

# Postgraduate Certificate

## 3D Retopology and Maya Modeling



## Postgraduate Certificate

### 3D Retopology and Maya Modeling

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

Website: [www.techtute.com/pk/information-technology/postgraduate-certificate/3d-retopology-maya-modeling](http://www.techtute.com/pk/information-technology/postgraduate-certificate/3d-retopology-maya-modeling)

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# 01

# Introduction

Digital sculpting has emerged as the preferred way to create organic 3D models because of the power of its tools and the level of detail that can be achieved. However, this creative freedom requires an enormous number of polygons to work the curves of the model, which puts even the most capable computer on the ropes. Retopology is made to solve this problem, because it allows to obtain a clean mesh in case you want to animate the model in another 3D program. This online program makes it easier for the student to reconstruct a 3D model with a more optimized geometry to extrapolate it to tools such as Maya Modeling.



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*A program focused on preparing you with the most advanced and innovative knowledge and tools in the world of 3D modeling"*

Retopology is the most technical phase of the 3D modeling process, and it is essential in models that are going to be animated. In the industry it is very common to have to solve problems of other departments because the work is not in conditions. This program aims for the graduate to be as professional as possible, understanding the importance of a good topology and its influence on all levels of a production.

Some software such as ZBrush or Maya Modeling allow automatic and manual topology. The program analyzes the mesh and relocates the polygons in the most efficient way. The student will learn how to use these tools that are characterized by their speed to simplify inanimate objects with a single click. At the same time, they will learn different ways of modeling to build the character of their dreams.

As if that were not enough, since this is a 100% online Postgraduate Certificate, the student will have the ease of being able to connect comfortably from anywhere and whenever they want. The only requirement is to have a device with an Internet access from where you can follow the contents. The contents will also be available to download and consult offline at any time.

This **Postgraduate Certificate in 3D Retopology and Maya Modeling** 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 3D Retopology and Maya 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



*Thanks to its online format, you will be able to balance this program with your work and personal life at your own pace"*

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*You will learn the differences between Maya Modeling and ZBrush Sculpting to create Low Poly and High Poly base models”*

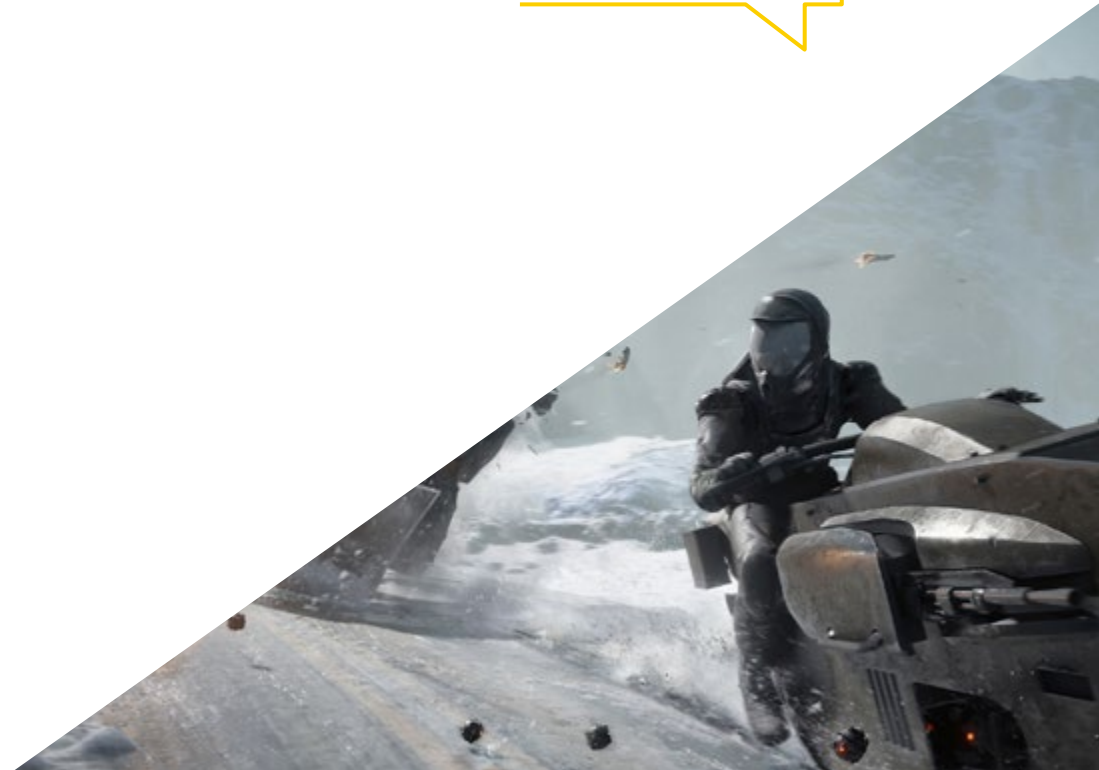
The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive education programmed to prepare 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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*You will learn different ways of modeling to build the character of your dreams.*

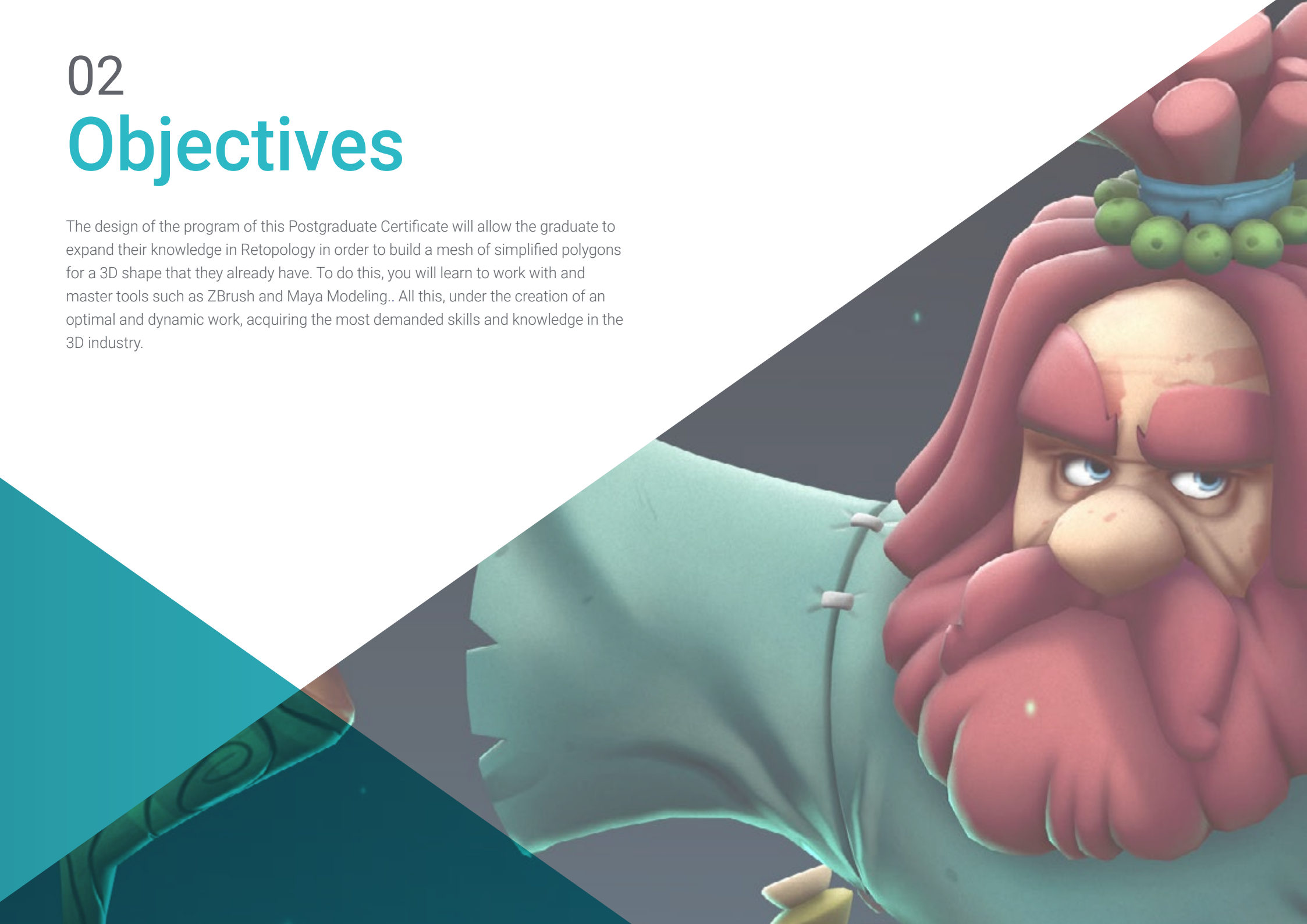
*You will delve into the creation of final UVs and apply the displacement map.*



# 02

## Objectives

The design of the program of this Postgraduate Certificate will allow the graduate to expand their knowledge in Retopology in order to build a mesh of simplified polygons for a 3D shape that they already have. To do this, you will learn to work with and master tools such as ZBrush and Maya Modeling.. All this, under the creation of an optimal and dynamic work, acquiring the most demanded skills and knowledge in the 3D industry.



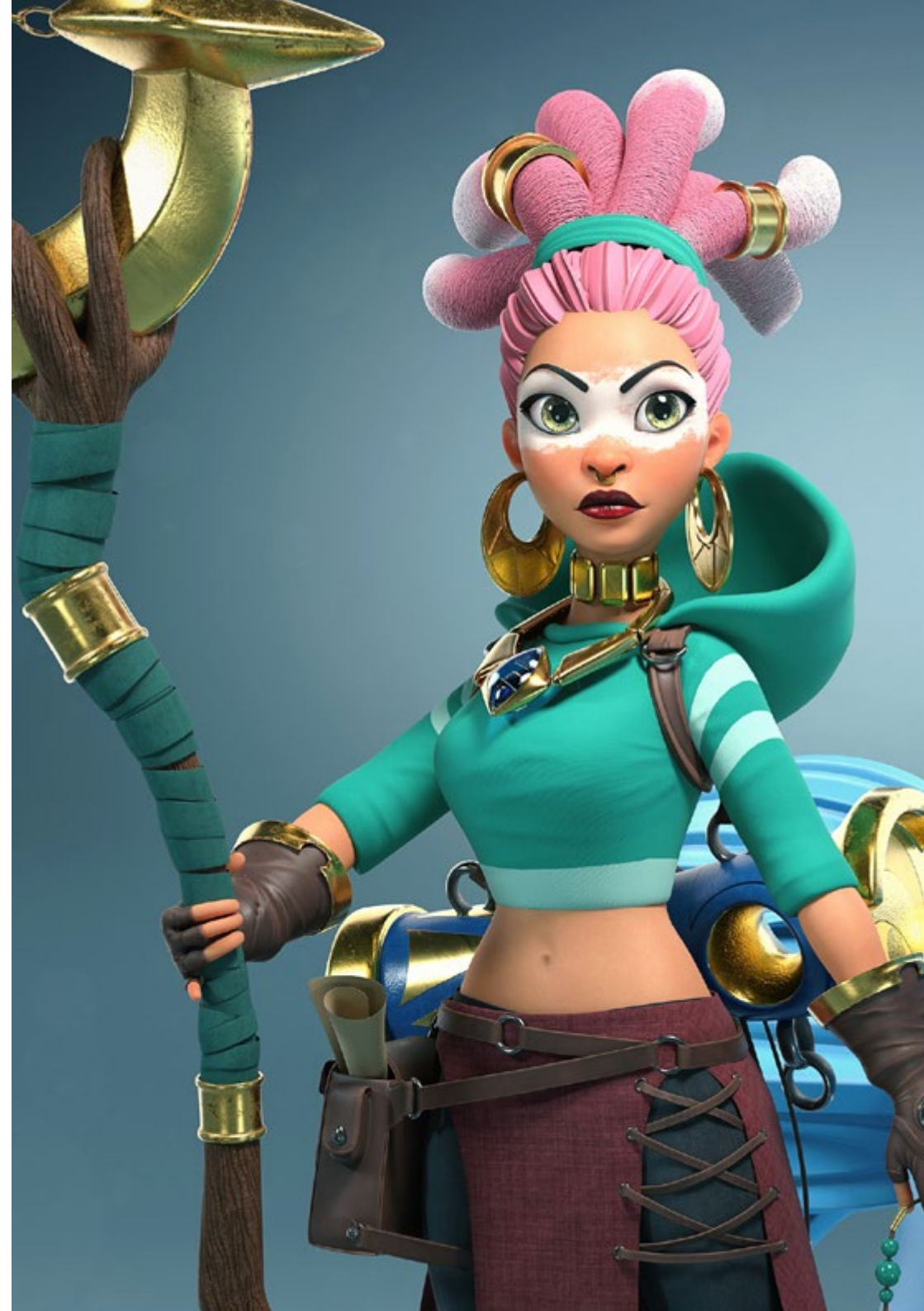
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*You will learn to master Maya as an everyday tool and achieve greater professional success"*



## 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

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- ◆ Master the different professional sculpting techniques
- ◆ Create advanced full body and face Retopology in Maya
- ◆ Learn how to apply details using Alphas and brushes in ZBrush

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*The distinctive knowledge presented in this program will help you stand out and get the best positions in the world of 3D design"*



03

# Course Management

In the search for quality teaching, TECH has selected teachers who have extensive experience in different types of 3D Retopology work for both the video game industry and animation, and the use of the complete Maya Modeling software in various projects. Thanks to this professional experience, the student benefits from studying a theory adapted to the realities of today's market, mastering the aspects most in demand by companies and that are not taught in traditional computer science faculties.



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*Renowned professionals will tell you all the secrets of Maya and 3D Retopology"*

## Management



### **Ms. Gómez Sanz, Carla**

- 3D Animation Specialist
- Concept Artist, 3D Modeler and Shading in Timeless Games Inc
- Vignettes and animations design consultant for commercial proposals in Spanish multinationals
- 3D Specialist at Blue Pixel 3D
- 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

The syllabus has been designed based on the requirements of computer science applied to the specificity of the 3D Retopology sector and the use of Maya Modeling, thereby bringing together a study plan with a module that offers a broad perspective of the creation of a human model from scratch with Maya, the transformation of Low Poly model in High Poly and the application of details in ZBrush as pores, capillaries, etc.. Furthermore; important elements such as the creation of final UVs and the application of the displacement map.





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*An up-to-date program for you to master Retopology and streamline the production processes of all your projects"*

## Module 1. Retopology and Maya Modeling

- 1.1. Advanced Facial Retopology
  - 1.1.1. Importing into Maya and the Use of Quad Draw
  - 1.1.2. Retopology of the Human Face
  - 1.1.3. Loops
- 1.2. Human Body Retopology
  - 1.2.1. Creation of Loops in the Joints
  - 1.2.2. Ngons and Tris and When to Use Them
  - 1.2.3. Topology Refinement
- 1.3. Retopology of Hands and Feet
  - 1.3.1. Movement of Small Joints
  - 1.3.2. Loops and Support Edges to Improve the Base Mesh of Feet and Hands
  - 1.3.3. Difference of Loops for Different Hands and Feet
- 1.4. Differences Between Maya Modeling vs. ZBrush Sculpting
  - 1.4.1. Different Workflows for Modeling
  - 1.4.2. Low Poly Base Model
  - 1.4.3. High Poly Model
- 1.5. Creation of a Human Model from Scratch in Maya
  - 1.5.1. Human Model Starting From the Hip
  - 1.5.2. General Base Form
  - 1.5.3. Hands and Feet and their Topology
- 1.6. Transformation of Low poly Model to High Poly
  - 1.6.1. ZBrush
  - 1.6.2. High Poly: Differences between Divide and Dynamesh
  - 1.6.3. Sculpting Form: Alternation Between Low Poly and High Poly



- 1.7. Application of Details in ZBrush: Pores, Capillaries, etc
  - 1.7.1. Alphas and Different Brushes
  - 1.7.2. Detail: Dam-Standard Brush
  - 1.7.3. Projections and Surfaces in ZBrush
- 1.8. Advanced Eye Creation in Maya
  - 1.8.1. Creation of the Spheres: Sclera, Cornea and Iris
  - 1.8.2. Lattice Tool
  - 1.8.3. Displacement Map from ZBrush
- 1.9. Use of Deformers in Maya
  - 1.9.1. Maya Deformers
  - 1.9.2. Topology Movement: Polish
  - 1.9.3. Polishing of the Final Mesh
- 1.10. Creation of Final UVs and Application of Displacement Mapping
  - 1.10.1. UVs of the Character and Importance of The Sizes
  - 1.10.2. Texturing
  - 1.10.3. Displacement Map



*You have before you the best opportunity to distinguish yourself in the world of 3D modeling. Acquire specialized knowledge and stand out in the professional market"*

# 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.



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*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.

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*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 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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 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.



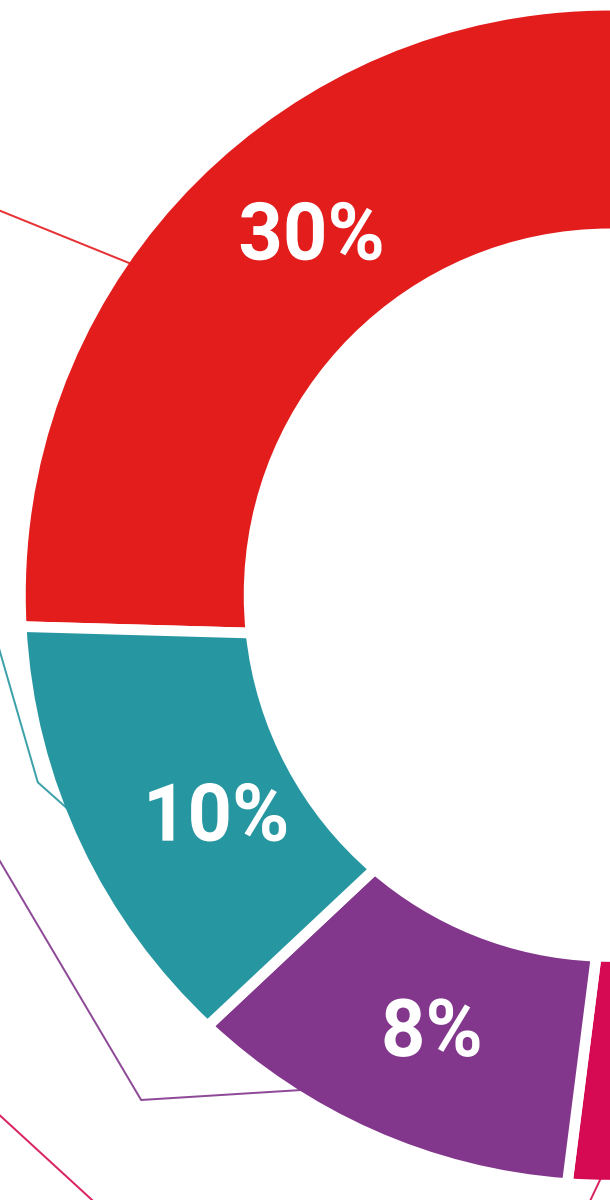
#### Practising Skills and Abilities

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 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.





#### 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 3D Retopology and Maya Modeling guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in 3D Retopology and Maya Modeling** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **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 career evaluation committees.

Title: **Postgraduate Certificate in 3D Retopology and Maya Modeling**

Official N° of Hours: **150 h.**





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