

Postgraduate Certificate

Hair Creation for Video Games and 3D Movies



Postgraduate Certificate Hair Creation for Video Games and 3D Movies

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

Website: www.techtute.com/us/videogames/postgraduate-certificate/hair-creation-video-games-3d-movies

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 20

06

Certificate

p. 28

01

Introduction

All video game players remember Cloud's signature hair in Final Fantasy VII, Vaas' mythical mohawk in Far Cry 3 or the extensive hairstyle options in Cyberpunk 2077. There is no doubt that hair is one of the most fundamental characteristics to infuse personality to heroes and villains, so its recreation must be taken care of to the millimeter when we talk about 3D modeling in video games. This TECH program focuses on sculpting and creating hair of the latest generation, with which the students can stand out by creating the most extravagant or elegant hairstyles that take them to the top of their design departments, being remembered worldwide.





“

You will be able to create all the hairstyles you want: futuristic, classic, masculine, feminine... There will be no style that will resist you"

3D designers who want to orient their career towards the world of video games or greatly improve their perspective in it, need a series of advanced knowledge with which to stand out from the others, providing a creative, distinctive and unique vision.

A very effective way to do this is through the hairstyles of the characters, which have gained special relevance over the years thanks to the increasingly elaborate cinematics and feature films of Hollywood it self.

With a deep knowledge of the tools used in the film industry for the recreation of digital hairs, the students of this qualification can be the vanguard of innovation in their area, applying an unusual quality in the field of hairstyles and styles of recreated characters.

A program that is also characterized by being taught completely online, allowing the students to improve their professional career while still attending to their family, personal or work responsibilities.

This **Postgraduate Certificate in Hair Creation for Video Games and 3D Movies** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- ◆ The development of case studies presented by experts in 3D modeling
- ◆ 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



You will be able to give a unique personality to each and every one of your characters, giving them a hairstyle adapted to their most prominent features"

“

You will get your postgraduate certificate directly, without a final work and with a manageable teaching load focused on what really matters”

Do you want to choose the hairstyle that Link or Samus Aran will have in the future? Enroll in this Postgraduate Certificate and make it possible.

Become the most famous 'hairstylist' of video games with an exceptional detail for each of your models.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 training programmed to train in real situations.

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



02 Objectives

This TECH qualification pursues the professional excellence of its students, instructing them in a field perhaps ignored but appreciated in the best studios and managerial positions. Thanks to their mastery of hair creation, they can be at the forefront of the most important decisions regarding the appearance, personality and characteristics of the 3D models of video games in which they work. This guarantees them a better job future, being able to even access management positions or more relevant within their organization.





“

This will be the winning trick that will determine your future in the video game industry, impressing players and even designers with their own 3D movie hairstyles”



General Objectives

- ◆ Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- ◆ Master the retopology, UVS and texturing to perfect the models created
- ◆ Create an optimal and dynamic workflow to work more efficiently with 3D modeling
- ◆ Have the skills and knowledge most in demand in the 3D industry to be able to apply for the best jobs





Specific Objectives

- ◆ Delve into the advanced use of Xgen in Maya
- ◆ Create hair for movies
- ◆ Studying hair using *Cards* for video games
- ◆ Develop your own hair textures
- ◆ See the different use of hairbrushes in ZBrush

“

Your professional success will be much closer after finishing this Postgraduate Certificate, proving that you are able to recreate even the smallest follicle to perfection”

03

Course Management

Being this an area of 3D modeling for video games very specific, the teaching staff in charge of the elaboration of this Postgraduate Certificate is versed in the management of the tools treated throughout the program. With up-to-date content and a personalized, student-driven professional guide, this program becomes one of the best options available to 3D designers who want to gain special recognition in this area. Thanks to the support of teachers, the students will have at their disposal a unique assistance to relaunch their career towards the pinnacle of three-dimensional video game design.



“

You have at your disposal a teaching staff that will not only clarify doubts, but will be involved with you in the task of achieving your greatest professional success by creating the most spectacular video game hair"

International Guest Director

Joshua Singh is a leading professional with over 20 years of experience in the video game industry, internationally recognized for his skills in art direction and visual development. With solid training in software such as Unreal, Unity, Maya, ZBrush, Substance Painter and Adobe Photoshop, he has made a significant mark in the field of game design. In addition, his experience spans visual development in both 2D and 3D, and is distinguished by his ability to collaboratively and thoughtfully solve problems in production environments.

In addition, as Art Director at Marvel Entertainment, he has collaborated with and guided elite teams of artists, ensuring that the artwork meets the required quality standards. He has also served as Lead Character Artist at Proletariat Inc. where he has created a safe environment for his team and has been responsible for all character assets in video games.

With an outstanding track record, including leadership roles at companies such as Wildlife Studios and Wavedash Games, Joshua Singh has been an advocate for artistic development and a mentor to many in the industry. Not to mention his time at large and well-known companies, such as Blizzard Entertainment and Riot Games, where he has worked as a Senior Character Artist. And, among his most relevant projects, stands out for his participation in hugely successful video games, including Marvel's Spider-Man 2, League of Legends and Overwatch.

Thus, his ability to unify the vision of Product, Engineering and Art has been fundamental to the success of numerous projects. Beyond his work in the industry, he has shared his experience as an instructor at the prestigious Gnomon School of VFX and has been a presenter at renowned events such as the Tribeca Games Festival and the ZBrush Summit.



D. Singh, Joshua

- Art Director at Marvel Entertainment, California, USA
- Lead Character Artist at Proletariat Inc.
- Art Director at Wildlife Studios
- Art Director at Wavedash Games
- Senior Character Artist at Riot Games
- Senior Character Artist at Blizzard Entertainment
- Artist at Iron Lore Entertainment
- 3D Artist at Sensory Sweep Studios
- Senior Artist at Wahoo Studios/Ninja Bee
- General Studies from Dixie State University
- Degree in Graphic Design from Eagle Gate Technical College



Thanks to TECH, you will be able to learn with the best professionals in the world"

Management



Ms. Gómez Sanz, Carla

- ♦ 3D Generalist at Blue Pixel 3D
- ♦ Concept Artist, 3D Modeler, Shading in Timeless Games Inc
- ♦ Collaboration with multinational consulting firm for the design of vignettes and animation for commercial proposals
- ♦ Advanced Technician in 3D Animation, video games and interactive environments at CEV School of Communication, Image and Sound
- ♦ Master's Degree and Bachelor's Degree in 3D Art, Animation and Visual Effects for video games and cinema at CEV School of Communication, Image and Sound



04

Structure and Content

All the content of this Postgraduate Certificate focuses on the most used programs for the creation of hair, both in the field of video games and even in the cinema itself, because given the weight of cinematics in video games of the last decade, this knowledge will be decisive for the student when applying for more ambitious projects. Thanks to the educational methodology of TECH, the student will learn to use ZBrush, Xgen and Maya focused on creating different styles and hairstyles, with which to highlight their own 3D models.





“

The majestic hair of your character will be the ideal cover letter to your entire creative portfolio, with which you can successfully apply to video games that require an expert in hairstyles and looks"

Module 1. Hair Creation for Video Games and Movies

- 1.1. Differences Between Videogame Hair and Film Hair
 - 1.1.1. FiberMesh and Cards
 - 1.1.2. Tools for Hair Creation
 - 1.1.3. Hair Software
- 1.2. ZBrush Hair Sculpting
 - 1.2.1. Basic Shapes for Hairstyles
 - 1.2.2. Creating Brushes in ZBrush for Hair
 - 1.2.3. Curve Brushes
- 1.3. Hair Creation in Xgen
 - 1.3.1. XGen
 - 1.3.2. Collections and Descriptions
 - 1.3.3. Hair vs. Grooming
- 1.4. Xgen Modifiers: Adding Realism to Hair
 - 1.4.1. Clumping
 - 1.4.2. Coil
 - 1.4.3. Hair guides
- 1.5. Color and Region Maps: for Absolute Hair Control
 - 1.5.1. Maps of Hair Regions
 - 1.5.2. Cuts: Curly, Shaved and Long Hair
 - 1.5.3. Micro Detail: Facial Hair
- 1.6. Advanced XGen: Use of Expressions and Refinement
 - 1.6.1. Expressions
 - 1.6.2. Utilities
 - 1.6.3. Hair Refinement





- 1.7. Cards Placement in Maya for Videogame Modeling
 - 1.7.1. Fibers in Cards
 - 1.7.2. Cards by Hand
 - 1.7.3. Cards and Real-Time Engine
- 1.8. Optimization for Movies
 - 1.8.1. Optimization of the Hair and its Geometry
 - 1.8.2. Preparation for Physics with Movements
 - 1.8.3. XGen Brushes
- 1.9. Hair Shading
 - 1.9.1. Arnold Shader
 - 1.9.2. Hyper-realistic Look
 - 1.9.3. Hair Treatment
- 1.10. Render
 - 1.10.1. Rendering When Using XGen
 - 1.10.2. Lighting
 - 1.10.3. Noise Elimination



This Postgraduate Certificate will give you the keys to the most mythical hairstyles of video games, so you can recreate them and even overcome them"

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.





“

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.



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

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

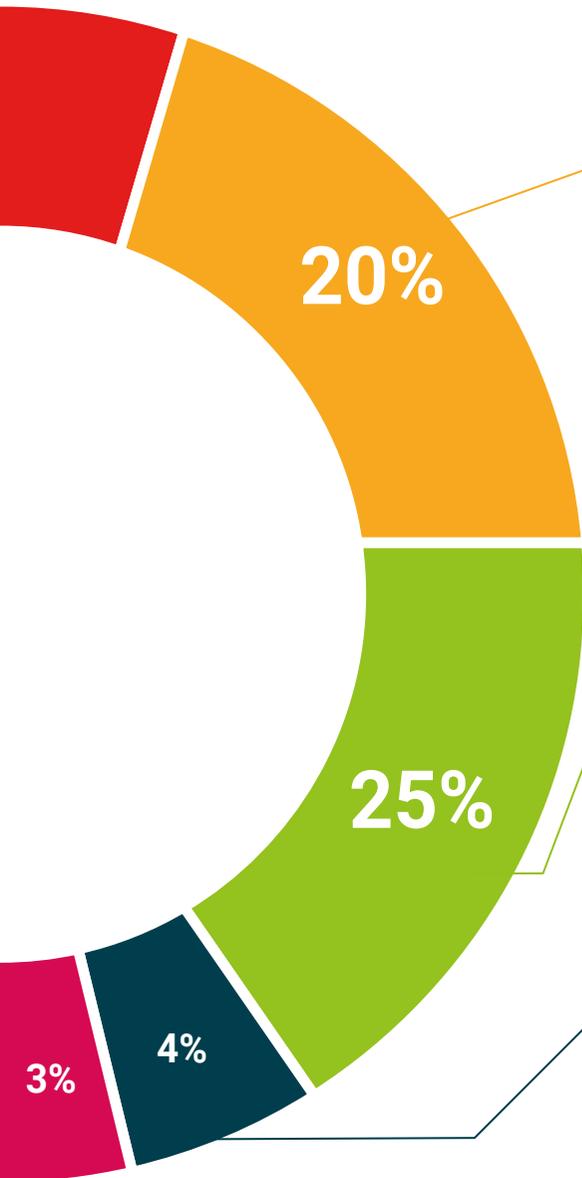
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization we live in.



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.



06 Certificate

The Postgraduate Certificate in Hair Creation for Video Games and 3D Movies 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 Hair Creation for Video Games and 3D Movies** 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 Hair Creation for Video Games and 3D Movies**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*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.

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



Postgraduate Certificate Hair Creation for Video Games and 3D Movies

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

Postgraduate Certificate Hair Creation for Video Games and 3D Movies

