Postgraduate Certificate
Hair Creation for Video Games and 3D Movies

tech technological university

Postgraduate Certificate
Hair Creation for Video Games and 3D Movies

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/pk/information-technology/postgraduate-certificate/hair-creation-video-games-3d-movies**

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01
Introduction

Hair is one of the most striking elements of any 3D character, as it adds realism and can even define its personality. It is therefore important that computer scientists specialized in 3D design update their techniques and know the latest software, in order to give their 3D models a better package. This qualification teaches the student to create any type of hair, whether for video games or for cinema, in the most professional way. To this end, they will learn the basics of hair creation and, through the practice of different styles, they will become excellent professionals, as far as hair is concerned.
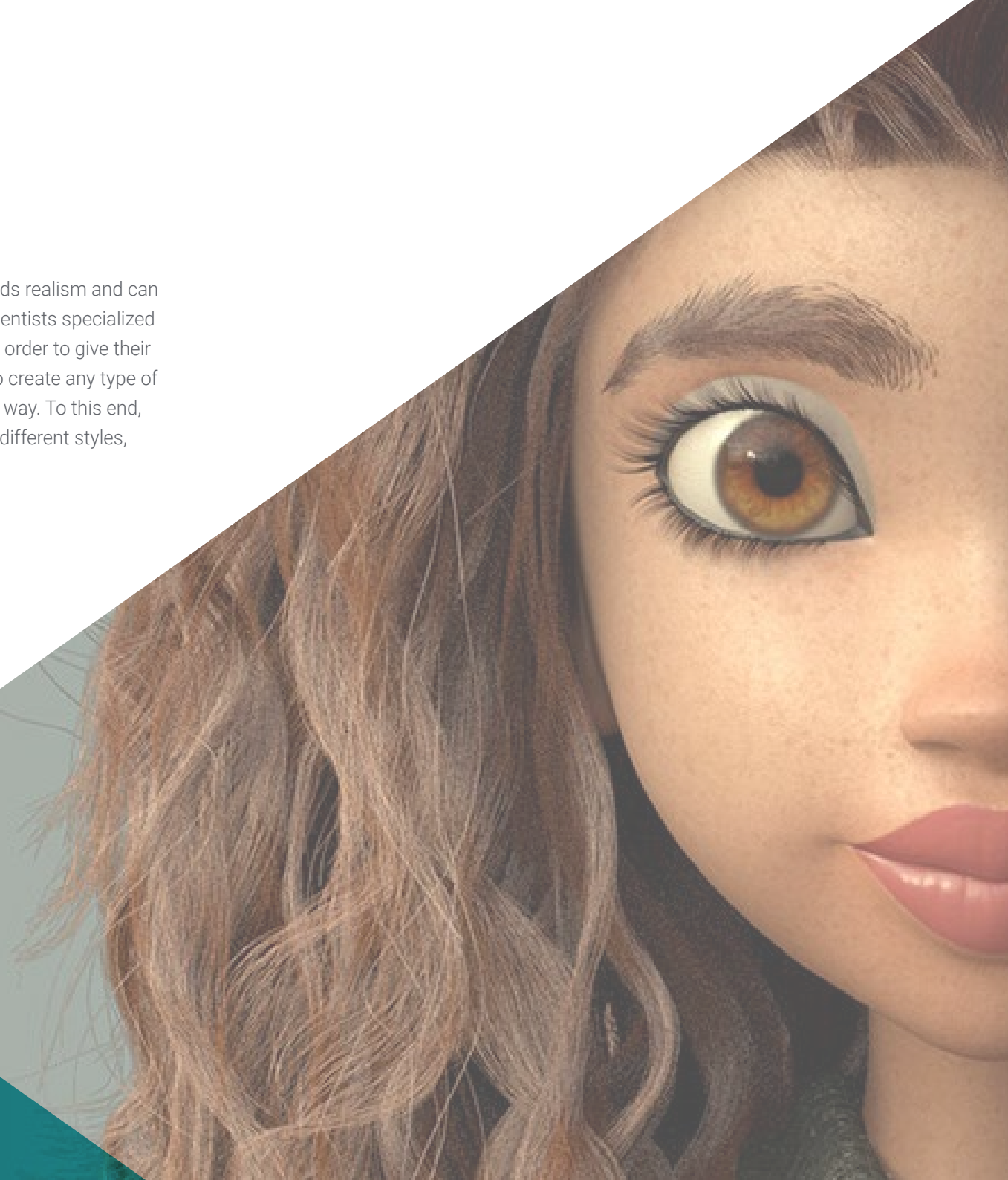
Master the fundamentals of organic hair 3D modeling and become a benchmark in bringing realism to characters"

One of the most striking features to highlight the personality of a model is its hairstyle, as it is one of the first things the public usually notices. The computer scientist will find here a superior training that makes a tour of programs such as ZBrush or Xgen, used in the field of video games and 3D movies, where you can outstand with your own projects of high-quality textures, shapes and hairstyles of characters.

In order to grow professionally, those interested in 3D modeling should have advanced knowledge in hair creation for different types of industry. The knowledge that the students acquire during this program when it comes to making hair and creating hairstyles will make them stand out. This will lead to a promotion within your own department and a better final result of your projects.

A great opportunity for all computer scientists who are looking for an economic or professional improvement in their field, because, being a completely online program, it can be perfectly combined with professional responsibilities. The student has access to all content from any internet-enabled device for the duration of the program.

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. The most important features include:

- The development of case studies presented by experts in 3D modeling
- The graphic, schematic, and eminently 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

This 100% Postgraduate Certificate will guide you to create 3D characters as real as possible, both for video games and movies"

You will receive the best possible preparation to use the best and most used software in the industry in the field of 3D modeling"

You will lay the foundations of hair creation and based on the practice of different styles, you will become a professional.

This qualification will keep you up to date and prepared for any situation with the latest software on the market.

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 the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

The main objective of this program is to provide the computer scientist with the highest level of training so that, in addition to improving their work and personal performance, they can specialize and have more possibilities for professional growth by modeling characters with the most realistic hair possible. The students will make of quality their personal teaching, showing as much creativity as possible when undertaking 3D modeling projects involving characters with very specific hair.

You are choosing your best option to specialize in 3D modeling and distinguish yourself from the rest of the computer scientists in your department"

General Objectives

- Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- Master 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

You will be able to adapt to any type of workflow in the industry and use the one that gives you the most fluidity when working under strict timelines"

03

Course Management

TECH has selected teachers with extensive experience in different types of design work for both the video game and film industries. Professionals will teach advanced hair creation techniques, which makes the didactic content benefit from a real perspective and adapted to the most current market demands.

You will learn the latest techniques and tricks of the market from renowned professionals"

Management

Mrs. 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 Degree in 3D Art, Animation and Visual Effects for videogames and cinema at CEV School of Communication, Image and Sound

04
Structure and Content

Thanks to the up-to-date and specialized content of this program, students benefit from studying a theory adapted to the realities of today's market, mastering the aspects most in demand by companies and which are not taught in traditional computer science faculties. The students will have a program with advanced knowledge in XGen, Hair Shading or optimized rendering, which will help them to improve their workflow and increase the performance of their own personal projects.
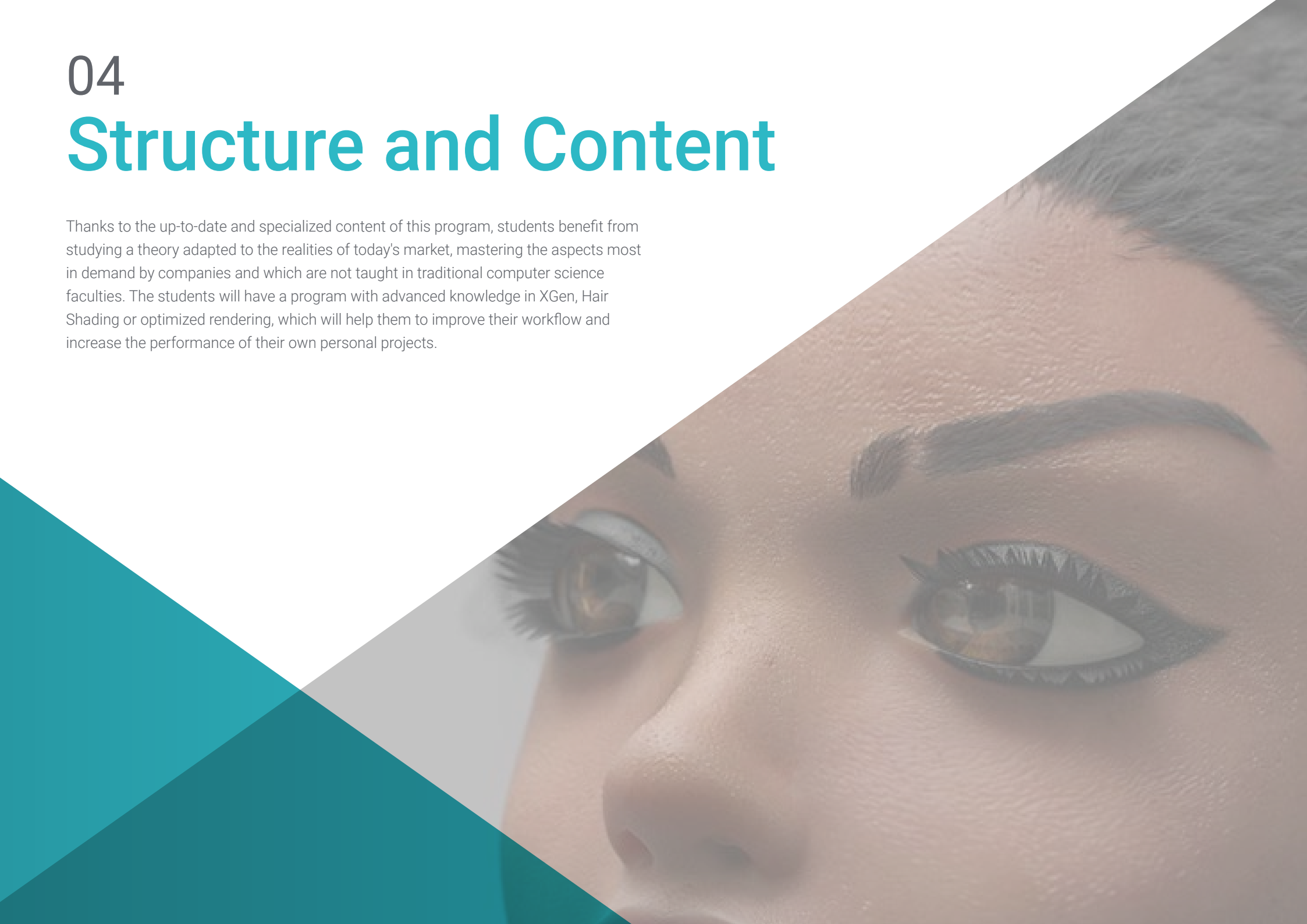
You will appreciate real 3D models with which to learn how to create realistic and detailed hair contextually"

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: Give 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

You will finish the qualification with the best possible preparation to use the best and most widely used software in the industry"

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"

At TECH we use the Case Method

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

At TECH, you will experience a way of learning that is shaking the foundations of traditional universities around the world"

We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.

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

A learning method that is different and innovative

This intensive Information Technology program at TECH Technological University prepares you to face all the challenges in this field, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Technological University you will use Harvard *case studies*, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

" *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

Our university is the first in the world to combine Harvard University case studies with a 100%-online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies 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 university 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.

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 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.

30%

10%

8%

20%

25%

4%

3%
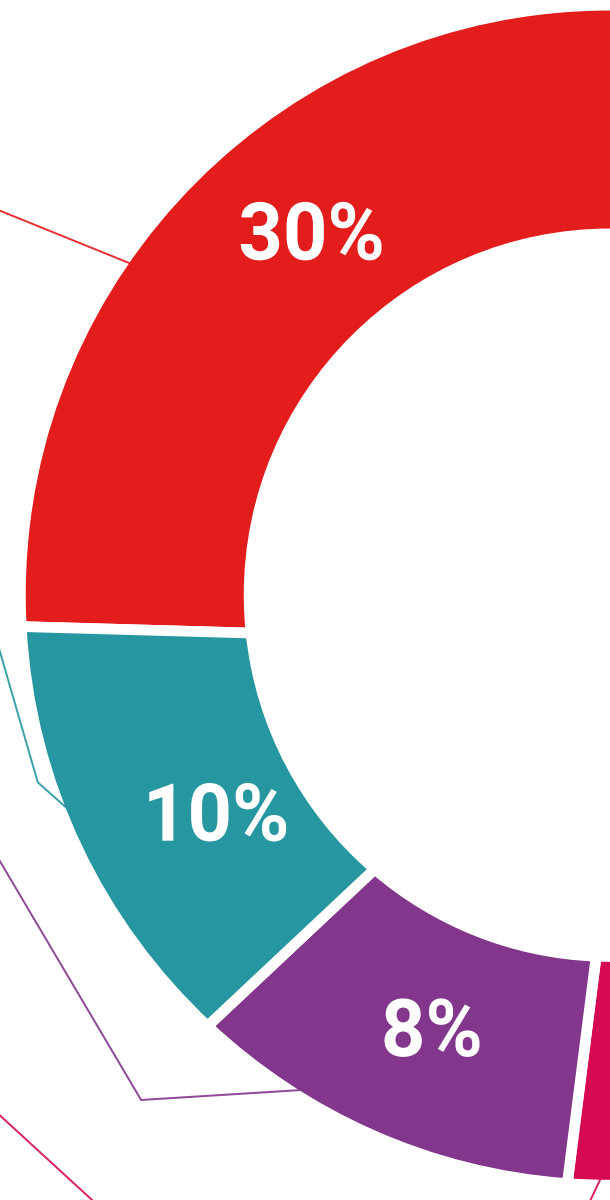
Case Studies

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management 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 multimedia content presentation training Exclusive system 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 your goals.

06
Certificate

The Postgraduate Certificate in Hair Creation for Video Games and 3D Movies guarantees, in addition to the most rigorous and update training, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Hair Creation for Video Games and 3D Movies** contains the scientific most complete and update program on the market

After you have passed the evaluations, you will receive your corresponding by **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional from career evaluation committees.

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

Official N° of hours: **150 h.**

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Awards the following
CERTIFICATE
to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Hair Creation for Video Games and 3D Movies

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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