.3. Economic Design Workshop

17.8. PvE Systems
- 17.8.1. Characterization of PvE-Based Economies and Main Cost-Effectiveness Points
- 17.8.2. Architecture in PvE Economies
- 17.8.3. Economic Design Workshop

17.9. Betting Systems
- 17.9.1. Characterization of Betting-Based Economies and Main Points of Profitability
- 17.9.2. Architecture in Betting Economies
- 17.9.3. Economical Design

17.10. Systems Dependent on External Economies
- 17.10.1. Characterization of Dependent Economies and Main Monetization Points
- 17.10.2. Architecture in Dependent Economies
- 17.10.3. Economical Design

Module 18. Blockchain Video Game Analysis

18.1. Star Atlas
- 18.1.1. Game Mechanics
- 18.1.2. Economic System
- 18.1.3. Usability

18.2. Anillo Exterior
- 18.2.1. Game Mechanics
- 18.2.2. Economic System
- 18.2.3. Usability

18.3. Axie Infinity
- 18.3.1. Game Mechanics
- 18.3.2. Economic System
- 18.3.3. Usability

18.4. Splinterlands
- 18.4.1. Game Mechanics
- 18.4.2. Economic System
- 18.4.3. Usability

18.5. R-Planet
- 18.5.1. Game Mechanics
- 18.5.2. Economic System
- 18.5.3. Usability

18.6. Ember Sword
- 18.6.1. Game Mechanics
- 18.6.2. Economic System
- 18.6.3. Usability

18.7. Big Time
- 18.7.1. Game Mechanics
- 18.7.2. Economic System
- 18.7.3. Usability

18.8. Gods Unchained
- 18.8.1. Game Mechanics
- 18.8.2. Economic System
- 18.8.3. Usability

18.9. Illuvium
- 18.9.1. Game Mechanics
- 18.9.2. Economic System
- 18.9.3. Usability

18.10. Upland
- 18.10.1. Game Mechanics
- 18.10.2. Economic System
- 18.10.3. Usability

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"

06

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 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.

Relearning Methodology

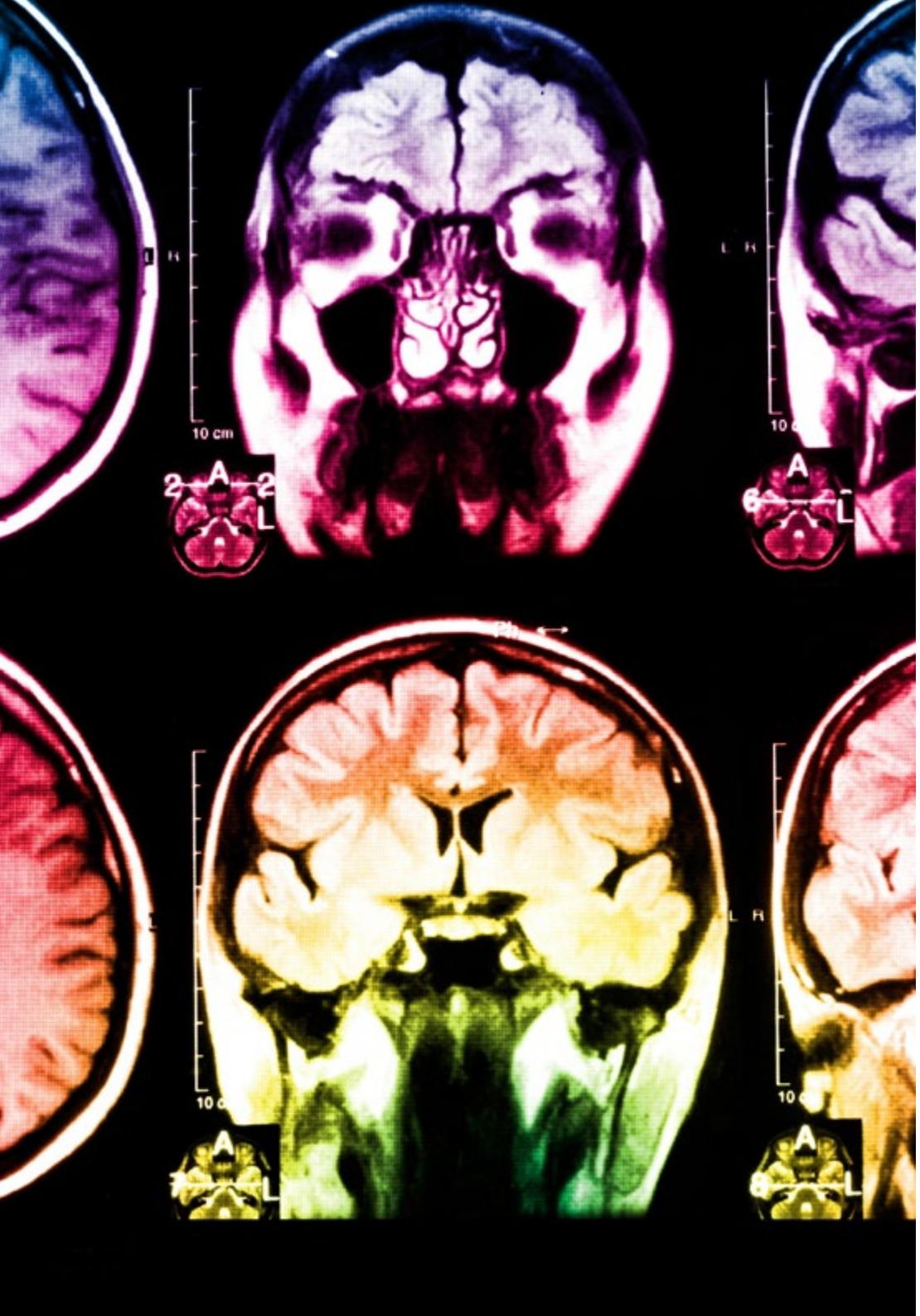
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.



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.

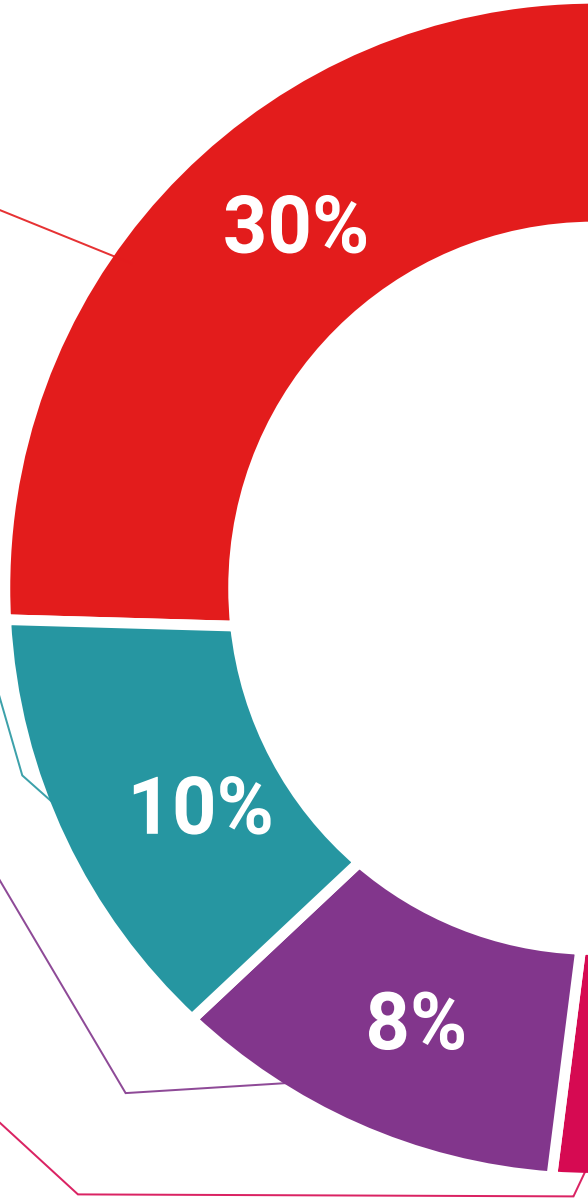
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

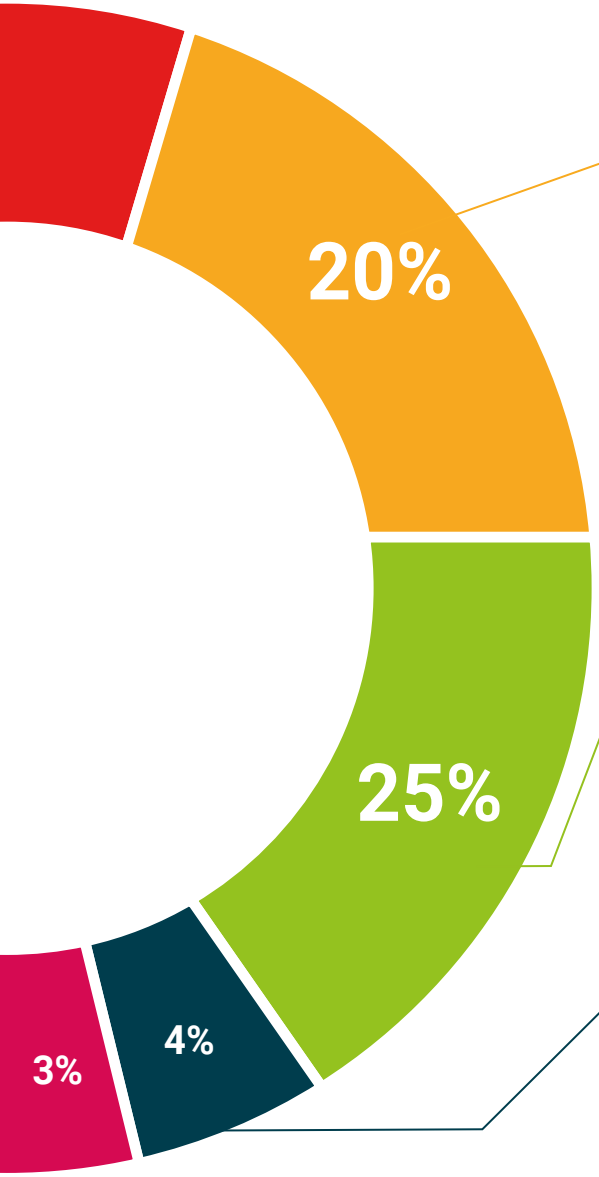
Practising Skills and Abilities

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.





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 Blockchain Economics and NFT in Video Games guarantees students, in addition to the most rigorous and up-to-date education, access to an Advanced Master's Degree 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 Economics and NFT 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** diploma issued by **TECH Technological University** via tracked delivery*.

The certificate 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 Economics and NFT in Video Games**

Official Nº of Hours: **3,000 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having successfully passed and accredited the following program

ADVANCED MASTER'S DEGREE

in

Blockchain Economics and NFT in Video Games

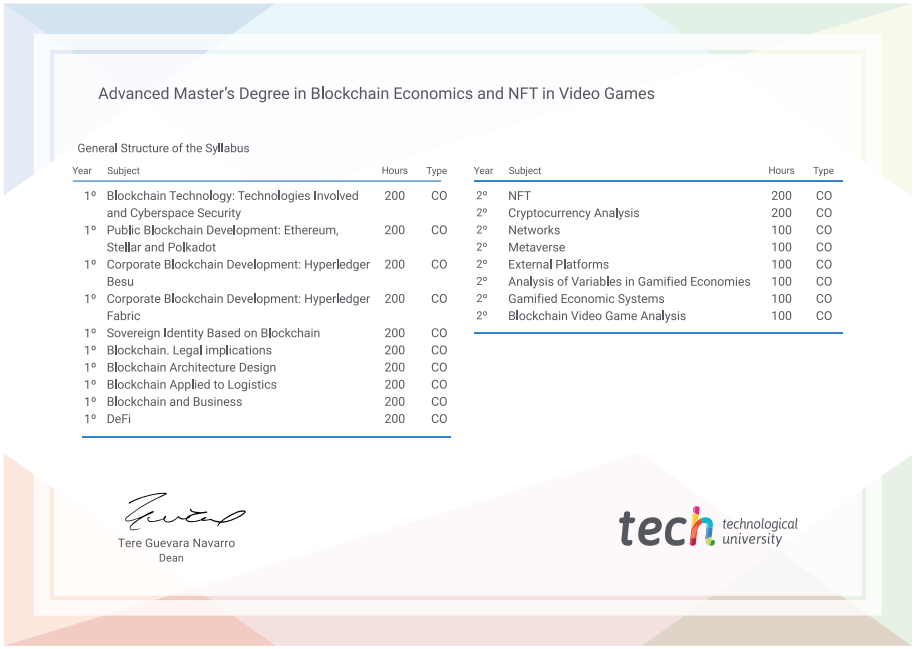
This is a qualification awarded by this University, equivalent to 3,000 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


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

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	Blockchain Technology: Technologies Involved and Cyberspace Security	200	CO
1º	Public Blockchain Development: Ethereum, Stellar and Polkadot	200	CO
1º	Corporate Blockchain Development: Hyperledger Besu	200	CO
1º	Corporate Blockchain Development: Hyperledger Fabric	200	CO
1º	Sovereign Identity Based on Blockchain	200	CO
1º	Blockchain. Legal implications	200	CO
1º	Blockchain Architecture Design	200	CO
1º	Blockchain Applied to Logistics	200	CO
1º	Blockchain and Business	200	CO
1º	DeFi	200	CO

Year	Subject	Hours	Type
2º	NFT	200	CO
2º	Cryptocurrency Analysis	200	CO
2º	Networks	100	CO
2º	Metaverse	100	CO
2º	External Platforms	100	CO
2º	Analysis of Variables in Gamified Economies	100	CO
2º	Gamified Economic Systems	100	CO
2º	Blockchain Video Game Analysis	100	CO

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Dean

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*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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Advanced Master's Degree

Blockchain Economics and NFT in Video Games

- Modality: **online**
- Duration: **2 years**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Advanced Master's Degree

Blockchain Economics and NFT in Video Games

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