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**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

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

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01
Introduction

Mastering the main 3D animation software to achieve a fluid and realistic finish has become one of the most demanded skills in the video game industry. For this reason, the professional who masters Biped, the realization of a Skinning and the different methodologies to adjust a mesh to a bone, will have an assured working future in this area. And for this, you can count on this program, designed by experts in technology and entertainment. Through 180 hours of multidisciplinary and intensive training, the graduate will be able to work on perfecting their skills in the conformation of biped and quadruped skeletons, through the use of different Rigging techniques. All this with a comfortable 100% online program with which you can position yourself as a specialist prepared to face a 3D animation project with guaranteed success.

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

The quality of character movement in video games is one of the most time-consuming aspects when undertaking a project of this type. The complexity of this task requires an exhaustive and specialized knowledge of the main techniques of Riggin, Skinnink and animation applied to biped and quadruped anatomies. For them, to perfectly handle programs such as Kinect or Blender becomes a fundamental requirement, motivated, in addition, by the high labor demand that currently exists for professionals with this technical domain.

For this reason, the syllabus of this program may be the opportunity that the graduate was looking for to specialize, in this case, in an area that will undoubtedly increase their chances of joining large companies in the industry such as Ubisoft or Nintendo. Through 180 hours of diverse content designed by video game and technology experts, you will work on perfecting your 3D animation skills: creating special visual effects, sequence editing, motion capture, cinematics and much more!.

For this purpose, you will have 6 weeks of rigorous, intensive and exhaustive 100% online training that includes, in addition to the most updated syllabus of the moment, detailed videos, research articles and complementary readings for the graduate to deepen in a personalized way in the different aspects of the program. All this content will be available from the beginning of the academic activity and will be available for download on any device with an internet connection Thus, TECH guarantees an experience with which you can achieve even your most ambitious goals.

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 the self-assessment process can be carried out 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 versatile and multidisciplinary Diploma with which you will acquire specialized knowledge about walking and running cycles in biped and quadruped characters. bipeds and quadrupeds"

"*Would you like to expand your knowledge in animation applied to film, television and video games? You are, then, on the verge of the academic opportunity that will help you achieve it in just 6 weeks*"
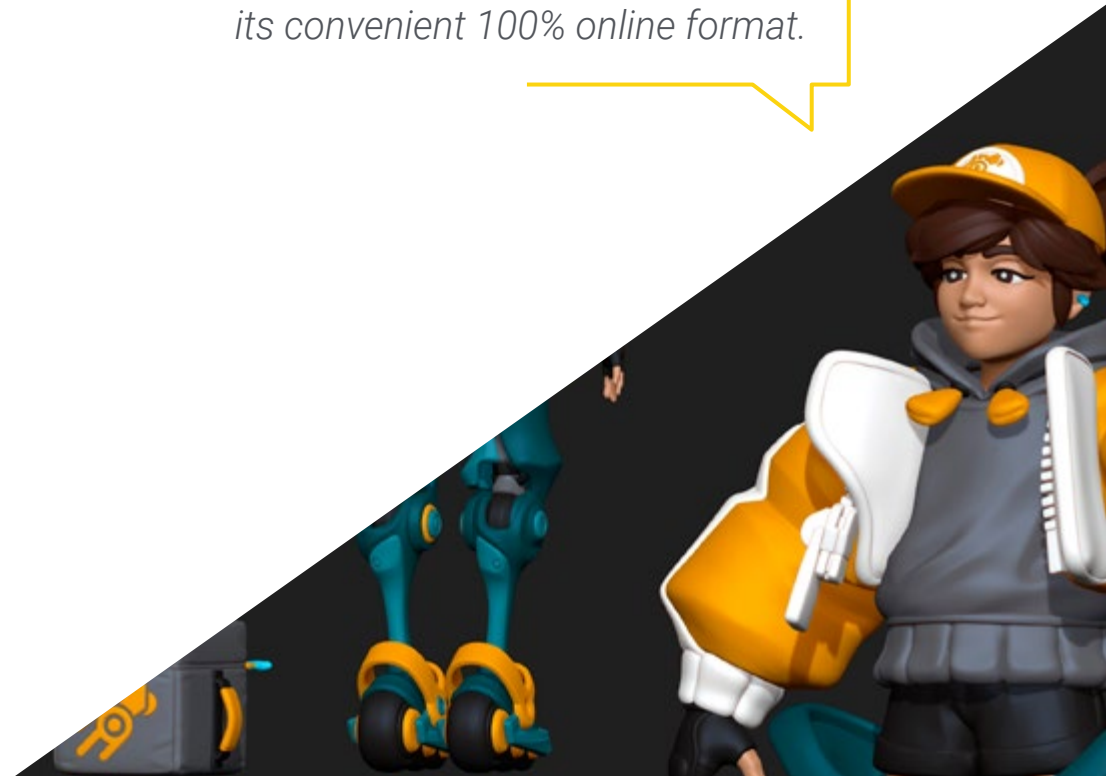
Improve your skills in handling Kinect and create motion sequences at the level of the best video game experts with this diploma course.

You will have unlimited access to the Virtual Campus from the beginning of the educational experience No schedules and from wherever you want thanks to its convenient 100% online format.

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.

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, students will be assisted by an innovative, interactive video system created by renowned and experienced experts.

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Objectives

The need for professionals who want to succeed in the video game industry to master the software and motor techniques for 3D animation is what has motivated TECH and its team of experts to launch this Diploma For this reason, its purpose is to provide graduates with all the information they need to develop a broad and comprehensive knowledge that will allow them to excel in the management and creation of 3D entertainment projects.

"

If one of your goals is to master Blender, enroll in this Diploma and start the path to achieve it"

General Objectives

- Animate bipedal and quadrupedal 3D characters
- Discover 3D Rigging
- Analyze the importance of the animator's body movement in order to have animation references

" *A qualification that will give you the opportunity to perform a complete facial rig through the approach of two techniques: bone and morphers"*

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

◆ Internalizing Lip-Sync, Rig facial

◆ Analyze the differences between animation made for film and for video games

◆ Develop customized skeletons

◆ Master camera and shot composition

Course Management

Both the direction and the teaching of this Diploma are in charge of an important team of professionals from the creative sector and video games, specialists versed in the management and creation of important projects In addition, they are currently working, so they are up to date with the latest developments in the field. All of this will give the educational experience a novel and comprehensive aspect that will help the graduate get the most out of the 180 hours of training

The syllabus has been designed by a team of professionals in the video game industry with a wide and extensive experience in the management and creation of international projects"

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

Dr. 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
- Master's Degree in Video Game Design and Development from ESNE University
- Master's Degree in Teacher Training from Rey Juan Carlos University
- Specialist in Rigging and 3D Animation Voxel School

04
Structure and Content

Elaborating this Diploma has been a real challenge for TECH and its team of experts, who, despite being versed in the video game and technology sector, have had to carry out an exhaustive research task to shape a complete, comprehensive, updated and adapted to the pedagogical criteria that define and differentiate this university. In addition, with an emphasis on the multidisciplinary factor that characterizes all the qualifications of this center, they have also included in their content hours of additional material in audiovisual format, research articles, dynamic summaries and complementary readings so that the graduate can take full advantage of this academic experience and delve into the most relevant aspects of the syllabus for their professional performance.
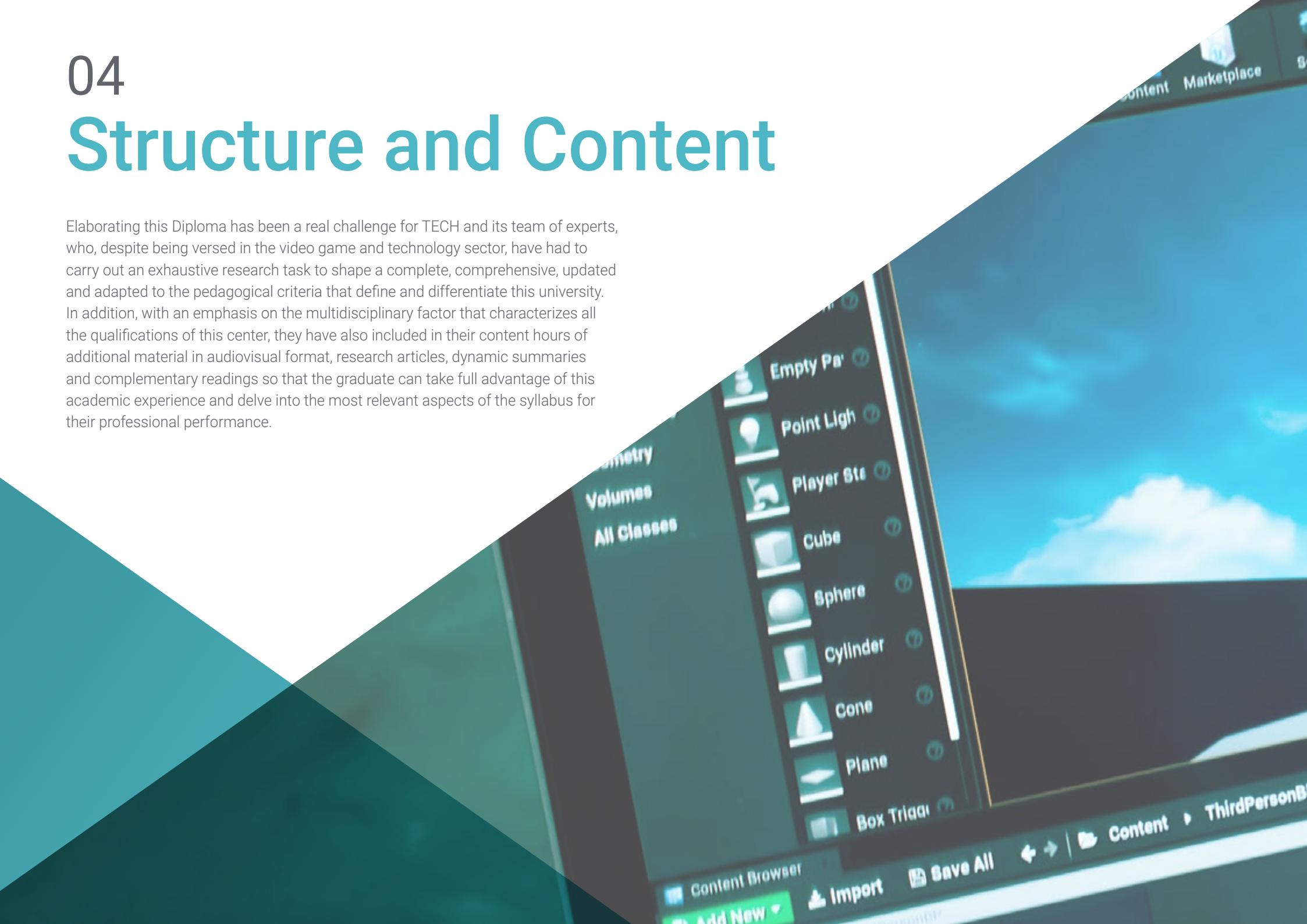
Knowing the keys to acting and body language is now possible with TECH and this complete program"

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. Bipedal Vs. Quadrupedal

    1.2.1.   Bipedal

    1.2.2.   Quadrupedal

    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
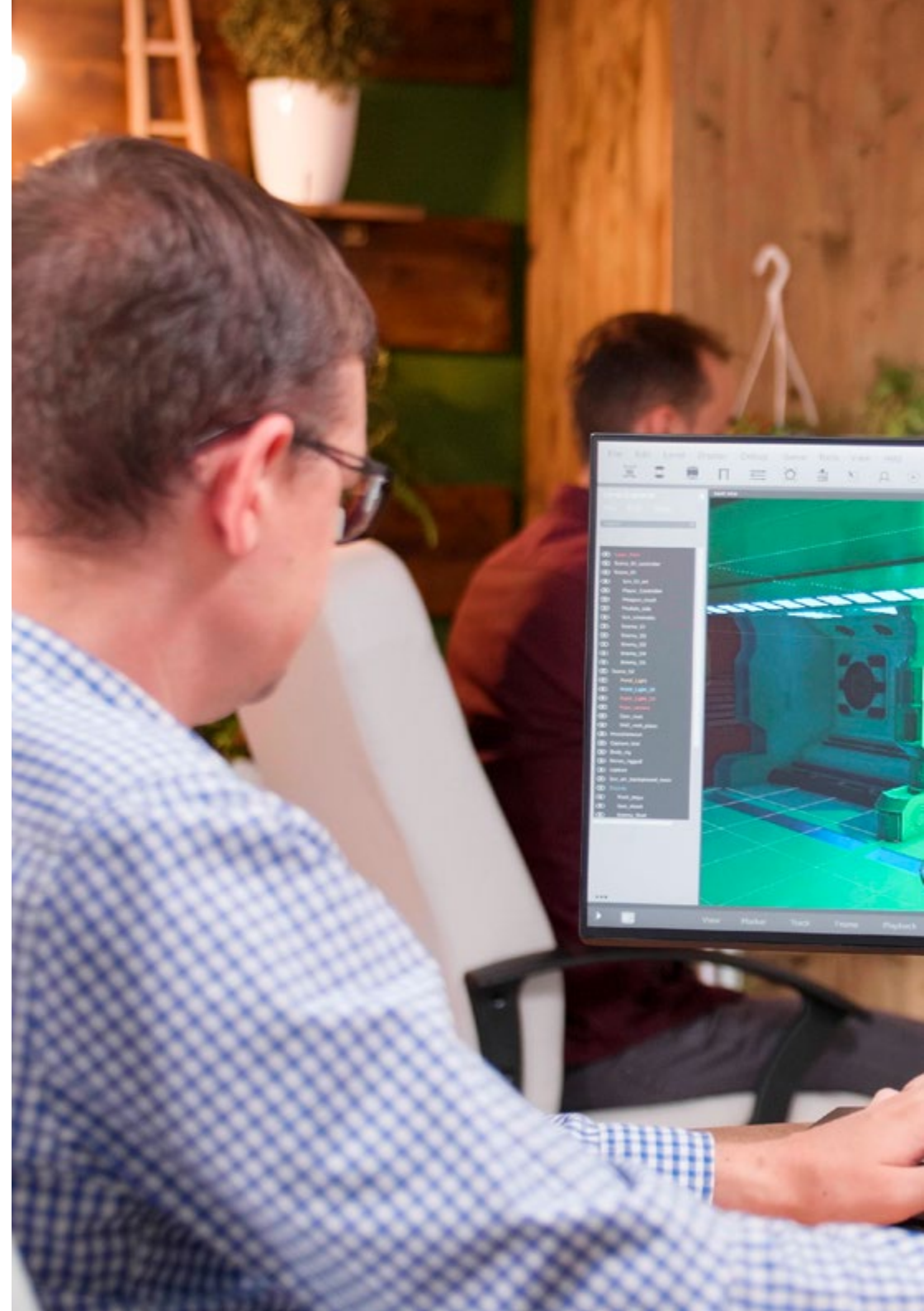
Do not hesitate and enroll in a program that will enable you to excel in the 3D videogame sector in less than 6 weeks"

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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 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

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

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

Study Material

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

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

30%

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.

10%

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.

8%

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.

20%

25%

4%

3%
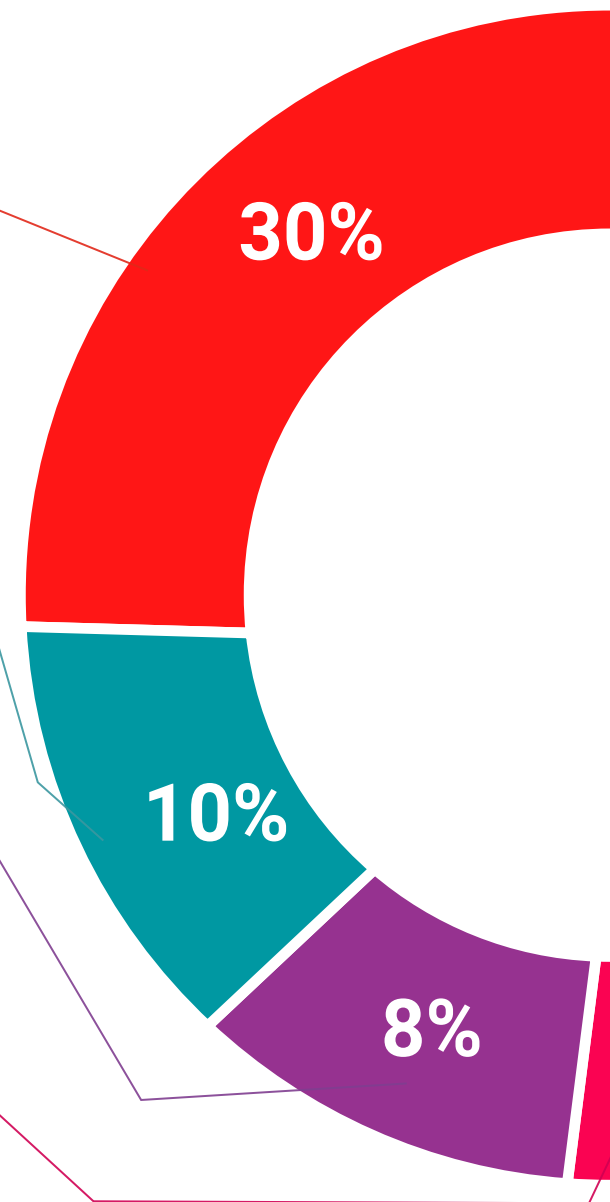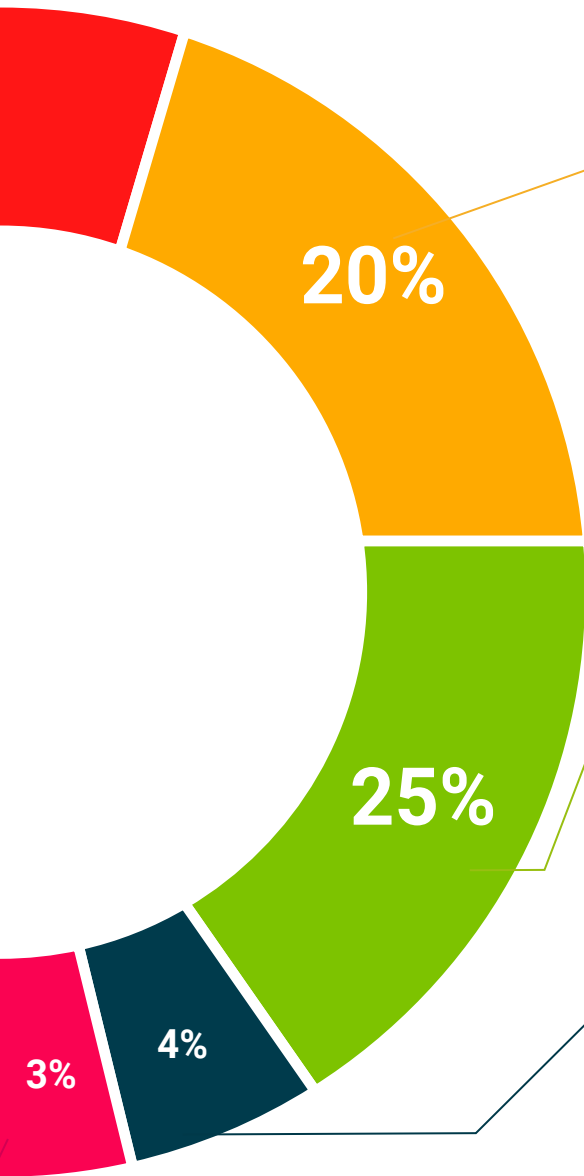
Case Studies

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 Applied 3D Animation for Video Game Engines** 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 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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