

# Postgraduate Certificate Advanced Technologies for Metaverse Development



## Postgraduate Certificate Advanced Technologies for Metaverse Development

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

Website: [www.techtute.com/pk/information-technology/postgraduate-certificate/advanced-technologies-metaverse-development](http://www.techtute.com/pk/information-technology/postgraduate-certificate/advanced-technologies-metaverse-development)

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# 01

# Introduction

The objective of the Metaverse is to overcome the challenges and physical problems that have limited the success of virtual reality technology. Among the advanced technologies that have promoted the development of cyberspace are hardware and software products, which, in turn, are essential to power stimulus simulators and enabling an accessible shared virtual and sensory experience. For this reason, TECH offers a comprehensive and rigorous program that focuses on the development of programming languages and Web3 *Frameworks*, as well as the most successful graphic engines and 3D design software, devices and platforms in this environment, amongst a range of other topics. The program is 100% online and is aimed at graduates in Computer Science and other professionals interested in expanding and updating their knowledge in this area.





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*Enroll in this Postgraduate Certificate to delve into the possibilities of the Internet of Things and 3D Reconstruction”*

Everyday life as we know it is on the verge of disappearing. Since what has been deemed the "fourth industrial revolution", new technologies have taken center stage, leaving a range of leisure activities behind. The Metaverse offers the possibility to interact with users from anywhere on the planet without having to travel at all. Given the universal accessibility that it offers and the widespread public interest that it has gained, many companies are heavily interested in the progress that new technologies are making within the field of cyberspace. One of them is IoT (the Internet of Things), which enables devices to connect via a network, and when merged with AI, it results in a contextual space that updates on a daily basis.

The option of offering gaming alternatives that are focusing more on the experience makes the advantages of this virtual paradigm infinite. For this reason, more and more specialists are opting for online platforms and 3D software design. This is the reason why TECH has developed a complete and rigorous program that delves into alternative, virtual and mixed reality technologies to understand the importance of offering variable experiences to users according to their interests. In addition, the curriculum of this Postgraduate Certificate in Advanced Technologies for Metaverse Development explores data science, *Big Data* and artificial intelligence as engines to transform data into useful information that can help to personalize player experiences.

An education that not only offers theoretical knowledge, but also, with the collaboration of experts in the field, is able to provide students with the key information for real-life scenarios within the field. This is a unique opportunity to delve into the future of technology and the developments envisioned for digital worlds in 2050. A program that has also been designed in a 100% online format, to bring the student closer to the current state of this field when and where they need it, without strict and rigid schedules. At the same time, the *Relearning* methodology applied by TECH in all its degrees reduces the hours of memorization necessary and allows students to learn content in a gradual and simple way through multiple multimedia resources and real-life case studies, which will prepare the computer scientist of today for the professional future.

This **Postgraduate Certificate in Advanced Technologies for Metaverse Development** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Up-to-date case studies provided by experts in the Metaverse, Blockchain and Web 3.0
- ◆ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Be part of the professionals at the forefront of technology and Web 3.0 and enhance your AI-based projects"*

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*This Postgraduate Certificate will provide you with specific knowledge in hardware and platforms that present the biggest trend in the modern gaming industry so you can develop in the area with ease”*

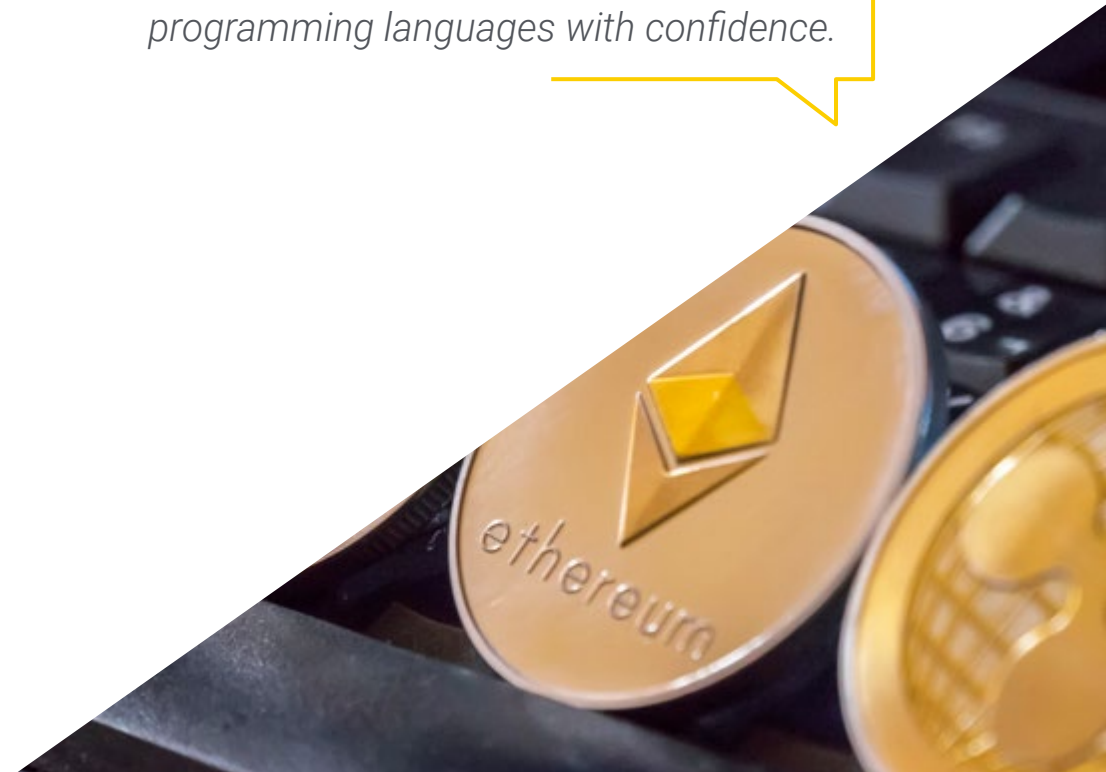
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*Take advantage of a simple and practical program that won't impede on your personal or professional life, thanks to its 100% online modality.*

*Update your knowledge to enhance your professional career and delve into new programming languages with confidence.*



# 02 Objectives

This Postgraduate Certificate in Advanced Technologies for Metaverse Development aims to broaden and update the knowledge of graduates in Computer Science to make them experts in the field of technical aspects for Web2 and 3 and the cyberspace development industry. The program explores graphics engines and 3D design software, as well as data science, AI and their involvement in the development of the Metaverse. In this way, students will acquire the basic concepts necessary to understand in a practical and simple way the different market strategies and their profitability in the virtual-economic sector.

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Vol 1 960

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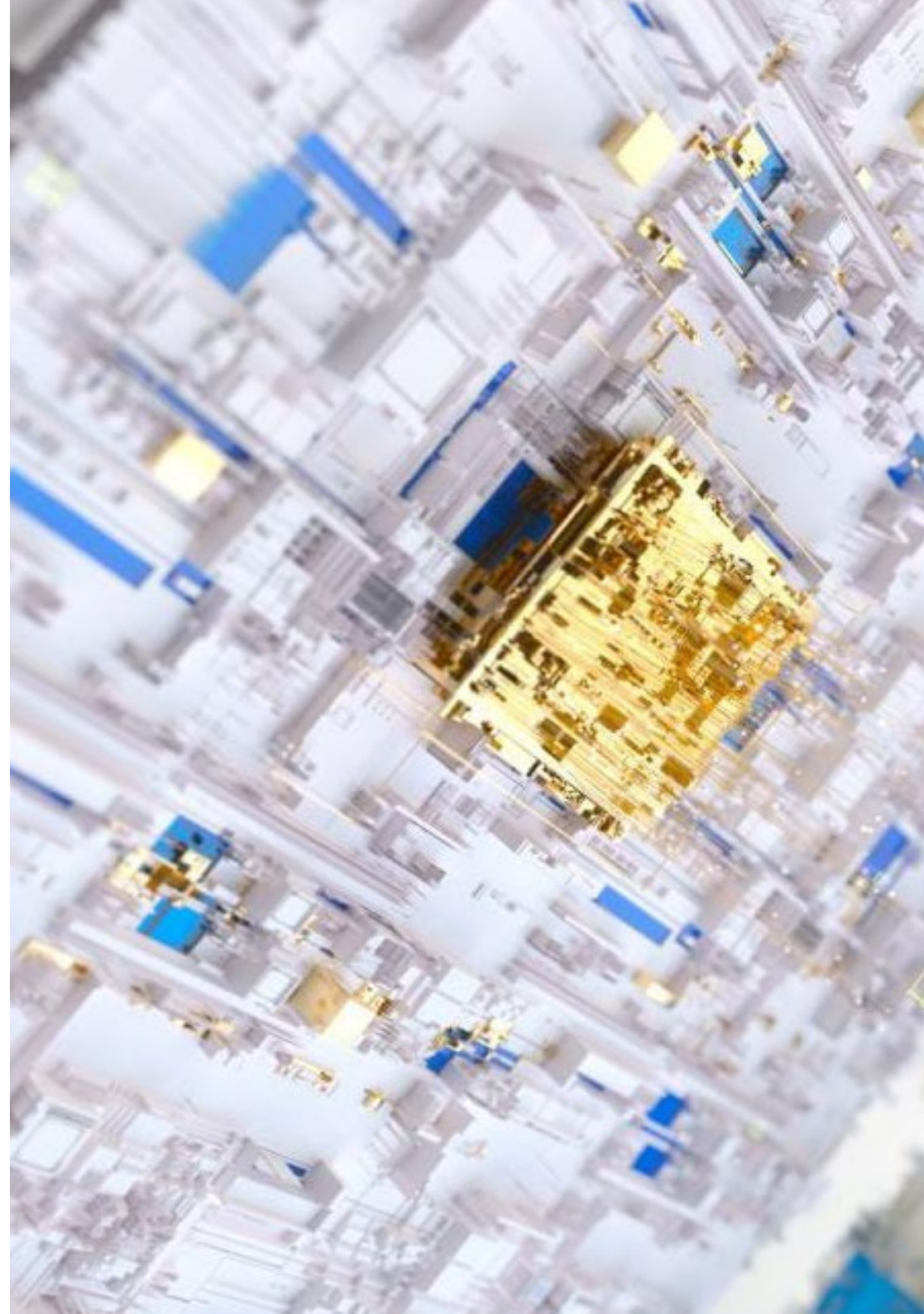
*Don't wait any longer - get a certification that meets the requirements of the modern IT sector and stand out from the crowd”*



## General Objectives

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- ◆ Generate specialized knowledge on Web 3.0
- ◆ Examine each of the components that make up a Metaverse
- ◆ Develop a Metaverse from the available tools and components
- ◆ Analyze the importance of Blockchain as a data governance model
- ◆ Justify the connection of Blockchain with the present and future of the Metaverse
- ◆ Discover case studies and the impact of decentralized finance in our present and future world
- ◆ Analyze the video game industry's evolution and the first primitive examples of Metaverses
- ◆ Delve into classic business models, the general state of the industry and the creation of the GameFi concept
- ◆ Establish synergies between e-Sports and other gaming industry ecosystems with respect to the current Metaverses
- ◆ Develop new skills that allow students to identify business opportunities in the different media of the metaverse
- ◆ Identify and promote all possible monetization avenues within the Metaverse
- ◆ Delve into the Metaverse experience from a different perspective, being able to understand how all this potential development affects us and answer all the questions of its application in the medium to long term
- ◆ Fundamentalize the Metaverse as part of our daily life in order to be able to make the most of it in all areas
- ◆ Prepare ourselves for all the changes that the Metaverse poses for the future and know how it can affect our life, business, and the way we interact with others





## Specific Objectives

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- ◆ Achieve a specialized understanding of the current technological landscape as applied to Web 3.0 and the Metaverse
- ◆ Develop the ability to understand advanced programming concepts
- ◆ Generate specialized knowledge in advanced *Blockchain* concepts
- ◆ Become familiar with the use of development and design environments applied to the video game industry and programming
- ◆ Analyze the wide variety of technologies that can be applied to the Metaverse
- ◆ Assess the possibilities of interconnection between platforms and providers in the Metaverse ecosystem
- ◆ Enhance the projection capacity of current technologies into the future

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*Thanks to TECH, you will gain a specialized understanding of the current technological landscape applied to Web3 and the Metaverse”*

# 03

# Course Management

The creation of a digital project requires extensive knowledge, which TECH offers to computer science graduates through the teaching of experts with years of experience in the sector. For this purpose, the program offers a group of specialized and consolidated teachers in the field to guarantee that the students have an effective learning experience. In addition, the students will be able to contact the teachers through a direct communication channel that will allow them to resolve all their questions. All this, in order to help the computer scientists develop multidisciplinary skills and succeed in the development of advanced technologies for Metaverse development.



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*Are you going to miss the opportunity to learn from professionals who have been working in your sector for years? The teachers will give you the keys to act in your professional practice with guarantees of success”*

## Management



### Mr. Cavestany Villegas, Íñigo

- ♦ Co-Founder & Head of Ecosystem of Second World
- ♦ Web3 and Gaming Leader
- ♦ IBM Cloud Specialist at IBM
- ♦ Advisor at Netspot OTN, Velca and Poly Cashback
- ♦ Teacher in business schools such as IE Business School or IE Human Sciences and Technology
- ♦ Graduate in Business Administration from IE Business School
- ♦ Master's Degree in Business Development from the Autonomous University of Madrid
- ♦ IBM Cloud Specialist
- ♦ Profession Certification in IBM Cloud Solution Advisor

## Professors

### Mr. Cameo Gilabert, Carlos

- ♦ Founder and Chief Technology Officer at Second World
- ♦ Co-founder of Netspot
- ♦ Co-founder of Banc
- ♦ Chief Technology Officer at Jovid
- ♦ Freelance Full Stack Developer
- ♦ Industrial Engineer, Polytechnical University of Madrid
- ♦ Master's Degree in Data Science from the Polytechnic University of Madrid



# 04

## Structure and Content

The syllabus of this program has been carefully designed by the teaching team with extensive experience in the Metaverse. For this reason, the Postgraduate Certificate in Advanced Technologies for Metaverse Development has the endorsement of professionals who have developed rigorous and complete content based on their concrete industry experience. This is an alternative way for computer scientists to update their knowledge in the virtual world and, in addition, to do it in a direct and simple way, without timetables or travel. In this way, TECH's 100% online modality allows for the adaptation of the study to the personal and professional needs of the students. *In addition, its* Relearning methodology will exempt students from long hours of memorization thanks to a progressive and simple studying method.



LTC



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*A curriculum designed for you to be able to create your own Web 3.0 project, based on Big Data and making as much profit as possible”*

## Module 1. Advanced Technologies for Metaverse Development

- 1.1. State-of-the-art Metaverse Development
  - 1.1.1. Technical Aspects for Web 2.0.
  - 1.1.2. Technologies Supporting the Metaverse
  - 1.1.3. Technical Aspects for Web 3.0.
- 1.2. Development Environment, Programming Languages and Web 2.0. *Frameworks*
  - 1.2.1. Web 2.0. Development Environment
  - 1.2.2. Web2 Programming Languages
  - 1.2.3. *Frameworks* Web2
- 1.3. Development Environment, Programming Languages and Web 3.0. *Frameworks*
  - 1.3.1. Web2 Development Environments
  - 1.3.2. Web2 Programming Languages
  - 1.3.3. *Frameworks* Web2
- 1.4. Oracles and *Multichain*
  - 1.4.1. *Onchain* vs. *Offchain*
  - 1.4.2. Interoperability
  - 1.4.3. *Multichain*
- 1.5. Graphics Engines and 3D Design Software
  - 1.5.1. AIH vs. GPU
  - 1.5.2. Graphics Engines
  - 1.5.3. 3D Design Software
- 1.6. Devices and Platforms
  - 1.6.1. Video Game Hardware
  - 1.6.2. Platforms
  - 1.6.3. Current Competitive Landscape
- 1.7. *Big Data* and Artificial Intelligence in Metaverse
  - 1.7.1. Data Science Data Transformation into Information
  - 1.7.2. *Big Data*. Data Lifecycle Strategy in the Metaverse
  - 1.7.3. Artificial Intelligence User Experience Personalization





- 1.8. Augmented Reality, Virtual Reality and Mixed Reality in the Metaverse
  - 1.8.1. Alternative Realities
  - 1.8.2. Augmented Reality vs. Virtual reality
  - 1.8.3. Mixed Reality
- 1.9. *Internet of Things* and 3D Reconstruction
  - 1.9.1. 5G and Telecommunication Networks
  - 1.9.2. *Internet of Things*
  - 1.9.3. 3D Reconstruction
- 1.10. The Future of Technology The 2050 Metaverse
  - 1.10.1. Technological Barriers
  - 1.10.2. Development Pathways
  - 1.10.3. The 2050 Metaverse

“ A program designed to help you develop the computer skills that will be essential in the technological field of the future”

# 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.





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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

**“** *Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

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

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.





In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

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



### Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



# 06 Certificate

The Postgraduate Certificate in Advanced Technologies for Metaverse Development guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Advanced Technologies for Metaverse Development** endorsed by **TECH Global University**, the world's largest online university.

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

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

Title: **Postgraduate Certificate in Advanced Technologies for Metaverse Development**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



**Postgraduate Certificate**  
Advanced Technologies for  
Metaverse Development

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