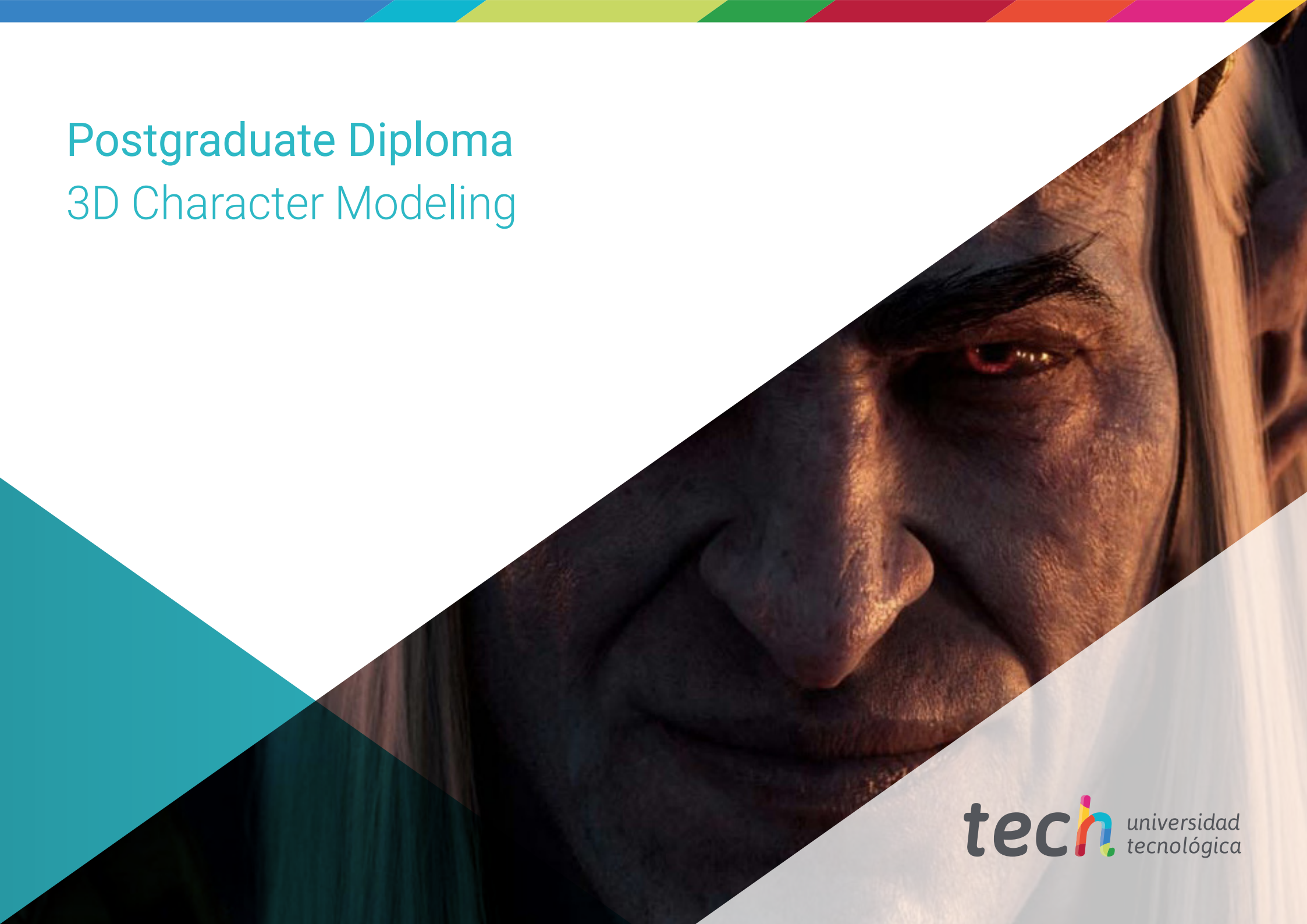
Postgraduate Diploma
3D Character Modeling



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Postgraduate Diploma
3D Character Modeling

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/videogames/postgraduate-diploma/postgraduate-3d-character-modeling

Index

01

Introduction

If there is an important part of video games, it is the modeling and graphics of their characters and protagonists. Most of them are usually human or humanoid in appearance, so the designers behind their 3D models must have a thorough understanding of both the most commonly used tools on the market and the lighting, posing and presentation of the figures themselves. With advanced knowledge in this field, professionals can make an important leap in quality towards very relevant jobs in the video game sector. For this reason TECH has provided this course with everything the student needs to graduate and succeed modeling the characters of the best titles on the market with the most powerful studios and developers in the industry.

Discover what is hidden in models as different as Cloud or Nathan Drake and make your way to the highest level of 3D modeling"

Being aware of the important task of creating 3D models of protagonists and villains of a video game, this is one of the branches of three-dimensional design that can offer more growth for professionals in the sector.

Nowadays, the demand is maximum for this work, so only the most trained and versed professionals will be able to stand out and reach the best positions related to the design and creation of 3D models, being decisive their ability to create memorable human characters.

This Postgraduate Diploma in 3D Character Modeling not only enables designers to create 3D figures of great realism and verisimilitude, but also provides them with the necessary work methodology to stand out within the sector and successfully apply for positions of higher rank or professional prestige.

A unique opportunity in the market, since in TECH it is the student who decides how, when and where to study the didactic content taught. All the material is available from day one in online format and can be downloaded from any device with an internet connection.

This **Postgraduate Diploma in 3D Character Modeling** 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 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
- 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

Through the most up-to-date content on the market you will be able to create the next benchmark characters for the gaming community"

Enroll now in this Postgraduate Diploma and don't miss the opportunity to become the designer you dream of"

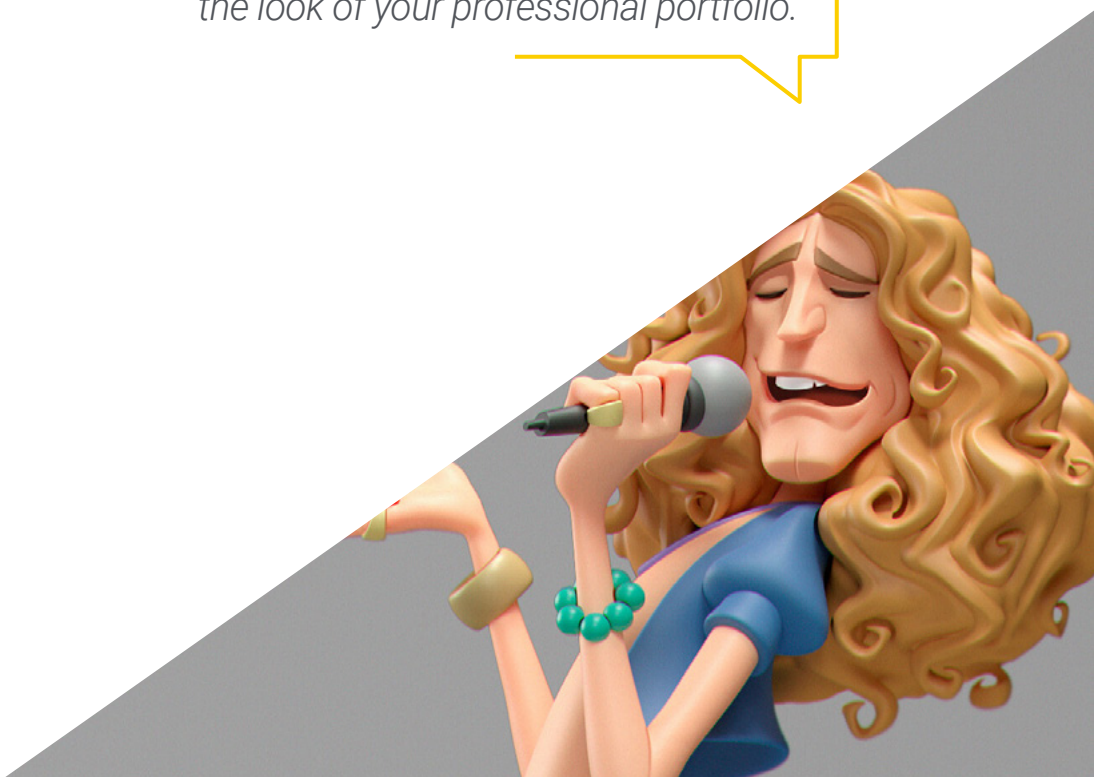
Become an expert in 3D Character Modeling and be the international reference that everyone aspires to reach.

You will present your models in a more impressive and effective way, greatly improving the look of your professional portfolio.

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.

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

Students who decide to study this Postgraduate Diploma are clear that they want a better working and economic future in the video game industry. That is why TECH brings together the best possible teaching staff, with an innovative educational methodology in which students improve their 3D model production skills even before completing their qualification. This allows the improvements and benefits to be noticeable during the program itself, which greatly accelerates the achievement of goals to reach that desired position of a prestigious and successful 3D designer in the industry.

This is the best program available to continue your professional work while improving the skills that will take you to the pinnacle of 3D game design"

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

This will be your catapult into designing characters you've always played with and admired, with you now being the one to decide what your favorite heroes look like!"

Specific Objectives

Module 1. Stylized Characters

- Focus anatomical knowledge in simpler, cartoon-like forms
- Create a cartoon model from the base to the detail by applying what has been previously learned
- Review the techniques learned in the program in a different modeling style

Module 2. Rendering, Lighting and Posing of Models

- Discover advanced lighting and photography concepts to sell models more efficiently
- Develop the learning of model posing by means of different techniques
- Delve into the development of a rig in Maya for the subsequent possible animation of the model
- Observe the control and use of the Rendering of the model, bringing out all its details

Module 3. Clothing Simulation

- Study the use of Marvelous Designer
- Create fabric simulations in Marvelous Designer
- Practice different types of complex patterns in Marvelous Designer
- Delve into the professional workflow from Marvelous to ZBrush
- Develop the texturing and shading of clothes and fabrics in Mari

03

Course Management

The Postgraduate Diploma in 3D Character Modeling brings together a group of teachers with experience designing and modeling characters for all kinds of projects, including video games. The student benefits from being taught by professionals who know the needs of the market, the latest trends and what is necessary to stand out from the rest of designers and succeed being a reference in 3D Character Modeling.

You will be supported by a teaching team that wants to see you grow and succeed by creating models that will amaze video game fans and professionals alike"

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

The content of this Postgraduate Diploma has been carefully selected by the teachers so that the student learns everything essential about 3D Character Modeling, without superfluous or outdated topics. Everything is focused on the professional to greatly improve their chances of promotion or access to better jobs, so the teaching material is up-to-date with the latest trends in ZBrush, Substance Painter and Marvelous Designer, among other tools that will make the student stand out with excellence.

This qualification will take you to the top of the design departments of the best game studios in the industry"

Module 1. Stylized Characters

1.1. Choice of a Stylized Character and Blocking of Base Forms
- 1.1.1. References and Concept Arts
- 1.1.2. Base Forms
- 1.1.3. Deformities and Fantastic Shapes

1.2. Conversion of our Low Poly into High Poly Model: Head, Hair and Face Sculpting
- 1.2.1. Head Blocking
- 1.2.2. New Hair Creation Techniques
- 1.2.3. Improvements

1.3. Model Refinement: Hands and Feet
- 1.3.1. Advanced Sculpting
- 1.3.2. Refinement of General Shapes
- 1.3.3. Shape Cleaning and Smoothing

1.4. Creation of Jaw and Teeth
- 1.4.1. Creation of Human Teeth
- 1.4.2. Increase its Polygons
- 1.4.3. Fine Detailing of Teeth in ZBrush

1.5. Modeling Clothing and Accessories
- 1.5.1. Types of Cartoon Clothing
- 1.5.2. Zmodeler
- 1.5.3. Applied Maya Modeling

1.6. Retopology and Clean Topology Creation from Scratch
- 1.6.1. Retopology
- 1.6.2. Loops According to the Model
- 1.6.3. Optimization of the Mesh

1.7. UV Mapping and Baking
- 1.7.1. UV´s
- 1.7.2. Substance Painter: Baking
- 1.7.3. Polishing Baking

1.8. Texturing and Painting In Substance Painter
- 1.8.1. Substance Painter: Texturing
- 1.8.2. Handpainted Cartoon Techniques
- 1.8.3. Fill Layers with Generators and Masks

1.9. Lighting and Rendering
- 1.9.1. Lighting of Our Character
- 1.9.2. Color Theory and Presentation
- 1.9.3. Substance Painter: Render

1.10. Posing and Final Presentation
- 1.10.1. Diorama
- 1.10.2. Posing Techniques
- 1.10.3. Presentation of Models

Module 2. Rendering, Lighting and Posing of Models

2.1. Characters Posing in ZBrush
- 2.1.1. Rig in ZBrush with ZSpheres
- 2.1.2. Transpose Master
- 2.1.3. Professional Finish

2.2. Rigging and Weighting of our Own Skeleton in Maya
- 2.2.1. Rig in Maya
- 2.2.2. Rigging Tools with Advanced Skeleton
- 2.2.3. Rig Weighting

2.3. Blend Shapes to Give Life to Your Character's Face
- 2.3.1. Facial Expressions
- 2.3.2. Blend Shapes of Maya
- 2.3.3. Animation with Maya

2.4. Mixamo, a Quick Way to Present Our Model
- 2.4.1. Mixamo
- 2.4.2. Mixamo Rigs
- 2.4.3. Animations

2.5. Lighting Concepts
- 2.5.1. Lighting Techniques
- 2.5.2. Light and Color
- 2.5.3. Shade

2.6. Arnold Render Lights and Parameters
- 2.6.1. Lights with Arnold and Maya
- 2.6.2. Lighting Control and Parameters
- 2.6.3. Arnold Parameters and Configuration

2.7. Lighting of our Models in Maya with Arnold Render
- 2.7.1. Lighting Set Up
- 2.7.2. Model Lighting
- 2.7.3. Mixing Light and Color

2.8. Going Deeper in Arnold: Denoising and the Different AOV's
- 2.8.1. AOVs
- 2.8.2. Advanced Noise Treatment
- 2.8.3. Denoiser

2.9. Real-Time Rendering in Marmoset Toolbag
- 2.9.1. Real-Time vs. Ray Tracing
- 2.9.2. Advanced Marmoset Toolbag
- 2.9.3. Professional Presentation

2.10. Post-Production Rendering in Photoshop
- 2.10.1. Image Processing
- 2.10.2. Photoshop: Levels and Contrasts
- 2.10.3. Layers: Characteristics and their Effects

Module 3. Clothing Simulation

3.1. Importing your Model to Marvelous Designer and Program Interface
- 3.1.1. Marvelous Designer
- 3.1.2. Software Functionality
- 3.1.3. Real-Time Simulations

3.2. Creation of Simple Patterns and Clothing Accessories
- 3.2.1. Creations: T-shirts, Accessories, Hats and Pockets
- 3.2.2. Fabric
- 3.2.3. Patterns, Zippers and Seams

3.3. Advanced Clothing Creation: Complex Patterns
- 3.3.1. Pattern Complexity
- 3.3.2. Physical Qualities of Fabrics
- 3.3.3. Complex Accessories

3.4. Clothing Simulation at Marvelous
- 3.4.1. Animated Models at Marvelous
- 3.4.2. Fabric Optimization
- 3.4.3. Model Preparation

3.5. Export of Clothing from Marvelous Designer to ZBrush
- 3.5.1. Low Poly in Maya
- 3.5.2. UV's in Maya
- 3.5.3. ZBrush, Use of Reconstruct Subdiv

3.6. Refinement of Clothing
- 3.6.1. Workflow
- 3.6.2. Details in ZBrush
- 3.6.3. Clothing Brushes in ZBrush

3.7. Improve the Simulation with ZBrush
- 3.7.1. From Tris to Quads
- 3.7.2. UV's Maintenance
- 3.7.3. Final Carving

3.8. High Detail Clothing Texturing in Mari
- 3.8.1. Tileable Textures and Fabric Materials
- 3.8.2. Baking
- 3.8.3. Texturing in Mari

3.9. Maya Fabric Shading
- 3.9.1. Shading
- 3.9.2. Textures Created in Mari
- 3.9.3. Realism with Arnold Shaders

3.10. Render
- 3.10.1. Clothing Rendering
- 3.10.2. Illumination in Clothing
- 3.10.3. Texture Intensity

You will demonstrate that you are a skilled professional interested in continuous technical improvement by adding this Postgraduate Diploma to your resume"

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.

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

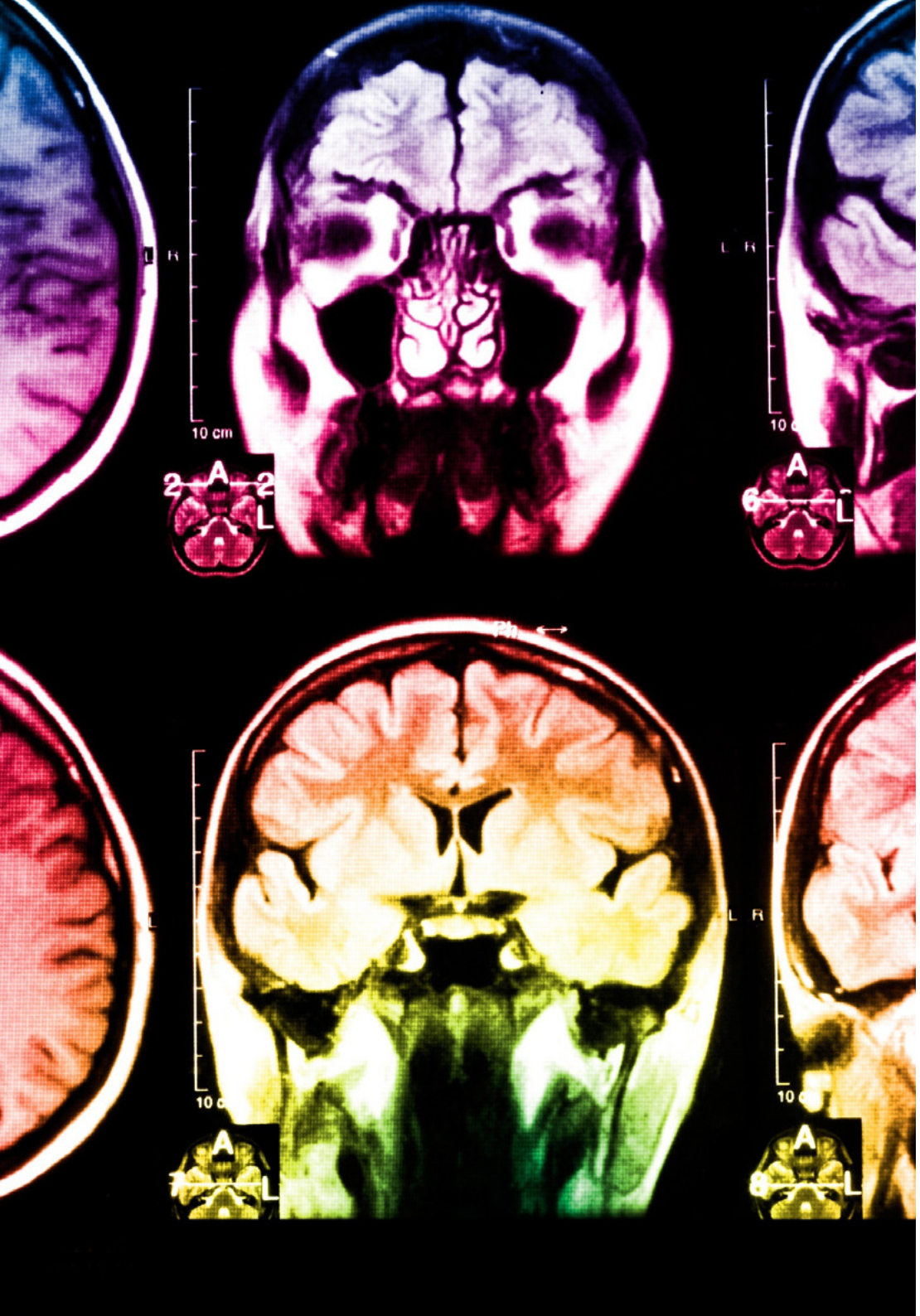
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.



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.

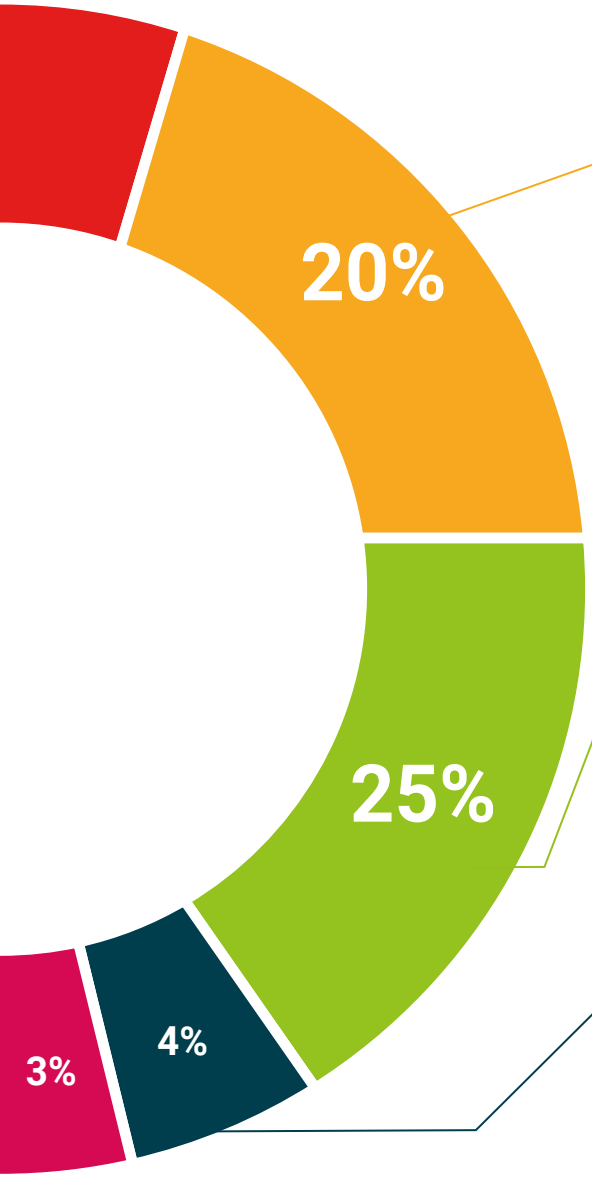
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

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 Diploma in 3D Character Modeling guarantees students, in addition to the most rigorous and up-to-date education program, access to a Postgraduate Diploma issued by TECH Technological University.

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

This **Postgraduate Diploma in 3D Character Modeling** contains the most complete and updated Scientific program in the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery*.

The diploma 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 Diploma in 3D Character Modeling**

Modality: **online**

Duration: **6 months**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

3D Character Modeling

This is a qualification awarded by this University, equivalent to 450 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

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 EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma
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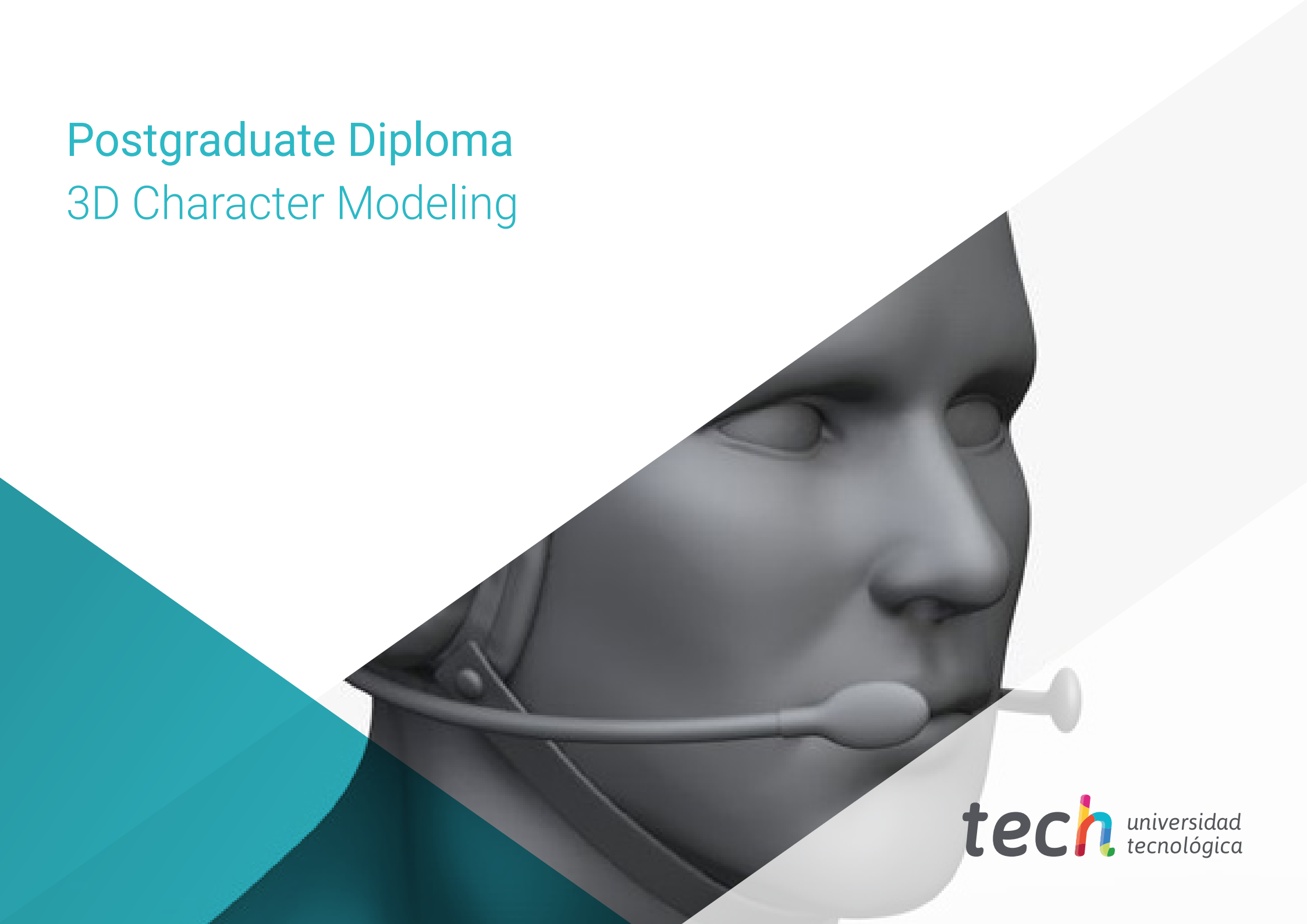

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