Postgraduate Certificate
Video Game Programming

tech global university

Postgraduate Certificate
Video Game Programming

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

Website: **www.techtitute.com/us/design/postgraduate-certificate/video-game-programming**

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Introduction

Video games stand out for their visuals, character aesthetics, and the quality of the graphics, the music or the story. It is the first thing that players visualize and appreciate. However, behind all that, there is an unseen task that is essential for all parts of a video game to function correctly: Programming. Therefore, it is important to have a team specialized in this area, since, without it, the creative ideas of the designers and scriptwriters could not be brought to fruition. With this in mind, the following program has been developed, which brings together all the knowledge that helps students to specialize in the area.

" *Programming is the hidden basis of video games. Specialize in this area by enrolling in this program"*

To develop a video game, you must first think of an idea: What adventures will occur, how it will be played, and what the rules, characters, scenarios and other aspects will be. Then, it is time to start the "Game Design", one in which the game mechanics are defined and a prototype is created using a programming language. From here, the programmers are in charge of making all the design team's ideas a reality, translating them into actions that are displayed on the screen.

It is, therefore, a highly valued and well-paid job in the industry. Without them, gamers would not be able to enjoy their favorite titles. With this in mind, the Postgraduate Diploma has been devised to allow designers to specialize in fundamental aspects of programming. For this purpose, one of the most widely used development engines in the sector will be taken into account: Unity 3D Engine, on which games such as Super Mario Run, Pokemon Go and Resident Evil: Umbrella Corps, have been developed, among others.

This program provides all the knowledge and skills require to master the area. In turn, it allows students to apply their knowledge immediately thanks to the online modality and the direct qualification, whereby the student can study wherever and however they want, without having to worry about a final assignment.

This **Postgraduate Certificate in Video Game Programming** has a syllabus that is adapted to current market demands. Its most notable features are:

- The teaching of all relevant elements when programming a video game
- The contribution of a context on the video game industry for the student
- Practical exercises where the self-assessment process can be carried out to improve learning
- Access to content from any fixed or portable device with an Internet connection

This is a great opportunity to venture into an area that is highly valued by the video game industry: Programming"

C++ is the most widely used programming language in the world of video games. You can also learn it through this course"

With a direct qualification, this program allows you to apply everything you learn immediately after each class.

With 100% online content, you decide where and when to study.

The program includes in its teaching staff professionals from the sector who bring to this training the experience of their work, as well as recognized specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersion training programmed to train in real situations.

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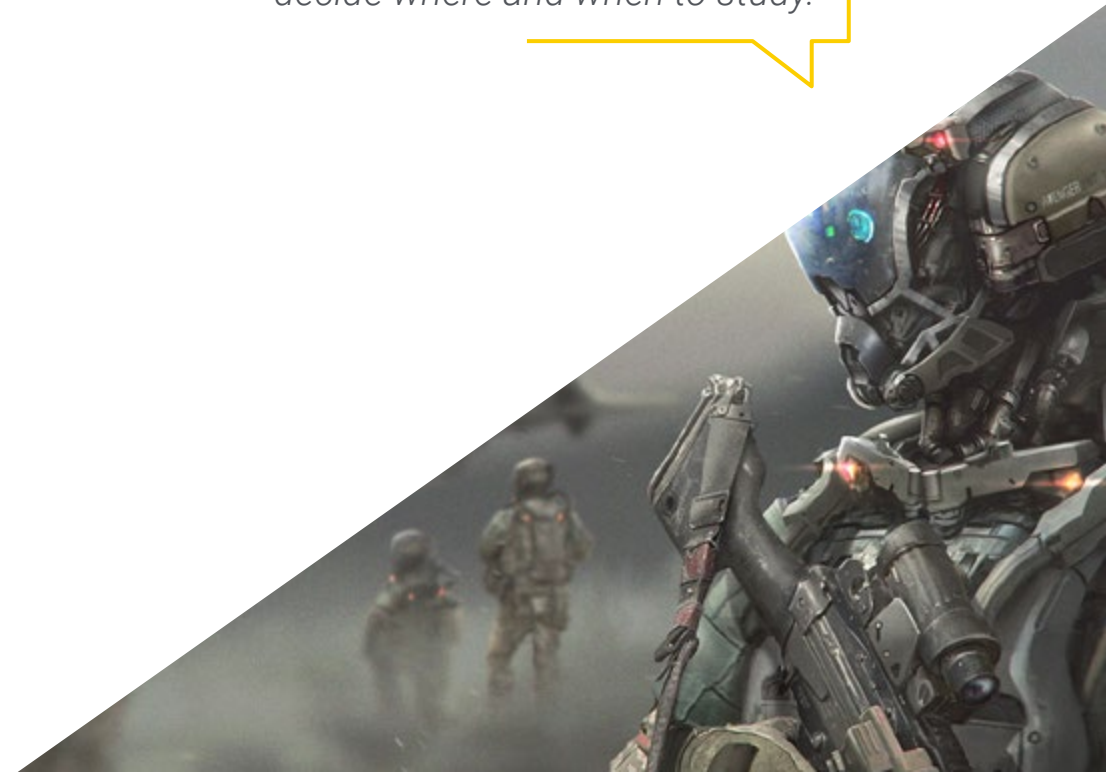
Objectives

This Postgraduate Certificate focuses on providing the student with the best tools for programming video games. You will become familiar with the key concepts of the area and learn the most common tasks when coding a game. To do so, you will have to master one of the most widely used programs in the industry, Unity 3D Engine, study the C++ language and apply different AI skills for the creation of enemies and NPCs. All this, brought together in a program that is available at all times.

Specialize and reach new goals thanks to a program free of schedules and limitations"

General Objectives

- Know the different genres of video games, the concept of gameplay and features in order to apply them in the analysis of video games and in the creation of the design of the video game

- Deepen understanding of the production of video games and in the SCRUM methodology for project production

- Learn the fundamentals of video game design and the theoretical knowledge that a video game designer should know

- Generate ideas and create entertaining stories, plots and scripts for video games

- Know the theoretical and practical foundations of the artistic design of a video game

- Be able to create an independent digital entertainment startup

Specific Objectives

- Handle the most widely used engine in video game development: Unity 3D Engine
- Study Unity programming with C# and master the program interface
- Learn about the creation of a 2D video game: Programming character movements, enemies and animations
- Develop different elements of the game such as platforms or keys
- Create the game interface or HUD
- Expand knowledge in AI, both for the creation of enemies and 2D non-playable characters (NPCs)

Video Game Programming is a fundamental pillar. Mastering it is synonymous with excellence within the industry"

Course Management

This Postgraduate Certificate in Video Game Programming is taught by a cutting-edge team within the industry. Together, they have years of experience, so they know the needs and shortcomings of the industry inside out. They have participated in large projects, becoming specialists in each phase of the design and programming of video games.

"
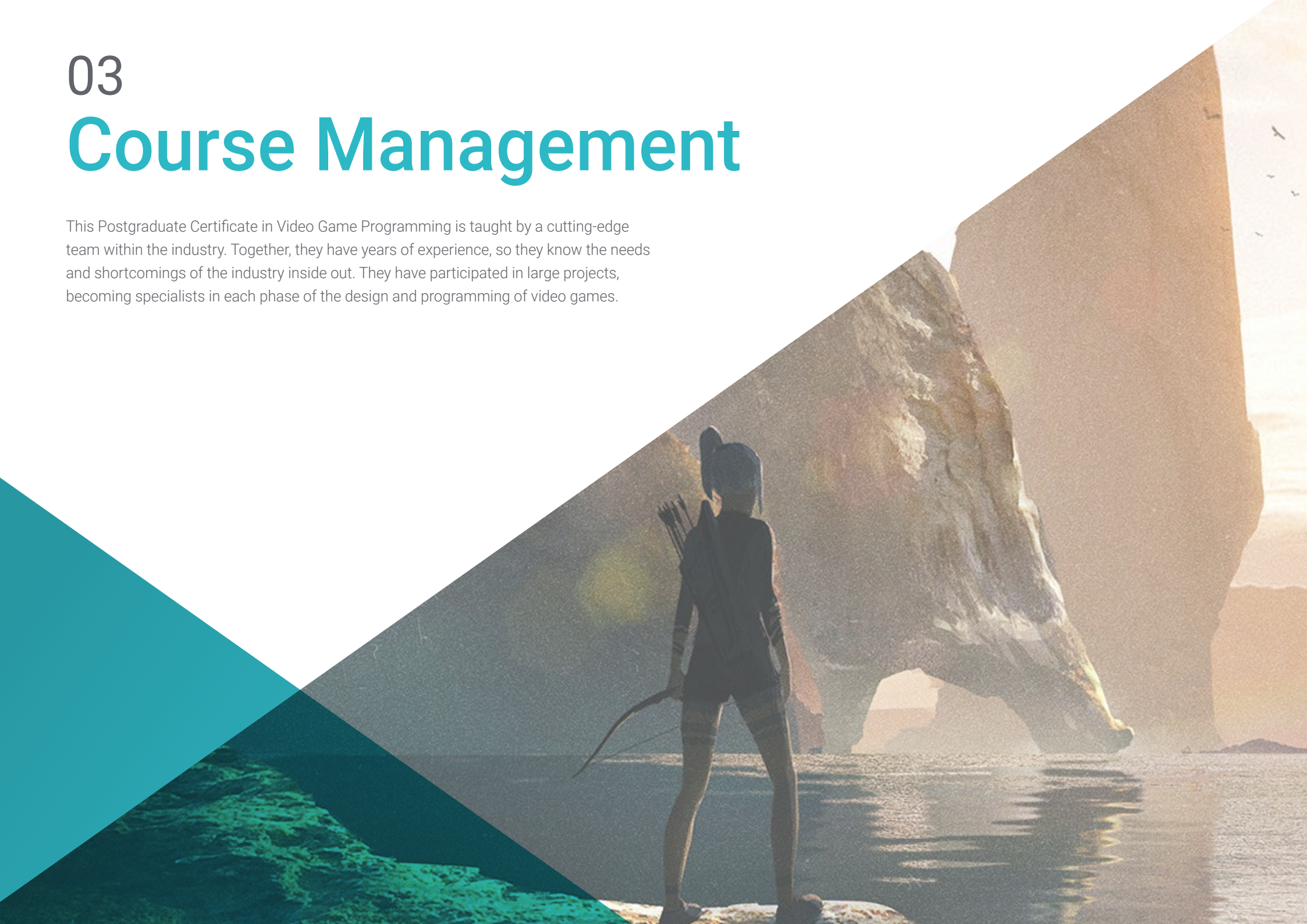
By enrolling in this program, you will achieve excellence thanks to this group of experts"

Management

Mr. Blasco Vilches, Luis Felipe

- Narrative designer at Stage Clear Studios, developing a confidential product
- Narrative designer at HeYou Games in the "Youturbo" project
- E-learning and serious games product designer and scriptwriter for Telefónica Learning Services, TAK and Bizpills
- Level designer at Indigo for the "Meatball Marathon" project
- Screenwriting teacher in the Master's Degree in Video Game Creation at the University of Malaga
- Lecturer in Video Game Narrative Design and Production at the TAI Film Department, Madrid
- Narrative Design and Script Workshops teacher, and in the Video Game Design Degree at ESCAV, Granada
- Degree in Hispanic Studies from the University of Granada, Spain
- Master's Degree in Creativity and Television Screenwriting, Rey Juan Carlos University

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Structure and Content

The content structure of this program has been designed following the recommendations of the faculty, who are aware of the needs of the industry. In this way, students learn how to handle the most commonly used tools, such as Unity 3D Engine together with the C++ language. In addition, they learn to master AI parameters in order to create more intelligent enemies and NPC characters. Everything learned can be applied immediately in their work environments, thanks to the availability of the online diploma and the direct qualification.
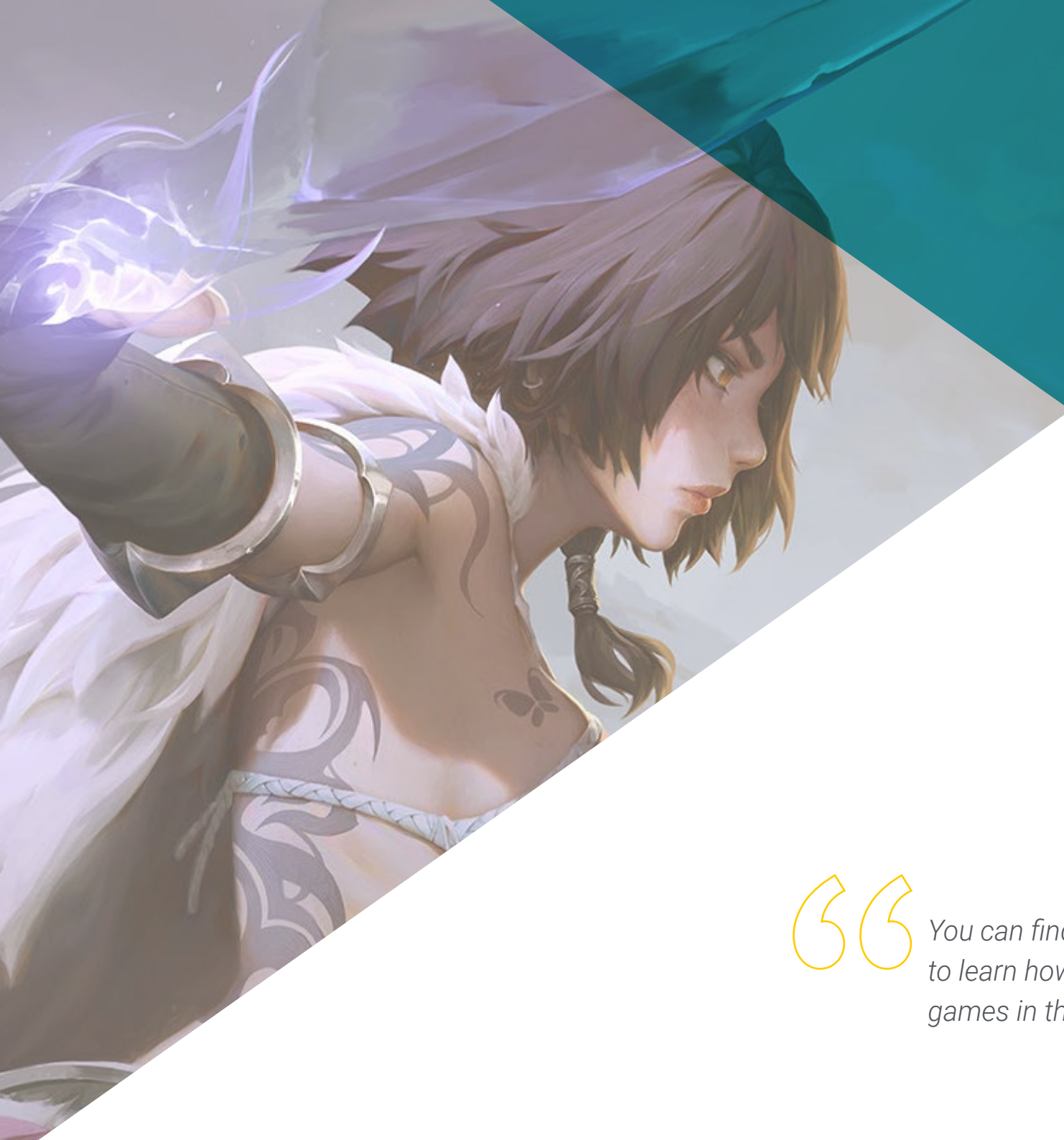
You can find the best contents to learn how to program video games in this program"

Module 1. Programming

Become a designer specializing in programming and improve your career opportunities"

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 is the most widely used learning system in the best faculties in the world. 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies 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 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. With this methodology we have 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, markets, and financial 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 competencies and skills in each thematic 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.

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.

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Certificate

The Postgraduate Certificate in Video Game Programming guarantees students, in addition to the most rigorous and up-to-dated education, access to a Postgraduate Certificate issued by TECH Global University.

Successfully complete this program and receive your university degree without travel or laborious paperwork"

This program will allow you to obtain your **Postgraduate Certificate in Video Game Programming** 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 Video Game Programming**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech global university

Mr./Ms. _____, with identification document _____ has successfully passed and obtained the title of:

Postgraduate Certificate in Video Game Programming

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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