

Professional Master's Degree

3D Texture Modeling





Professional Master's Degree 3D Texture Modeling

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Accreditation: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/design/professional-master-degree/master-3d-texture-modeling

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01

Introduction

Nowadays, one of the most important and delicate operations when creating 3D objects or characters is their texturing. This process requires the creation of layers in which the different textures are added until a more realistic result is achieved. These skills are highly valued in the film and animation industry, as today's consumer desires and appreciates realism in audiovisual works. Therefore, this program presents, in an online format, all the techniques and tools that designers need to perform their work in different pioneering programs in the industry such as Zbrush, Substance Painter or Unreal Engine.





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Become a designer capable of creating realistic textures using Zbrush and take your career to the next level of excellence thanks to this program".

In 2019, Disney released *Toy Story 4*, animated by its Pixar studio, in theaters. Beyond being an endearing film, the public focused on the level of realism and detail presented in each element of the characters. This is how Buzz Lightyear's suit, battered by the years, or the small seams of Commissioner Woody's clothes, could be appreciated. That is why now the consumer's attention has been focused on those small details that bring realism to any animated work: the textures.

Taking into account all of the above, this Professional Master's Degree in 3D Texture Modeling is presented, in which designers will be able to specialize in the handling, with extreme fluency, of the most used programs in the industry, such as *Zbrush*, *Substance Painter* or *Unreal Engine*. The course will start with the use of 3DS Max modeling tools, which is the most used in the animation industry.

Then, it will give way to the texturing blocks, which will explain the types of textures and materials with which they work today. In the same way, we will know in depth how is the process to prepare the model, which begins by creating the coordinates for mapping. In addition, once the creation process is finished, it is time to render, allowing to show the final work with different sets of lights and a great image quality. This requires knowledge of *Marmoset*.

Finally, the student will have a module dedicated exclusively to exporting in *Unreal Engine*, a development engine that allows building an animation or simulation. Here, they will learn how to handle themselves with ease within the program, with special emphasis on *Lightmaps*, the light maps that greatly influence the quality of the final work.

To complete the content of the program, we have an excellent teaching staff made up of professionals of the highest level. In addition to teaching each class, they will provide all the pedagogical material for the consolidation of knowledge, highlighting the high-definition videos presenting in detail each of the techniques of the program. In addition, the online modality allows professionals to decide the best time to study, adapting their academic schedule to their professional responsibilities.

This **Professional Master's Degree in 3D Texture 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 Texture 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



Enroll now and learn from the best the tricks and secrets to create realistic textures with the pioneer programs in the market"

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In this new professional path you will not be alone: you will have the best group of experts to know and understand all the texture maps and their application to modeling”

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

Its multimedia content, developed with the latest educational technology, will allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive education programmed to prepare in real situations.

The design of this program focuses on Problem-Based Learning, by means of which professionals 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.

In a practical and simple way, you can learn with the Relearning methodology, designed to strengthen your skills to face new challenges in your career.

A perfect opportunity to continue your academic preparation, without abandoning your professional responsibilities, thanks to the 100% online mode of this program.



02 Objectives

Given the importance of textures in any animation work and the great demand for professionals capable of creating them, this Professional Master's Degree has a clear objective: to provide students with the most complete content for handling the industry's pioneering programs. Thanks to this, they will be able to go from flat and lifeless figures to works of art with a great amount of details. Therefore, upon graduation, designers will be highly sought-after experts in projects of great international importance, and will even be able to work on their own.





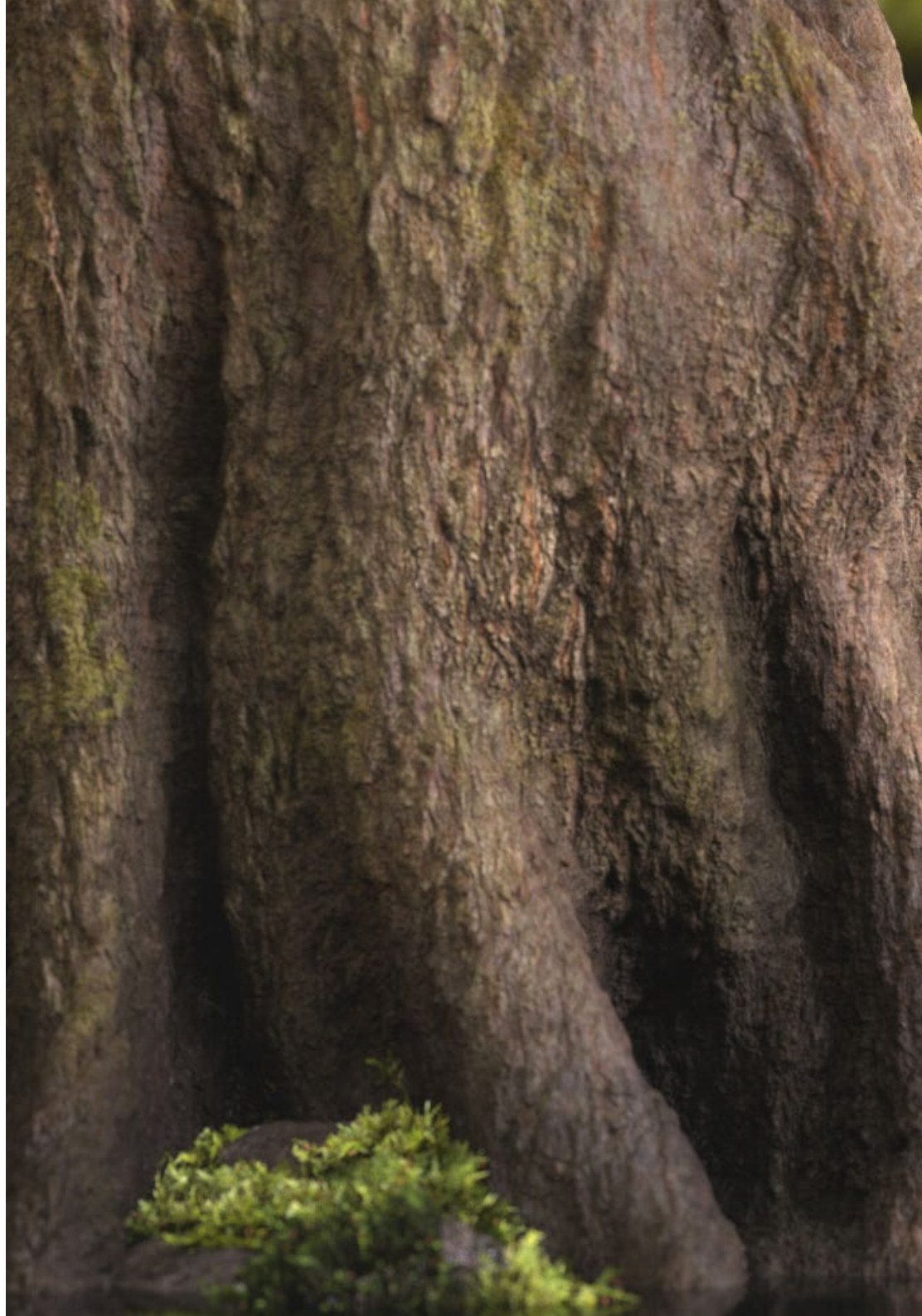
“

Reach your goals today and become an expert capable of generating and understanding mapping coordinates of a 3D model"



General Objectives

- ◆ Know in depth all the steps to create a professional 3D modeling
- ◆ Know and understand in detail how textures work and how they influence modeling
- ◆ Master several programs focused on modeling, texturing and real time used today in the professional world
- ◆ Apply the knowledge acquired in solving modeling problems
- ◆ Learn how to organize and control the time spent on a complete 3D modeling, learning to value their work in the face of possible jobs
- ◆ Know the latest updates in the world of modeling and video games, learning about the most updated and used tools of each program
- ◆ Expertly use the knowledge acquired to create your own projects and intelligently add them to your portfolio
- ◆ Develop the resources of each program to achieve the best effect for your modeling
- ◆ Be professionally qualified to organize adequate working time for a job
- ◆ Solve complex problems and make responsible decisions





Specific Objectives

Module 1. 3D Modeling with 3DS Max

- ◆ In-depth knowledge of the functionality of the 3DS Max program
- ◆ Know in depth the program interface and its controls
- ◆ Transform the geometry to achieve the desired shape in the fastest and most efficient way.
- ◆ Learn all the effects of the modifiers and learn how to combine them for greater effect
- ◆ Understand Boolean operations and know how to use them to your advantage
- ◆ Use 2D elements to combine them with our 3D to create shapes more efficiently

Module 2. Advanced 3D Modeling with 3DS Max

- ◆ Learn in depth two ways of editing and use them according to the type of modeling or according to the objective
- ◆ Know all types of program editing to create any type of modeling proposed by the user
- ◆ Customize the program to use it in the fastest and most efficient way for each professional
- ◆ Know and use the most advanced tools of the program
- ◆ Delve into Plugins and Scripts to use them for the benefit of modeling

Module 3. 3D Modeling with Blender

- ◆ Know in detail the Blender tool, the most used by professionals
- ◆ Learn its interface and get to grips with it for a more professional result in less time
- ◆ Compare each tool with its counterpart in polygonal mode and learn about their benefits
- ◆ Know the tools you will use throughout the 3D modeling process and their optimization
- ◆ Find errors in 3D modeling and know how to solve them in the most intelligent way

Module 4. 3D Modeling with ZBrush

- ◆ Know in depth the ZBrush program, the most used in organic modeling in the market
- ◆ Optimize the model as you work on it, avoiding potential problems after refinement
- ◆ Understand each of the program's tools, knowing when to use each one and why
- ◆ Learn the Hard Surface tool, which allows inorganic modeling within the program
- ◆ Know different methods to perform organic modeling
- ◆ Apply everything necessary to start a character or creature from scratch and perform smoothly until the end of the project

Module 5. Texturing

- ◆ Know and understand all texture maps and their application to modeling
- ◆ Understand the types of materials existing today and how they work, being able to create one from scratch or modify an existing one
- ◆ Generate and understand mapping coordinates of a 3D Model for subsequent work in Texturing
- ◆ Assign object IDs to work more efficiently on textures
- ◆ Work models from high to low resolution and vice versa to further optimize the model, while retaining the same levels of detail
- ◆ Create textures for the 3D model with different programs

Module 6. Substance Painter Texturing

- ◆ Know in depth the Substance Painter program, the most widely used for texturing in the world of video games today
- ◆ Understand the process of baking from a high resolution model to a low resolution model.
- ◆ Know and understand the different layers of a material and how they affect it
- ◆ Create materials from scratch and modify existing materials to achieve a fully customized material
- ◆ Know how to work with mapping coordinates and masks to correctly apply textures to the model
- ◆ Learn about brushes, how to use them and how to create customized brushes
- ◆ Learn how to use program and external resources to enhance textures
- ◆ Know different methods to create or modify textures

Module 7. Rendering

- ◆ Know in depth the materials and rendering tool of the Marmoset Toolbag program, widely used by 3D modelers and sculptors
- ◆ Understand how to position lights to create an appropriate environmental setting
- ◆ Create and position cameras to achieve a perspective that makes our 3D modeling more interesting
- ◆ Export professional renderings
- ◆ Basic knowledge of a camera animation to create an animated render to achieve more effects
- ◆ Know the up-to-date tools of the programs
- ◆ Know how to perform a basic rendering with other programs, such as Iray, Zbrush, Photoshop and Keyshot

Module 8. Rendering with V-Ray Engine in 3DS Max

- ◆ In-depth knowledge of the V-Ray engine assigned to the 3DS Max program
- ◆ Configure rendering options to assign the ideal rendering engine
- ◆ Get to know V-Ray's own materials and work with them through nodes
- ◆ Migrate textures created in Substance Painter to V-Ray engine
- ◆ Configure the lighting of our V-Ray scene
- ◆ Give more details to our model without the need to change or add geometry
- ◆ Intelligently position our model and camera to create an interesting scene
- ◆ Make static and animated renders of 3D modeling

Module 9. Characters

- ◆ Create a character or creature from scratch to rendering
- ◆ Learn tricks to work faster and more efficiently with ZBrush
- ◆ Have the knowledge to know when to use one method or another depending on the situation
- ◆ Have a practical guide for sculpting certain elements that may be more difficult to sculpt
- ◆ Resolve problems during the entire course of a modeling run
- ◆ Know specific methods to create various types of materials in a modeling
- ◆ Generate hair in different styles and with different programs depending on the style, from styling/cartoon to hyperrealism
- ◆ Know how to pose the character, knowing the importance of dynamism and silhouette.
- ◆ Add elements that add importance to the character, such as Props and the environment

Module 10. Exports to Unreal

- ◆ Handle the real-time Unreal Engine in such a way that it performs perfectly when working with a 3D model and its textures
- ◆ Understand the properties of Unreal materials
- ◆ Know how to work with and understand Unreal material nodes, giving effects to textures to achieve unique materials
- ◆ Correctly light an Unreal scene in a realistic way according to the desired ambience
- ◆ Configure Unreal Lightmaps, achieving better resolution and optimizing engine performance
- ◆ Perform basic post-processing for rendering with good visual effects

03 Skills

The competencies acquired by the designer upon completion of this program will allow them to carry out a large number of tasks related to 3D Texture Modeling, preparing them to take on any complete challenge and make decisions with responsibility and expertise. With all this, they will be able to generate and develop any project that is requested in a large company in the sector or start their own work.





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You will be the foremost expert in 3D figure rendering after completing this program"



General Skills

- ◆ Master the tools necessary to create textures from low quality figures and vice versa
- ◆ Apply the knowledge of lighting to improve the texture of the figure
- ◆ Master and manage editing and rendering techniques
- ◆ Be able to communicate the ideas and development of the projects in which they work



Invest an academic year in learning what has taken many years to perfect, taking your skills to the next level"





Specific Skills

- ◆ Be able to make realistic figures using 3DS Max programs, also using 2D elements to create more fluid shapes
- ◆ Seamless use of two or more forms of editing depending on the modeling objective
- ◆ Know the shortcuts and *Plugins* to use the programs in a faster and more efficient way
- ◆ Perfectly handle the interface of programs such as Graphite Tool and to identify possible errors in order to solve them intelligently
- ◆ Be able to perfectly use the ZBrush program to create textures and organic modeling from scratch
- ◆ Know in depth Substance Painter for the creation of materials from scratch, using brushes and layers to achieve neat textures
- ◆ Be able to properly configure lighting in ZBrush to generate hair in different styles and hyperrealism
- ◆ Master rendering to avoid models that look bad or do not meet required standards

04

Course Management

This program is designed following the guidelines of a group of experts of the highest prestige. They are working professionals who have dedicated a large part of their careers to develop their texturing technique, continuing at the forefront of the industry and developing their professional practice in the best animation studios and projects of international stature. Therefore, through the content they will present and the diverse didactic materials they have developed, the students will receive the most current and requested knowledge of this industry.





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Highly prestigious specialists will accompany you on this new career path"

Management



Dr. Vidal Peig, Teresa

- ◆ Specialist in Arts and Technology (digital art, 2D, 3D, VR and AR)
- ◆ Designer and creator of 2D character sketches for mobile video games
- ◆ Designer at Sara Lee, Motos Bordy, Hebo and Full Gass
- ◆ Teacher and director of Professional Master's Degree in Video Game Programming
- ◆ Teacher at the University of Girona
- ◆ PhD in Architecture from the Polytechnic University of Catalonia
- ◆ Bachelor of Fine Arts from the University of Barcelona

Professors

Mr. Alcalde Perelló, Dimas

- ◆ Specialist in artistic creation for video games and applied games
- ◆ Lead artist at BluetechWorlds
- ◆ Teacher in the Artistic creation for videogames and applied games degree, ENTI UB
- ◆ Graduate in Artistic creation for videogames and applied games, Universitat de Barcelona
- ◆ Professional Master's Degree in Teacher Training for Compulsory Secondary Education and Baccalaureate, Vocational Training and Language Teaching by the University of La Rioja UNIR
- ◆ Technician in 3D Animation, Games and Interactive Environments by the Center for Photographic Studies

Ms. Jiménez Vaquero, Laura

- ◆ Organic and props modeler, *grooming, texturing and shading artist*
- ◆ Organic and Inorganic 3D modeler at Utopia Avatars at EGO W3RLD
- ◆ Development of 3D *hard surface* modeling for advertising campaigns at Kutuko Studio
- ◆ Development of organic modeling for advertising campaign at Nein Club
- ◆ Development of 3D modeling for interior design at Miltidesign
- ◆ Realization and coordination of the women's collective exhibition "Femenino plural".
- ◆ Image work for 2D animation "Naturaleza Encendida" at the Royal Botanical Garden of Madrid
- ◆ Graduated in Fine Arts at the Complutense University of Madrid
- ◆ Professional Master's Degree in Organic Modeling by Lightbox Academy

Ms. Cedrán Rojo, Alba

- ◆ Postgraduate Diploma in 3D Animation and 3D Modeling
- ◆ Designer in the area of Audiovisual Social Responsibility "Web Documentaries"
- ◆ Graduate in Artistic Creation for Videogames and Applied Games by the University of Barcelona, ENTI-UB.
- ◆ Professional Master's Degree in 3D Character Animation with Maya by Animum Creativity Advanced School
- ◆ Superior Technician in Art Direction and Audiovisuals by ITES Imagen y Sonido school in Barcelona

Mr. Llorens Aguilar, Víctor

- ◆ Postgraduate Diploma in 3D Modeling
- ◆ Teacher in courses related to 3D Modeling
- ◆ Scratch teacher in private schools
- ◆ Degree in 3D Animations, Games and Interactive Environments



Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

05

Structure and Content

This Professional Master's Degree has the most current syllabus of the academic panorama, elaborated by a select teaching staff. Therefore, the students will acquire the knowledge they need to improve their rendering and lighting techniques and, of course, to create realistic and fluid textures. All this, through various didactic materials, which include high definition videos and practical guides updated to the parameters of each design software.



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This program is supported by the experience of a distinguished group of teachers and the Relearning methodology developed by TECH for a complete learning"

Module 1. 3D Modeling with 3DS Max

- 1.1. 3D Modeling with 3DS Max
 - 1.1.1. Orbit, Viewers and Views
 - 1.1.2. Geometry Display Modes
 - 1.1.3. Steering Wheels
- 1.2. Transformations and Geometry
 - 1.2.1. Interactive and Parametric Transformations
 - 1.2.2. Standard and Extended Primitives
 - 1.2.3. Scaling Transformation
 - 1.2.4. Select and Place / Select and Rotate
 - 1.2.5. Align and Symmetry
- 1.3. Main Operations
 - 1.3.1. Duplicate, Interactive Selection and Selection Groups and Elements
 - 1.3.2. Layers, Grid, Snap and Pivot Point
 - 1.3.3. Links, Coordinate Systems, Actions, Views and Isolate Geometry
- 1.4. Parametric Modifiers
 - 1.4.1. Bend, Taper, Skew and Twist
 - 1.4.2. Stretch and Squeeze
 - 1.4.3. Ripple, Wave and Noise
 - 1.4.4. Spherify, Lattice and Mirror
 - 1.4.5. Push and Relax
 - 1.4.6. Slice, Shell and CapHoles
- 1.5. Free Deformation Modifiers
 - 1.5.1. FFD Modifiers
 - 1.5.2. FFD Cyl
 - 1.5.3. FFD Box
- 1.6. Composition Objects
 - 1.6.1. Boolean Operations Boolean and ProBoolean
 - 1.6.2. Objects Dispersion Scatter
 - 1.6.3. Morphism Morph

- 1.7. 2D Shapes Splines
 - 1.7.1. Splines and its Options
 - 1.7.2. The Line and Vertex Types
 - 1.7.3. Vertex, Segment and Splines Subobjects
- 1.8. 2D Shapes Advanced Splines
 - 1.8.1. Editable Splines and Use of Grid and Snap to Create 2D Shapes
 - 1.8.2. Parametric Modifiers, FFD and Booleans with Splines
 - 1.8.3. Extended Splines and Section
- 1.9. Modifiers of splines
 - 1.9.1. Extrude
 - 1.9.2. Bevel
 - 1.9.3. Sweep
 - 1.9.4. Lathe
- 1.10. Composition Objects Splines
 - 1.10.1. Loft
 - 1.10.2. Terrain
 - 1.10.3. Shape Merge

Module 2. Advanced 3D Modeling with 3DS Max

- 2.1. Mesh Editing Polygonal Editing
 - 2.1.1. Polygonal Editing EditablePoly and EditPoly
 - 2.1.2. Panels, Selection and Flexible Selection
 - 2.1.3. TurboSmooth, MeshSmooth and HSDS Modifier
- 2.2. Mesh Editing Geometry
 - 2.2.1. Vertex, Edge and Edge Editing
 - 2.2.2. Polygon, Element and Geometry Editing
 - 2.2.3. Geometry Cutting Planes and Added Resolution
- 2.3. Mesh Editing Selection Groups
 - 2.3.1. Geometry Alignment and Visibility
 - 2.3.2. Selection Sub-Objects, Material IDs and Smoothing Groups
 - 2.3.3. Surface Subdivision and Vertex Painting

- 2.4. Mesh Editing Surface
 - 2.4.1. Geometry Displacement and Deformation Brush
 - 2.4.2. Flat Mode and EditableMesh
 - 2.4.3. Splines + Surface
- 2.5. Advanced Mesh Editing
 - 2.5.1. EditablePatch
 - 2.5.2. Model Sheet and Setup for Modeling
 - 2.5.3. Symmetry Tracing and Symmetry
- 2.6. User Customization
 - 2.6.1. Display Floater Tool and Panel Display
 - 2.6.2. Object Properties and Preferences
 - 2.6.3. UI Personalization Shortcuts, Menus and Colors
 - 2.6.4. Viewer Configuration
- 2.7. Object Distribution
 - 2.7.1. Orthographic View
 - 2.7.2. Spacing Tool and SnapShot
 - 2.7.3. Cloning and Alignment Tool
 - 2.7.4. Matrices. Array
- 2.8. Geometric Operations
 - 2.8.1. Polygonal and Parametric Combination
 - 2.8.2. Polygonal Combination and Shapes
 - 2.8.3. Polygonal and Boolean Combination
 - 2.8.4. Polygonal, Spline, Parametric and Boolean Combination
- 2.9. Other Tools
 - 2.9.1. Loops, Constraints and Edge Splitting
 - 2.9.2. Isoline and Collapse Modifiers
 - 2.9.3. Polygon Counter and Types of Optimization
- 2.10. Plugins and Scripts
 - 2.10.1. Plugins and Scripts. Grass - o - Matic
 - 2.10.2. Creation of Herbs and Fibers with Grass - o - Matic
 - 2.10.3. Plugin Greeble
 - 2.10.4. Script Voronoi. Fracture

Module 3. 3D Modeling with Blender

- 3.1. Interface
 - 3.1.1. Initial Installation and Configuration
 - 3.1.2. Pull-Down Menus and Interface Modes
 - 3.1.3. Navigation in the 3D Environment
- 3.2. Object Creation and Selection
 - 3.2.2. Modifying Basic Topology
 - 3.2.3. Modifying Basic Topology
- 3.3. Editing
 - 3.3.1. Add New Geometry
 - 3.3.2. Modifying Geometries
 - 3.3.3. Modifiers and Mirror
- 3.4. Geometry
 - 3.4.1. Smooth Modifier
 - 3.4.1. Joining and Separating Meshes
 - 3.4.2. Untriangularize
- 3.5. Edit Mode
 - 3.5.1. Basic Modeling Units
 - 3.5.2. Loops
 - 3.5.3. Tris and Ngones
 - 3.5.4. Subdivision - Tool and Modifier
 - 3.5.5. Visibility - Hide and Reveal Objects
 - 3.5.6. Snap
 - 3.5.7. Smooth or Flat Preview Modes.
- 3.6. Retopology
 - 3.6.1. Conforming One Mesh on Top of Another
 - 3.6.2. Creating Objects Using the 3D Cursor
- 3.7. Organic Model
 - 3.7.1. Shape and Topology
 - 3.7.2. Use of Curves
 - 3.7.3. Surface and Nurbs

- 3.8. Sculpting
 - 3.8.1. Brushes and Commands
 - 3.8.2. Use of Remesher
- 3.9. Selection
 - 3.9.1. Meshes Selection
 - 3.9.2. Modification of Selections
 - 3.9.3. Selecting by Vertices, Edges or Faces
- 3.10. Vertex Paint
 - 3.10.1. Brush Options
 - 3.10.3. Creating IDMaps

Module 4. 3D Modeling with ZBrush

- 4.1. ZBrush
 - 4.1.1. Interface and Basic Controls
 - 4.1.2. Subtools, Symmetry, Transpose and Deformation
 - 4.1.3. Brushes and Alphas
- 4.2. Main Tools
 - 4.2.1. Masks and Polygroups
 - 4.2.2. Subdivisions, Dynamesh y ZRemesher
 - 4.2.3. Modify Topology, Matcaps and BPR
- 4.3. Modification Tools
 - 4.3.1. Insert Multi Mesh
 - 4.3.2. Layers and Morph Target
 - 4.3.3. Projections and Extract
- 4.4. Advanced Tools
 - 4.4.1. Crease and Bevel
 - 4.4.2. Surface and Shadowbox
 - 4.4.3. Decimation Master
- 4.5. ZSpheres and Adaptive Skin
 - 4.5.1. ZSpheres Controls
 - 4.5.2. ZSketch
 - 4.5.3. Adaptive Skin

- 4.6. Dynamesh and advanced Zremesher
 - 4.6.1. Booleans
 - 4.6.2. Brushes
 - 4.6.3. Zremesher using guides
- 4.7. Curve Brushes
 - 4.7.1. Controls and Modifiers
 - 4.7.2. Curve Surface and Other Brushes
 - 4.7.3. Creating Brushes with Curve
- 4.8. Hard Surface
 - 4.8.1. Segments with Masks
 - 4.8.2. Polygroupit
 - 4.8.3. Panel Loops
 - 4.8.4. ZModeler
 - 4.8.5. Primitives
- 4.9. Modifiers
 - 4.9.1. Extend and Multi Slice
 - 4.9.2. Deformer and Blend Twist
 - 4.9.3. Taper and Flatten
 - 4.9.4. Bend Arc and Bend Curve
- 4.10. Transpose Master
 - 4.10.1. Posing a Character with Transpose Master
 - 4.10.2. Correct Details
 - 4.10.3. Prepare Character for Rendering

Module 5. Texturing

- 5.1. Texturing
 - 5.1.1. Baking
 - 5.1.2. PBR. Physycally Based Rendering
 - 5.1.3. Basic and Composite Texturing
 - 5.1.4. Tileable textures
- 5.2. Mapping Coordinates. UV
 - 5.2.1. Unwrap and Seams
 - 5.2.2. UVW Editor
 - 5.2.3. Editor Options

- 5.3. Object ID
 - 5.3.1. ID Assignment and Functionality
 - 5.3.2. Multisubject Material
 - 5.3.3. Application of Materials as Instances
- 5.4. HighPoly and Normal Baking in 3DS Max
 - 5.4.1. HighPoly and LowPoly
 - 5.4.2. Projection Settings for Normal Map Baking
 - 5.4.3. Projection Settings for Normal Map Baking
 - 5.4.4. Normal Map Settings
- 5.5. Bake Other Materials in 3DS Max
 - 5.5.1. Application and Bakeo Fuzzy Map
 - 5.5.2. Composite Material
 - 5.5.3. Mask Adjustment
- 5.6. Retopology in 3DS Max
 - 5.6.1. Retopology Tools
 - 5.6.2. Retopology with Graphite Tool
 - 5.6.3. Rhetopology Settings
- 5.7. Texturing with 3DS Max
 - 5.7.1. Material Properties
 - 5.7.2. Texture Baking
 - 5.7.3. Textural Toasting. Complete Map, Normal Map and AO Map
- 5.8. Texturing with Photoshop
 - 5.8.1. Coordinate Template
 - 5.8.2. Adding Details in Photoshop and Reimporting Template with Textures
 - 5.8.3. Shading a Texture
 - 5.8.4. Create Normal Map
- 5.9. Mapping Coordinates with Zbrush
 - 5.9.1. UV Master
 - 5.9.2. Control Painting
 - 5.9.3. Unwrap yandFlatten
- 5.10. Texturing with Zbrush
 - 5.10.1. Painting mode
 - 5.10.2. Noise Maker
 - 5.10.3. Projection of images

Module 6. Substance Painter Texturing

- 6.1. Substance Painter
 - 6.1.1. Create New Project and Reimport Models
 - 6.1.2. Basic Controls and Interface 2D and 3D Views
 - 6.1.3. Baking
- 6.2. Baking Layers
 - 6.2.1. World Space Normal
 - 6.2.2. Ambient Occlusion
 - 6.2.3. Curvature
 - 6.2.4. Position
 - 6.2.5. ID, Normal, Thickness
- 6.3. Layers
 - 6.3.1. Base Color
 - 6.3.2. Roughness
 - 6.3.3. Metallic
 - 6.3.4. Material
- 6.4. Masks and Generators
 - 6.4.1. Layers and UVs
 - 6.4.2. Masks
 - 6.4.3. Procedural Generators
- 6.5. Base Material
 - 6.5.1. Types of Material
 - 6.5.2. Customized Generators
 - 6.5.3. Creation of a Base Material from Scratch
- 6.6. Brushes
 - 6.6.1. Predefined Parameters and Brushes
 - 6.6.2. Alphas, Lazy Mouse and Symmetry
 - 6.6.3. Create Custom Brushes and Save Them
- 6.7. Particles
 - 6.7.1. Particle Brushes
 - 6.7.2. Properties of Particles
 - 6.7.3. Particles Using Masks

- 6.8. Projections
 - 6.8.1. Preparing Textures
 - 6.8.2. Stencil
 - 6.8.3. Cloning
- 6.9. Substance Share/Source
 - 6.9.1. Substance Share
 - 6.9.2. Substance Source
 - 6.9.3. Textures.com
- 6.10. Terminology.
 - 6.10.1. Normal Map
 - 6.10.2. Acolchado o Sangrado
 - 6.10.3. Mipmapping

Module 7. Rendering

- 7.1. Marmoset Toolbag
 - 7.1.1. Geometry Preparation and FBX Formatting
 - 7.1.2. Basic Concepts. Importance of Geometry
 - 7.1.3. Links and Materials
- 7.2. Marmoset Toolbag Sky
 - 7.2.1. Environmental Setting
 - 7.2.2. Lighting Points
 - 7.2.3. Lights outside Sky
- 7.3. Marmoset Toolbag Details
 - 7.3.1. Shadows and Pose
 - 7.3.2. Procedural Materials
 - 7.3.3. Channels and Reflection
- 7.4. Real-Time Rendering with Marmoset Toolbag
 - 7.4.1. Image Export with Transparency
 - 7.4.2. Interactive Export. Marmoset Viewer
 - 7.4.3. Film Export
- 7.5. Marmoset Toolbag Animated Cameras
 - 7.5.1. Model Preparation
 - 7.5.2. Cameras
 - 7.5.3. Main Camera Interactive Animation

- 7.6. Marmoset Toolbag Advanced Animated Cameras
 - 7.6.1. Adding New Cameras
 - 7.6.2. Parametric Animation
 - 7.6.3. Final Details
- 7.7. Marmoset Toolbag 4 Raytrace
 - 7.7.1. Subsurface
 - 7.7.2. Ray Tracing
 - 7.7.3. Adding Cameras and Map Rendering
- 7.8. Substance Painter Rendering IRay
 - 7.8.1. IRay Settings
 - 7.8.2. Viewer Settings
 - 7.8.3. Display Settings
- 7.9. Rendering with ZBRush
 - 7.9.1. Material Settings
 - 7.9.2. BPR Render and Lights
 - 7.9.3. BPR Masks and Final Rendering in Photoshop
- 7.10. Keyshot Rendering
 - 7.10.1. From Zbrush to Keyshot
 - 7.10.2. Materials and Lighting
 - 7.10.3. Photoshop Compositing and Final Image

Module 8. Rendering with V-Ray Engine in 3DS Max

- 8.1. V-Ray Render Engine Assignment
 - 8.1.1. Preparation of the Rendering Space
 - 8.1.2. Render Setup Options and Assign Render
 - 8.1.3. Optimize Rendering Time
- 8.2. Lighting and Light Creation
 - 8.2.1. 3-Point Lighting
 - 8.2.2. Light Setup
 - 8.2.3. Render Region
- 8.3. Creation and Application of Materials
 - 8.3.1. V-Ray Materials
 - 8.3.2. V-Ray Materials Settings
 - 8.3.3. Self-Illumination

- 8.4. From Substance Painter to V-Ray
 - 8.4.1. Connect Nodes and Material Settings
 - 8.4.2. Export Presets
 - 8.4.3. Set Up Smart Material in V-Ray
- 8.5. Details and Positioning in the Scene
 - 8.5.1. Application of Shades According to the Position of the Model
 - 8.5.2. Adjust Model and Silhouette
 - 8.5.3. Metallic Base
- 8.6. Surface Rounding
 - 8.6.1. V-RayEdgeTex
 - 8.6.2. Functionality and Setup
 - 8.6.3. Rendering With and Without Rounding
- 8.7. Field of View
 - 8.7.1. Camera and Shot
 - 8.7.2. Camera Aperture
 - 8.7.3. Field of View
- 8.8. Ambient Occlusion and Global Illumination
 - 8.8.1. GI and Render Elements
 - 8.8.2. V-RayExtraTex and V-RayDirt
 - 8.8.3. Global Illumination Multiplier
- 8.9. Rendering of a Static Frame
 - 8.9.1. Adjust Render Values
 - 8.9.2. Save Final Render
 - 8.9.3. Composition of Ambient Occlusion
- 8.10. Rendering of a Sequence
 - 8.10.1. Camera Animation
 - 8.10.2. Rendering Options for Sequence
 - 8.10.3. Frame Assembly for the Sequence

Module 9. Characters

- 9.1. Types of Characters
 - 9.1.1. Realistic and Cartoon/Stylized
 - 9.1.2. Humanoids and Creatures
 - 9.1.3. Anatomy and Proportions
- 9.2. Tips for Working with ZBrush
 - 9.2.1. Working with References and Transparencies. Fitting and Transformation from 2D to 3D
 - 9.2.2. Joining Parts with Dynamesh. Working in Pieces or in Conjunction with Polygroups and ZRemesher
 - 9.2.3. Lazy Mouse and GoZ
- 9.3. Sculpting a Head in ZBrush
 - 9.3.1. Primary Shapes and Proportions
 - 9.3.2. Eyelids and Eyes
 - 9.3.3. Nose, Ears and Lips
 - 9.3.4. ZRemesher for One Head
 - 9.3.5. Eyebrows and Eyelashes
 - 9.3.6. Details and Refinement
- 9.4. Clothing
 - 9.4.1. Clothing
 - 9.4.2. Armor
 - 9.4.3. Modeled Details and with Noise Maker
- 9.5. Tips for Modeling
 - 9.5.1. Hands
 - 9.5.2. Styled Hair
 - 9.5.3. Extra Details with Alphas
- 9.6. Tips for Modeling Types of Materials
 - 9.6.1. Feathers
 - 9.6.2. Rocks or Minerals
 - 9.6.3. Scales

- 9.7. Hair with ZBrush
 - 9.7.1. Curve Brushes
 - 9.7.2. Long Hair with Curve brush
 - 9.7.3. Short Hair or Animal Hair
- 9.8. Hair with Xgen
 - 9.8.1. References and Tool Preparation
 - 9.8.2. Application of Modifiers and Tools in Depth
 - 9.8.3. Lighting and Rendering
- 9.9. Posed with Transpose Master
 - 9.9.1. TPoseMesh. Working with Smooth Masks, Move and Rotate
 - 9.9.2. The Importance of the Silhouette
 - 9.9.3. TPose SubTool. Correct and Finish Detailing
- 9.10. Character Props and Environment
 - 9.10.1. Accessories and Weapons. Elements that Speak of the Character's History
 - 9.10.2. Elements of the Environment and Background. Enhancing the Character
 - 9.10.3. Own Lighting for the Character

Module 10. Exports to Unreal

- 10.1. Unreal Engine
 - 10.1.1. Game Exporter
 - 10.1.2. Create New Project and Controls
 - 10.1.3. Importing Models into Unreal
- 10.2. Basic Properties of Materials
 - 10.2.1. Create Materials and Nodes
 - 10.2.2. Constant and Its Values
 - 10.2.3. Texture Sample
- 10.3. Common Material Nodes
 - 10.3.1. Multiply
 - 10.3.2. Texture Coordinate
 - 10.3.3. Add
 - 10.3.4. Fresnel
 - 10.3.5. Panner





- 10.4. Materials and Bloom
 - 10.4.1. Linear Interpolate
 - 10.4.2. Power
 - 10.4.3. Clamp
- 10.5. Textures to Modify the Material
 - 10.5.1. Masks
 - 10.5.2. Transparent Textures
 - 10.5.3. Match Color
- 10.6. Basic Lighting
 - 10.6.1. Light Source
 - 10.6.2. Skylight
 - 10.6.3. Fog
- 10.7. Fill and Creative Lighting
 - 10.7.1. Point Light
 - 10.7.2. Spotlight and Rectlight
 - 10.7.3. Objects as Light Sources
- 10.8. Night Lighting
 - 10.8.1. Light Source Properties
 - 10.8.2. Fog Properties
 - 10.8.3. Skylight Properties
- 10.9. Lightmaps
 - 10.9.1. Viewer Modes. Lightmap Density
 - 10.9.2. Improve Lightmaps Resolution
 - 10.9.3. Lightmass Importance Volume
- 10.10. Rendering
 - 10.10.1. Cameras and Their Parameters
 - 10.10.2. Basic Post-Processing
 - 10.10.3. High Resolution Screenshot

06

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 is the most widely used learning system in the best faculties in the world. 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies 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 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.

With this methodology we have 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, markets, and financial 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.



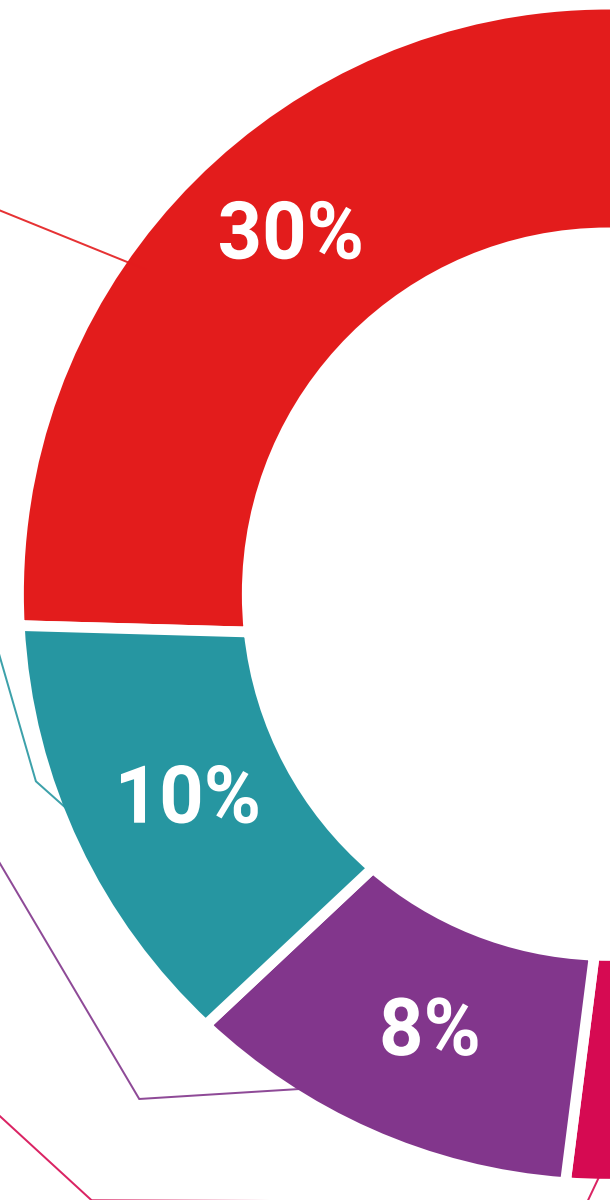
Practising Skills and Abilities

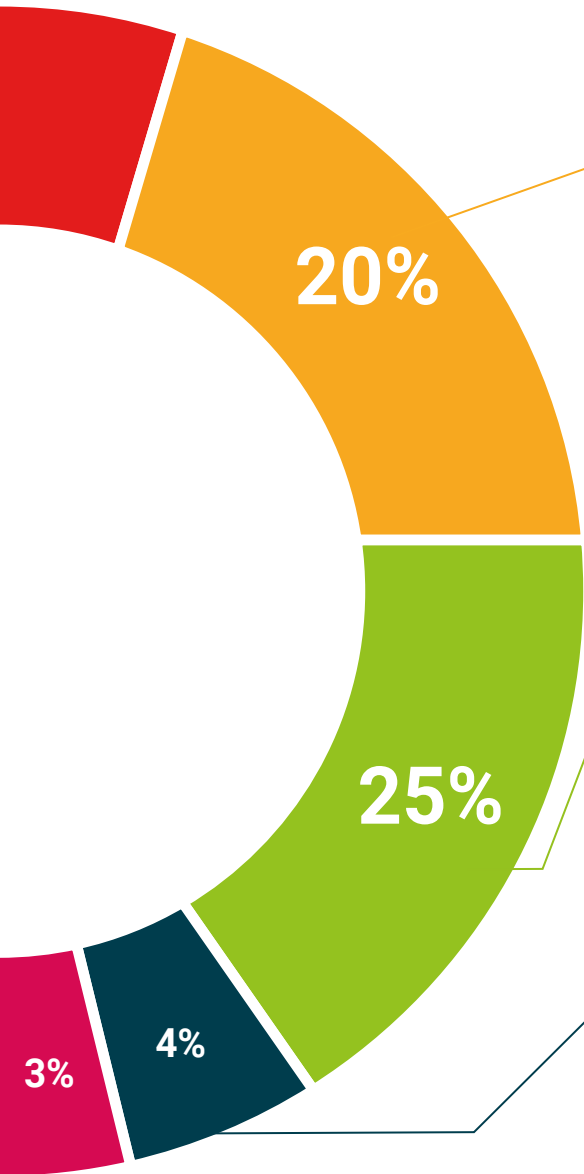
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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.



07 Certificate

The Professional Master's Degree in 3D Texture Modeling guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Global University.



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*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 a **Professional Master's Degree diploma in 3D Texture Modeling** endorsed by TECH Global University, the largest digital university in the world.

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 educational framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of joint 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 continuous education and professional updating that guarantees the acquisition of competencies in its area of knowledge, conferring a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in 3D Texture Modeling**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



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



Professional Master's Degree

3D Texture Modeling

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Accreditation: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Professional Master's Degree

3D Texture Modeling

