Postgraduate Certificate
Applied 3D Animation for Video Game Engines

tech global university

Postgraduate Certificate
Applied 3D Animation for
Video Game Engines

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

Website: **www.techtitute.com/us/design/postgraduate-certificate/applied-3d-animation-video-game-engines**

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01

Introduction

The rise of 3D animation is a growing reality. For this reason, it is necessary that the design professional implements to their skills and knowledge the new digital tools that the industry demands. However, finding a program that dynamically and intensively covers this issue is a complex task, or at least it was until TECH and its team of experts decided to develop this comprehensive program. This is a program oriented to the handling of the main software and applications for the creation of three-dimensional pieces in audiovisual projects through 150 hours of the best theoretical, practical and additional material. A program where the creative can work on perfecting their skills in design and materialization of ideas through a 100% online academic experience.

" The Domain of the main 3D animation software will open the doors to a future job with many more opportunities in Gaming industry"

The design in 3D modeling and artificial intelligence share characteristics and objectives, since both sections seek to make characters, structures, maps and, in general, any three-dimensional object stand on its own. This makes it possible to provide an immersive experience, emulating aspects of reality on countless occasions. Thanks to this, 3D animation has become the main artifice of the success of *gaming* franchises, as the public endorses the efforts of the professional in terms of creation more than the plot of a story or the development of the same.

The thing about design is that it is constantly being updated and there are more and more requirements and demands from the industry to meet customer expectations. Therefore, taking a program that provides the necessary information to master this field becomes an alternative that many creatives end up choosing before achieving success. For this, you can count on this very complete Postgraduate Certificate, which will provide you with the best knowledge to handle the most complex design programs for 3D animation, allowing you to generate engines for video games and participate in other projects in the audiovisual industry.

For the development of the program, the student will have a period of rigorous, intensive and exhaustive online learning. It is a 100% online program, without fixed schedules and with all the freedom to access whenever and wherever you want, without limits. In addition, within the theoretical-practical material the specialist will find: detailed videos, research articles and complementary readings with which they will be able to delve into the different sections of the program. Everything will this content be available from the beginning of the educational activity and available for their downloaded to any device with an Internet connection. Therefore TECH guarantees an experience with which you can achieve even your most ambitious goals in only 6 weeks.

This **Postgraduate Certificate in Applied 3D Animation for Video Game Engines** contains the most complete and up-to-date program on the market. The most important features include:

- The development of practical cases presented by experts in Video Games and Video Technologies
- 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
- Special emphasis on 3D modeling and animation in virtual environments
- 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

A multidisciplinary diploma that will help students to deepen their knowledge of 3D animation, a sector with great expectations for the future"

Be part of the audiovisual industry and put your knowledge into practice in other fields such as film, television and video games with this Postgraduate Certificate.

" *With this program you will learn about animation in general and you will go deeper specifically in the 3D section. This way you will not limit your knowledge, but expand it in a guaranteed way"*

Access the Virtual Campus whenever you want, review your study material and improve your design software skills. This will expand your radius of action in the future.

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

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

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

02
Objectives

The desire to be part of the group of the best professionals who will design the next 3D animation products that will impact the world is a necessity for the student. TECH in its commitment to students, offers this program with the main objective that graduates learn new design techniques, as well as to handle the most demanded programs and software with greater scope of professionalism for the realization of international pieces and products.

tech
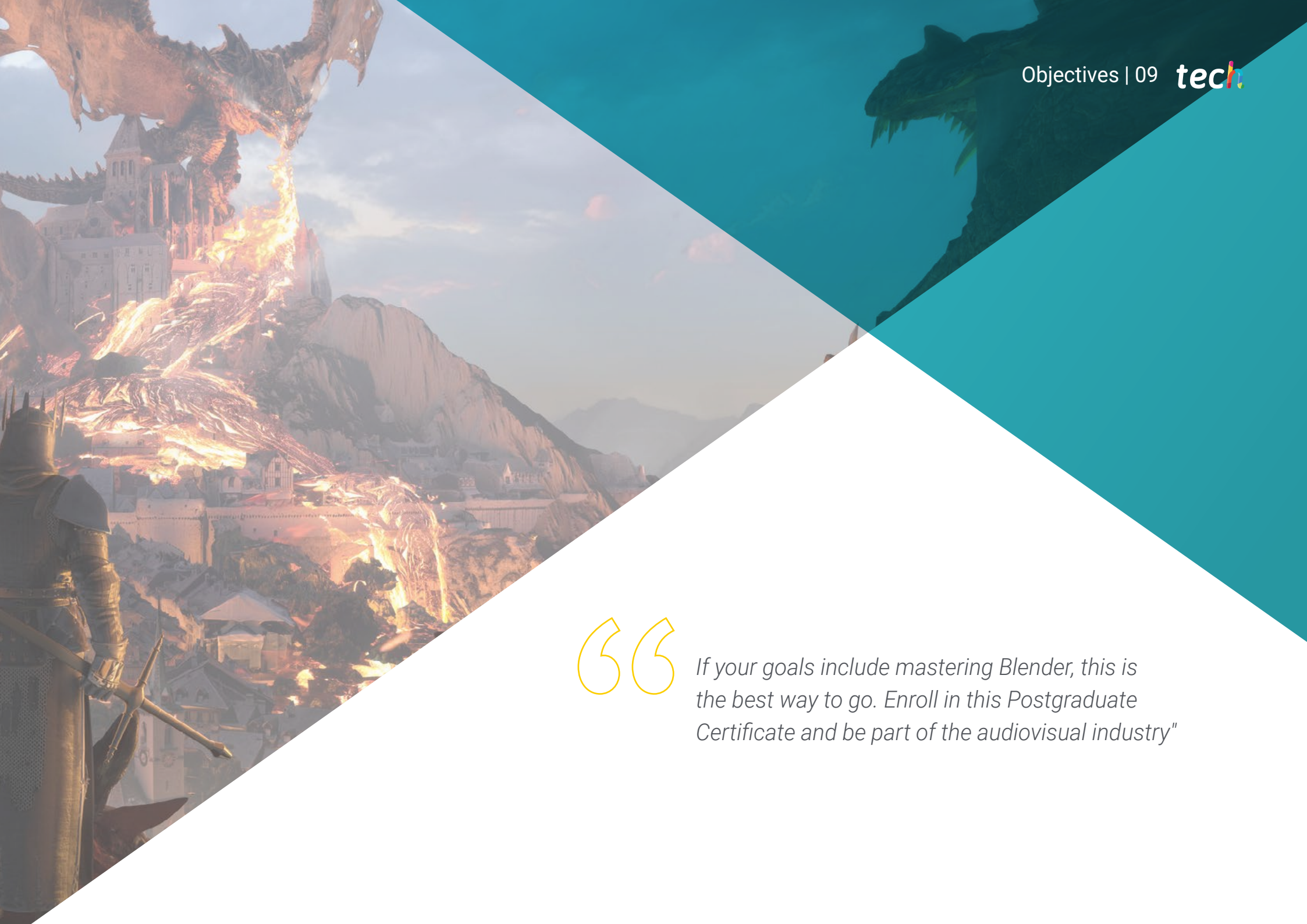
"*If your goals include mastering Blender, this is the best way to go. Enroll in this Postgraduate Certificate and be part of the audiovisual industry*"

General Objectives

- Animate biped and quadruped 3D characters
- Discover 3D *rigging*
- Analyze the importance of the animator's body movement in order to have animation references

A program full of knowledge at your disposal. Don't run out of space and enroll now in this TECH program"

Specific Objectives

- Develop specialized knowledge in the use of 3D animation software
- Determine the similarities and differences between a biped and a quadruped
- Develop several animation cycles
- Interiorize *lipsync*, rig and facial
- Analyze the differences between animation made for film and for video games
- Develop customized skeletons
- Master camera and shot composition

03

Course Management

For this Postgraduate Certificate, TECH has selected an important teaching team that throughout their careers have belonged and still belong to different companies in the sector. The teachers in charge stand out for their creativity, knowledge and handling of the most complex digital tools, which has served to position them at the top of the industry. All this background and experience will enrich the development of the program, allowing the student to improve their skills and become the next successful franchise creator.

"

Learn from the best and be part of the industry that will shape entertainment for years to come, bringing to the world products in film, television, digital platforms and video games"

Management

Mr. Ortega Ordóñez, Juan Pablo

- Director of Engineering and Gamification Design for the Intervenía Group
- Professor at ESNE of Video Game Design, Level Design, Video Game Production, Middleware, Creative Media Industries, etc
- Advisor in the foundation of companies such as Avatar Games or Interactive Selection
- Author of the book *Video Game Design*
- Member of the Advisory Board of Nima World

Professors

Mr. Pradana Sánchez, Noel

- Specialist in Rigging and 3D Animation for videogames
- 3D Graphic Artist at Dog Lab Studios
- Producer at Imagine Games leading the video game development team.
- Graphic artist at Wildbit Studios with 2D and 3D works.
- Teaching experience in ESNE and in the CFGS in 3D Animation: games and educational environments
- Masters Degree in Video Game Design and Development from ESNE University
- Master's Degree for Teachers by URJC
- Specialist in Rigging and 3D Animation Voxel School

Structure and Content

The syllabus of this program has been designed by a team of experts who know the current needs of the video game industry. Thanks to this, it has been possible to create a detailed program with accurate information that will help students achieve their professional goals. It is a program full of informative, pedagogical and multidisciplinary content. In addition, it will provide the graduate with the necessary tools to express his or her creative capacity to the maximum in the design of 3D animation.

> *You will learn to design with highly qualified software for the audiovisual industry and you will stand out with your 3D designs"*

Module 1. 3D Animation

1.1.   Software Operation
    1.1.1.   Information Management and Work Methodology
    1.1.2.   Animation
    1.1.3.   Timing and Weight
    1.1.4.   Animation With Basic Objects
    1.1.5.   Direct and Inverse Cinematics
    1.1.6.   Inverse Kinematics
    1.1.7.   Kinematic Chain

1.2.   Anatomy. Biped Vs. Quadruped
    1.2.1.   Biped
    1.2.2.   Quadruped
    1.2.3.   Walking Cycle
    1.2.4.   Running Cycle

1.3.   Facial Rig and Morpher
    1.3.1.   Facial Language. Lip-Sync, Eyes and Focal Points
    1.3.2.   Sequence Editing
    1.3.3.   Phonetics. Importance

1.4.   Applied Animation
    1.4.1.   3D Animation for Film and Television
    1.4.2.   Animation for Video Games
    1.4.3.   Animation for Other Applications

1.5.   Motion Capture with Kinect
    1.5.1.   Motion Capture for Animation
    1.5.2.   Sequence of Movements
    1.5.3.   Blender Integration

1.6.   Skeleton, *Skinning* and *Setup*
    1.6.1.   Interaction Between Skeleton and Geometry
    1.6.2.   Mesh Interpolation
    1.6.3.   Animation Weights
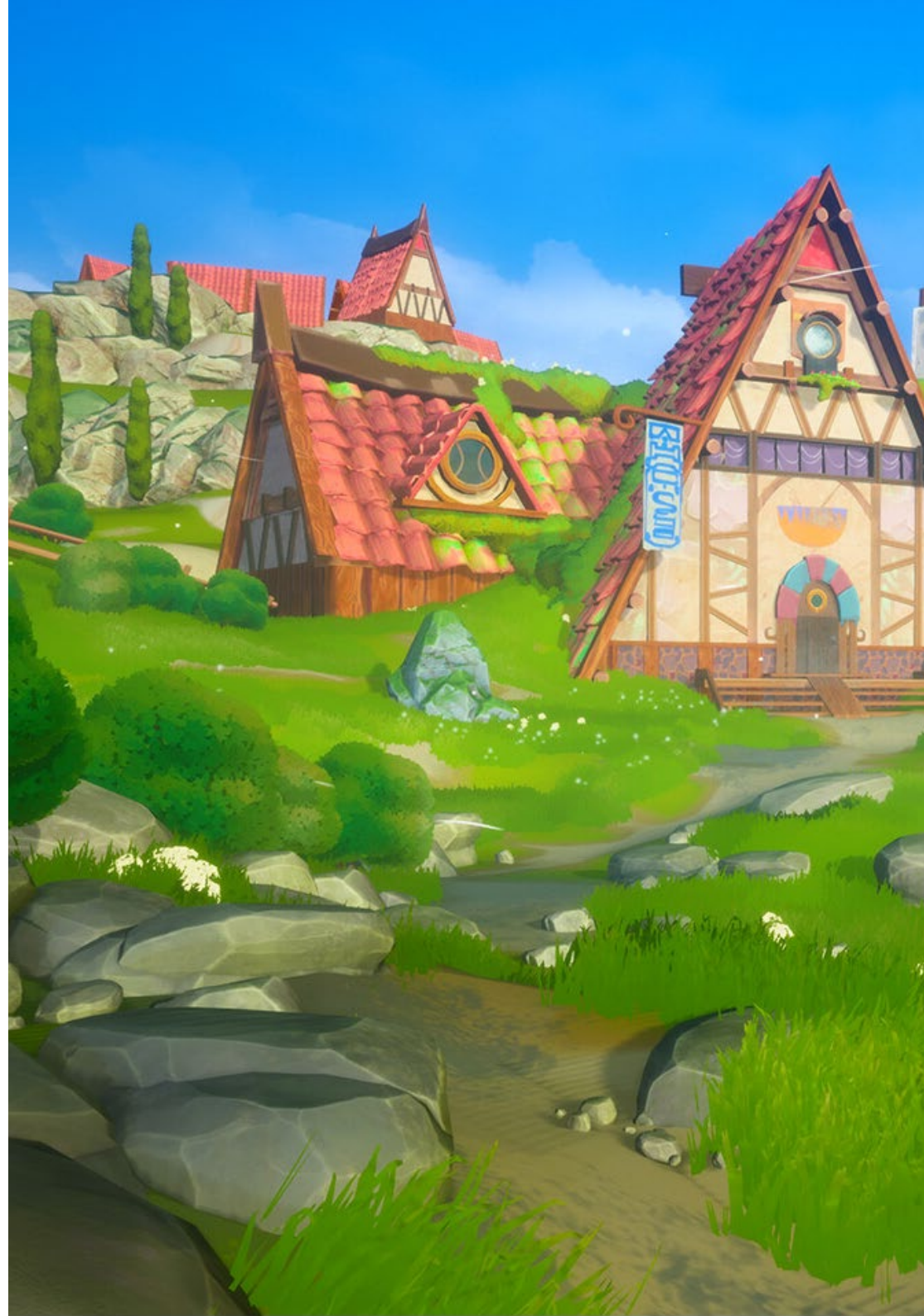
Do not hesitate and enroll in a program that will enable you to excel in the 3D videogame sector in less than 6 weeks"

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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.

06

Certificate

The Postgraduate Certificate in Applied 3D Animation for Video Game Engines guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in 3D Industry** 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 Applied 3D Animation for Video Game Engines**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

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

Postgraduate Certificate in Applied 3D Animation for Video Game Engines

This is a program of 150 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
Dean

Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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