Master's Degree
Digital Sculpture

tech global university

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Master's Degree
Digital Sculpture

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

Website: www.techtitute.com/us/design/master-degree/master-digital-sculpture

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01

Introduction

The concept of Digital Sculpture has undergone drastic transformation in recent years due to the new requirements of the design industry. Recently, new computer tools have been incorporated into this field, so professionals dedicated to this area must study a program like this if they want to keep up to date with the latest advances. Students who study this program will be able to look at issues such as texturing for Digital Sculpture, modeling of people, machines and animals in depth, or learn to use software such as Blender. Upon completion, they will be in a position to access numerous professional opportunities in the world of design.

Develop the main techniques of Digital Sculpture at an advanced level by studying the modeling of all types of objects, terrains, animals and people in depth, and position yourself as a highly sought-after expert in the design industry"

The popularization of digital design and its integration into numerous disciplines has led to the creation of new professional profiles that adapt to current reality. As such, Digital Sculpture is one of the most requested fields in industries such as design or video games, which see in this specialized field a major solution to the complex 3D modeling challenges that have arisen in recent times.

As such, this Master's Degree in Digital Sculpture covers aspects such as the improvement and painting of meshes, the creation of machines in three dimensions according to their motility, the *rigging* of characters, human and animal anatomy, software such as Blender, Arnold, Photoshop or ZBrush, and modeling using light, among several others.

All this through an innovative 100% online teaching methodology that adapts to the personal circumstances of each student, allowing them to decide when and where they would like to study. Furthermore, students are taught by a high-level faculty who use numerous multimedia teaching resources such as practical exercises, video techniques, interactive summaries or lectures.

This **Master's Degree in Digital Sculpture** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- Practical cases presented by experts in 3D modeling and digital sculpture
- The graphic, schematic, and practical contents with which they are created, provide scientific and 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
- Access to content from any fixed or portable device with an Internet connection

You will master the principles of Digital Sculpture thanks to this Program, which will give you access to numerous professional opportunities"

This degree prepares you for the present and future challenges of design and Digital Sculpture. Sign up now and achieve immediate progress in your career"

Deepen your knowledge in the use of software such as Arnold, Blender and ZBrush through this specialized program.

Bring the best solutions to your clients in the field of Digital Sculpture with this program, which is developed in a 100% online format.

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.

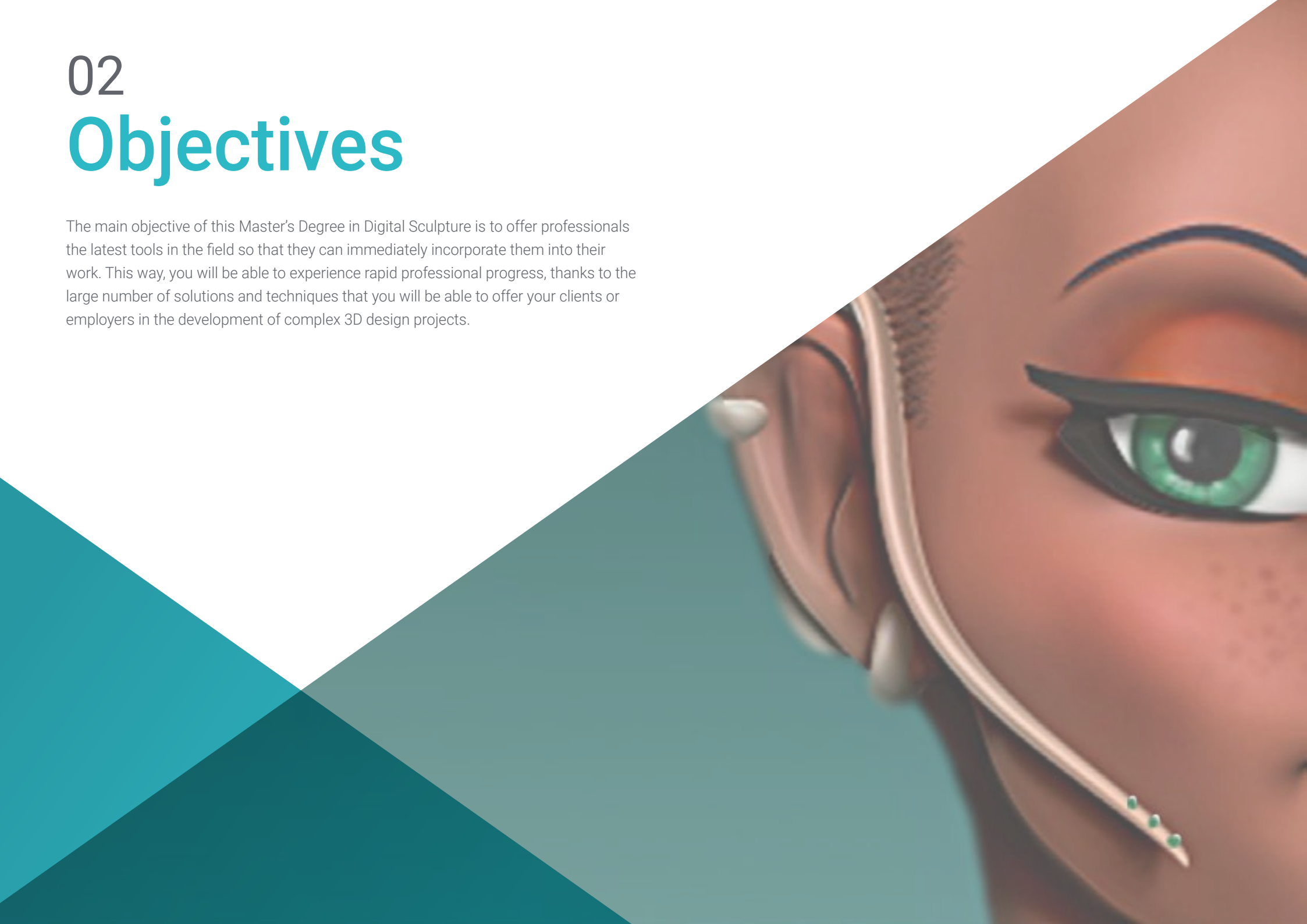
The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersion training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. This will be done with the help of an innovative system of interactive videos made by renowned experts.

02

Objectives

The main objective of this Master's Degree in Digital Sculpture is to offer professionals the latest tools in the field so that they can immediately incorporate them into their work. This way, you will be able to experience rapid professional progress, thanks to the large number of solutions and techniques that you will be able to offer your clients or employers in the development of complex 3D design projects.



This program will update you in the latest advances in Digital Sculpture, turning you into the most valued professional in your environment"

General Objectives

- Understand the importance of having an adequate topology at all levels of development and production
- Understand human and animal anatomy to apply it to modeling, texturing, lighting and rendering processes in a precise way
- Meet the demands in the creation of hair and clothes for video games, cinema, 3D printing, augmented and virtual reality
- Operate modeling, texturing and lighting systems in virtual reality systems.
- Know the current demands of the movie and video game industries in order to offer the best results

Specific Objectives

Module 1. Creation of Hard Surface and Other Solid Surfaces

- Use modeling by means of Edit Poly and Splines
- Manage organic sculpting at an advanced level
- Create info-architecture and integrate it in Lumion
- Model scenographies using 3D Max and integrate them with ZBrush

Module 2. Texturing for Digital Sculpture

- Use PBR texture and material maps
- Use texturing modifiers
- Apply map-generating software
- Create baked texture
- Handle texturing to generate improvements in modeling
- Complex use of import/export systems between programs
- Advanced operation of Substance Painter

Module 3. Machine Creation

- Create, characterize and model robots, vehicles and cyborgs
- Manage internal modeling masks
- Evolve robots, vehicles and cyborgs, through time and study their decay by sculpting shapes and using Substance Painter
- Adapt to biomimicry, science fiction or cartoonaesthetics
- Create a lighting studio using Arnold
- Master rendering in photorealistic and non-photorealistic aesthetics.
- Launch Wireframerender

Module 4. Humanoid

- Manage and apply anatomical knowledge to human sculpture
- Learn the correct topology of models to be used in 3D animation, video games and 3D printing
- Characterize and stylize humanized characters
- Produce manual retopologies with 3D Max, Blender and Zbrush
- Create groups of people and multiple objects
- Use predefined and human base meshes

Module 5. Hair, Clothing and Accessories

- Create modeled hair, Low Poly, High Poly, Fibermesh and Xgen in 3D Max, Zbrush and Maya, for 3D printing, film and video games
- Model and simulate fabric physics in 3D Max and Zbrush
- In-depth study of Workflow between Zbrush and Marvelous
- Use clothes and create patterns in Marvelous Designer
- Manage physical simulations and exports/imports in Marvelous Designer
- Model, texturize, light and render clothing, hair and accessories in Arnold

Module 6. Animals and Creatures

- Manage and apply anatomical knowledge to animal sculpture
- Apply the correct animal topology of models to be used in 3D animation, video games and 3D printing
- Sculpt and texturize animal surfaces such as: feathers, scales, fur and animal hair refinement
- Develop animals and humans into fantastic animals, hybridizations and mechanical beings through shape sculpting and the use of Substance Painter
- Mastering photorealistic and non-photorealistic rendering of animals using Arnold

Module 7. Blender

- Gain advanced knowledge in the use of Blender software
- Render in its Eevee and Cycles render engines
- Delve into work processes within CGI
- Transfer knowledge from ZBrush and 3D Max to Blender
- Transfer creation processes from Blender to Maya and Cinema 4D

Module 8. Modeling with Light

- Develop advanced lighting and photographic concepts using offline engines such as Arnold and Vray, as well as post-production of renders to obtain professional finishes
- In-depth study of advanced visualizations in Realtime in Unity and Unreal
- Carry out modeling in video game engines to create interactive scenographies
- Integrate projects in real spaces

Module 9. Creation of Organic Terrains and Environments

- Know the different techniques of organic modeling and fractal systems for generating the elements of nature and terrain, as well as the implementation of our own models and 3D scans
- Deepen knowledge of the vegetation creation system and how to control it professionally in Unity and Unreal Engine
- Create scenes with immersive VR experiences

Module 10. Applications of Modeling in 3D printing, VR, AR and Photogrammetry

- Use organic modeling for the preparation of 3D printing and milling models
- Generation of 3D models through photography and their treatment for integration in 3D printing, video games and cinema
- Sculpt in virtual reality in a free, creative and interactive way using Quill and its import into Arnold, Unreal and Unity
- Visualization of work in real environments through augmented reality

Digital Sculpture has a great future: This degree will prepare you to meet it with all the guarantees"

03

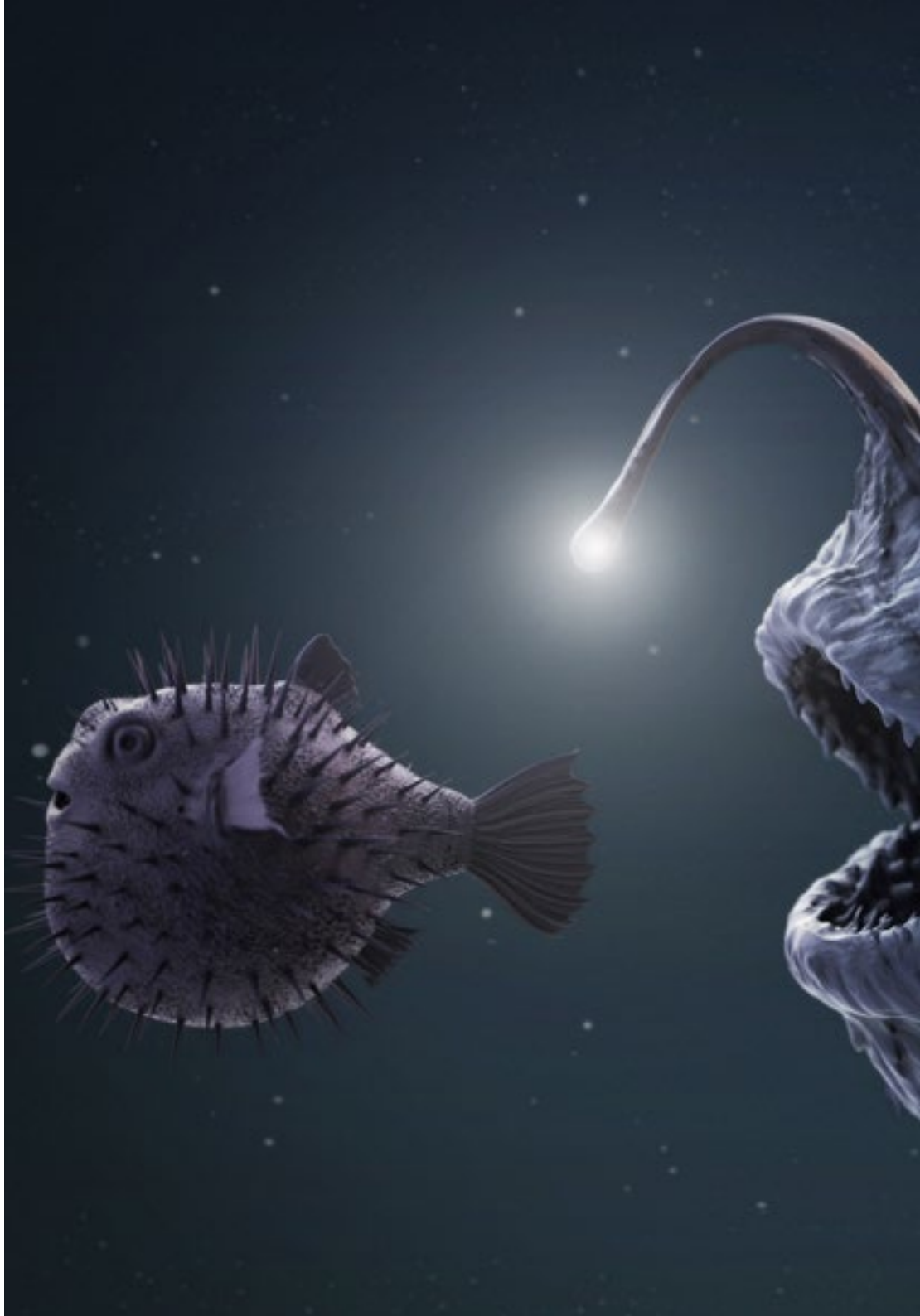
Skills

The skills acquired in this Master's Degree in Digital Sculpture are completely focused on professional practice. They therefore include aspects such as advanced texturing of realistic PBR systems, using and integrating 3D scans in a Digital Sculpture project, managing professional Workflow systems between different softwares such as Blender, Substance Painter, Lumion or ZBrush, and perfectly controlling posed systems and facial expressions by using Rig with ZSpheres, Motion Capture and Morpher.

You will be the most sought-after digital sculptor in the design world"

General Skills

- Advanced handling and use of various organic modeling systems, Edit Poly and Splines
- Perform specialized Hard Surface and infoarchitecture finishes
- Create realistic and high quality cartoon characters
- Perform advanced texturing of realistic PBR and non-photorealistic systems to enhance digital sculpting projects.
- Apply professional lighting on offline engines and Realtime to obtain a high-quality final finish of the models.
- Use and integrate 3D scans
- Advanced use of IMM and Chisel brushes
- Generate Turntable projects through Zbrush using fast visualization engines such as Marmoset or Keyshot to create Showreel



Specific Skills

- Manage professional Workflow systems across 3D Max, Blender, Zbrush, Substance Painter, Marvelous Designer, Lumion, Unity and Unreal software
- Advanced mastering of 3D Max, Blender, Zbrush, Substance Painter, Marvelous Designer, Quills, Unity and Unreal
- Model machines through 3D Max and use Zbrush for modeling base generation
- Master seamless control posing systems and facial expressions by using rig with ZSpheres, motion capture and morpher
- Master 3D design and lettering using Shadowbox
- Paint meshes in 3D max, Zbrush and Substance Painter
- Use mesh cuts, boolean sections and Slice in Zbrush
- Advanced development and recording with different types of cameras of interactive scenes involving your own characters

Updating your skills in this area is the best solution: enroll and gain access to the latest knowledge in Digital Sculpture"

04

Course Management

To ensure that the learning process is properly developed, TECH has selected a high-level teaching staff composed of practising professionals. These professors will transmit all the key elements of digital sculpture to their students so that they may integrate them into their work practice. This Master's Degree in Digital Sculpture, therefore, not only has an innovative and effective teaching methodology, but also a faculty that meets the current demands of this complex and exciting discipline.

The best teaching staff is waiting for you to pass on all the secrets of Digital Sculpture applied to the world of design"

Management

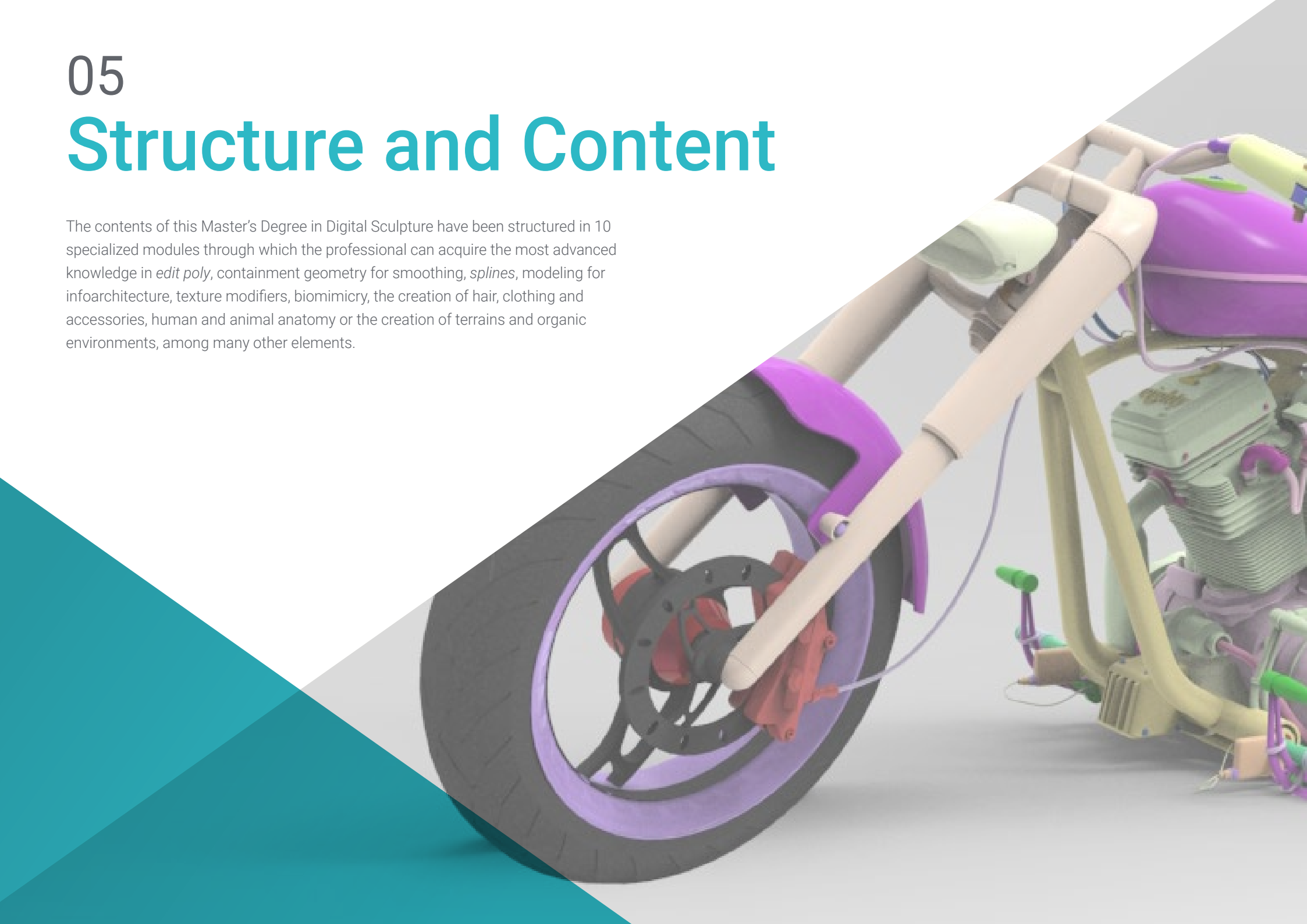
Mr. Sequeros Rodríguez, Salvador

- Freelance 2D/3D modeler and generalist
- Concept Art and 3D Models for Slicecore. Chicago
- Videomapping and modeling, Rodrigo Tamariz. Valladolid
- Professor of Higher Level Training Cycle in 3D Animation. Higher Education School of Image and Sound ESISV. Valladolid
- Professor of Higher Level Training Cycle GFGS in 3D Animation. European Institute of Design IED Madrid
- 3D modeling for the falleros Vicente Martinez and Loren Fandos. Castellón
- Master's Degree in Computer Graphics, Games and Virtual Reality. URJC University. Madrid
- Degree in Fine Arts at the University of Salamanca (specializing in Design and Sculpture).

05

Structure and Content

The contents of this Master's Degree in Digital Sculpture have been structured in 10 specialized modules through which the professional can acquire the most advanced knowledge in *edit poly*, containment geometry for smoothing, *splines*, modeling for infoarchitecture, texture modifiers, biomimicry, the creation of hair, clothing and accessories, human and animal anatomy or the creation of terrains and organic environments, among many other elements.



The most complete and updated contents in Digital Sculpture are here: Don't wait any longer and transform your professional career with this program"

Module 1. Hard Surface Creation

1.1. Sculpture Techniques and Applications
- 1.1.1. Edit Poly
- 1.1.2. Splines
- 1.1.3. Organic Model

1.2. Edit Poly Monitoring
- 1.2.1. Loops and Extrusions
- 1.2.2. Containment Geometry for Smoothing
- 1.2.3. Modifiers and Ribbon

1.3. Mesh Optimizations
- 1.3.1. Quads, Tris and Ngons. When to Use
- 1.3.2. Booleans
- 1.3.3. Low Poly vs. High Poly

1.4. Splines
- 1.4.1. Splines Modifiers
- 1.4.2. Working Plots and Vectors
- 1.4.3. Splines as Helpers in Scenes

1.5. Organic Structure
- 1.5.1. Zbrush Interface
- 1.5.2. Modeling Techniques in ZBrush
- 1.5.3. Alphas and Brushes

1.6. Model Sheet
- 1.6.1. Reference Systems
- 1.6.2. Configuration of Modeling Templates
- 1.6.3. Measurements

1.7. Modeling for Infoarchitecture
- 1.7.1. Façade Modeling
- 1.7.2. Follow-up of Plans
- 1.7.3. Interior Modeling

1.8. Scenography
- 1.8.1. Creation of Attrezzo
- 1.8.2. Furniture
- 1.8.3. Detailing in Zbrush Organic Modeling

1.9. Masks
- 1.9.1. Masking for Modeling and Painting
- 1.9.2. Geometry Masks and IDS for Modeling
- 1.9.3. Mesh Occultations, Polygroups and Cuts

1.10. 3D Design and Lettering
- 1.10.1. Use of Shadow Box
- 1.10.2. Model Topology
- 1.10.3. ZRemesher Automatic Retopology

Module 2. Texturing for Digital Sculpture

2.1. Texturing
- 2.1.1. Texture Modifiers
- 2.1.2. Compact Systems
- 2.1.3. Slate Node Hierarchy

2.2. Materials
- 2.2.1. ID
- 2.2.2. Photorealistic PBR
- 2.2.3. Non-Photorealistic Cartoon

2.3. PBR Textures
- 2.3.1. Procedural Textures
- 2.3.2. Color Maps, Albedo and Diffuse
- 2.3.3. Opacity and Specularity

2.4. Mesh Enhancements
- 2.4.1. Normal Mapping
- 2.4.2. Displacement Mapping
- 2.4.3. Vector Maps

2.5. Texture Managers
- 2.5.1. Photoshop
- 2.5.2. Materialize and Online Systems
- 2.5.3. Texture Scanning

2.6. UVW and Banking
- 2.6.1. Baked Hard Surface textures
- 2.6.2. Baked Organic Textures
- 2.6.3. Baking Joints

2.7. Exportations and Importations
- 2.7.1. Texture Formats
- 2.7.2. FBX, OBJ and STL
- 2.7.3. Subdivision vs. Dinamesh

2.8. Mesh Paintings
- 2.8.1. Viewport Canvas
- 2.8.2. Polypaint
- 2.8.3. Spotlight

2.9. Substance Painter
- 2.9.1. ZBrush with Substance Painter
- 2.9.2. Low Poly Texture Maps with High Poly Detail
- 2.9.3. Material Processing

2.10. Substance Painter - Advanced
- 2.10.1. Realistic Effects
- 2.10.2. Improving Baking
- 2.10.3. SSS Materials, Human Skin

Module 3. Machine Creation

3.1. Robots
- 3.1.1. Functionality
- 3.1.2. Character
- 3.1.3. Motor Skills in their Structure

3.2. Robot Exploded View
- 3.2.1. IMM and Chisel Brushes
- 3.2.2. Insert Mesh and Nanomesh
- 3.2.3. Zmodeler in Zbrush

3.3. Cybord
- 3.3.1. Sectioned by Means of Masks
- 3.3.2. TrimAdaptive and Dynamic
- 3.3.3. Mechanization

3.4. Ships and Aircraft
- 3.4.1. Aerodynamics and Smoothing
- 3.4.2. Surface Texture
- 3.4.3. Cleaning of Polygon Mesh and Details

3.5. Land Vehicles
- 3.5.1. Vehicle Topology
- 3.5.2. Modeling for Animation
- 3.5.3. Caterpillars

3.6. Passage of Time
- 3.6.1. Credible Models
- 3.6.2. Materials in Time
- 3.6.3. Oxidants

3.7. Accidents
- 3.7.1. Collisions
- 3.7.2. Object Fragmentation
- 3.7.3. Destruction Brushes

3.8. Adaptations and Evolution
- 3.8.1. Biomimicry
- 3.8.2. Sci-fi, Dystopias, Uchronies and Utopias
- 3.8.3. Cartoon

3.9. Render Realistic Hardsurface
- 3.9.1. Studio Scene
- 3.9.2. Light
- 3.9.3. Physical Camera

3.10. Render NPR Hardsurface
- 3.10.1. Wireframe
- 3.10.2. Cartoon Shader
- 3.10.3. Illustration

Module 4. Humanoid

4.1. Human Anatomy for Modeling
- 4.1.1. Canon of Proportions
- 4.1.2. Evolution and Functionality
- 4.1.3. Superficial Muscles and Mobility

4.2. Lower Body Topology
- 4.2.1. Trunk
- 4.2.2. Legs
- 4.2.3. Feet

4.3. Upper Body Topology
- 4.3.1. Arms and Hands
- 4.3.2. Neck
- 4.3.3. Head, Face and Mouth Interior

4.4. Characterized and Stylized Characters
- 4.4.1. Detailing with Organic Modeling
- 4.4.2. Characterization of Anatomies
- 4.4.3. Styling

4.5. Expressions
- 4.5.1. Facial and Layer Animations
- 4.5.2. Morpher
- 4.5.3. Texture-Based Animation

4.6. Posing
- 4.6.1. Character Psychology and Relaxation
- 4.6.2. Rig with Zpheras
- 4.6.3. Posing with motion capture

4.7. Characterization
- 4.7.1. Tattoos
- 4.7.2. Scars
- 4.7.3. Wrinkles, Freckles and Spots

4.8. Manual Retopology
- 4.8.1. 3D Max Software
- 4.8.2. Blender
- 4.8.3. ZBrush and Projections

4.9. Predefined
- 4.9.1. Fuse
- 4.9.2. Vroid
- 4.9.3. MetaHuman

4.10. Crowds and Recurring Spaces
- 4.10.1. Scatter
- 4.10.2. Proxys
- 4.10.3. Groups of Objects

Module 5. Hair, Clothing and Accessories

5.1. Hair Creation
- 5.1.1. Modeled Hairstyle
- 5.1.2. Low Poly Hair and Cards
- 5.1.3. High Poly, Fibermesh and Fur y XgenHair

5.2. Cartoon Clothing
- 5.2.1. Mesh Extractions
- 5.2.2. Falsified Geometry
- 5.2.3. Shell

5.3. Fabric Sculpting
- 5.3.1. Physical Simulation
- 5.3.2. Force Calculation
- 5.3.3. Curving Brushes on Clothing

5.4. Realistic Clothing
- 5.4.1. Import into Marvelous Designer
- 5.4.2. Software Philosophy
- 5.4.3. Pattern Creation

5.5. Standard Patterns
- 5.5.1. Jerseys
- 5.5.2. Pants
- 5.5.3. Coats and Footwear

5.6. Joining and Physics
- 5.6.1. Realistic Simulations
- 5.6.2. Zippers
- 5.6.3. Seams

5.7. Apparel
- 5.7.1. Complex Patterns
- 5.7.2. Fabric Complexity
- 5.7.3. Shading

5.8. Advanced Apparel
- 5.8.1. Baking for Clothing
- 5.8.2. Adaptation
- 5.8.3. Export

5.9. Accessories
- 5.9.1. Jewelry
- 5.9.2. Backpacks and Handbags
- 5.9.3. Accessories

5.10. Rendering on Fabrics and Hair
- 5.10.1. Lighting and Shading
- 5.10.2. Hair Shader
- 5.10.3. Realistic Rendering using Arnold

Module 6. Animals and Creatures

6.1. Animal Anatomy for Modeling
- 6.1.1. Study of Proportions
- 6.1.2. Anatomic Differences
- 6.1.3. Musculature of the Different Species

6.2. Principal Masses
- 6.2.1. Main Structures
- 6.2.2. Balance Axes for Postures
- 6.2.3. Base Meshes using Zpheras

6.3. Head
- 6.3.1. Craniums
- 6.3.2. Jaws
- 6.3.3. Teeth and Antlers
- 6.3.4. Ribcage, Spine and Hips

6.4. Central Section
- 6.4.1. Ribcage
- 6.4.2. Spinal Column
- 6.4.3. Hips

6.5. Extremities
- 6.5.1. Legs and Hoofs
- 6.5.2. Fins
- 6.5.3. Wings and Claws

6.6. Animal Texture and Adaptation to Shapes
- 6.6.1. Fur, Skin and hair
- 6.6.2. Scales
- 6.6.3. Feathers

6.7. The Animal Imaginary: Anatomy and Geometry
- 6.7.1. Anatomy of Fantastic Creatures
- 6.7.2. Geometry and Slice Cuts
- 6.7.3. Boolean Mesh

6.8. The Animal Imaginary: Fantastic Animals
- 6.8.1. Fantastic Animals
- 6.8.2. Hybridizations
- 6.8.3. Mechanical Creatures

6.9. NPR Species
- 6.9.1. Cartoon Styles
- 6.9.2. Anime
- 6.9.3. Fan Art

6.10. Animal and Human Rendering
- 6.10.1. Sub- Surface Scattering Materials
- 6.10.2. Mixed Texturing Techniques
- 6.10.3. Final Composition

Module 7. Blender

7.1. Free Software
- 7.1.1. LTS Version and Community
- 7.1.2. Pros and Differences
- 7.1.3. Interface and Philosophy

7.2. Integration with 2D
- 7.2.1. Adaptation of the Program
- 7.2.2. Crease Pencil
- 7.2.3. 2D Combination in 3D

7.3. Modeling Techniques
- 7.3.1. Adaptation of the Program
- 7.3.2. Modeling Methodologies
- 7.3.3. Geometry Nodes

7.4. Texturing Techniques
- 7.4.1. Nodes Shading
- 7.4.2. Textures and Materials
- 7.4.3. Tips for Use

7.5. Lighting
- 7.5.1. Tips for Light Spaces
- 7.5.2. Cycles
- 7.5.3. Eevee

7.6. Workflow in CGI
- 7.6.1. Necessary Uses
- 7.6.2. Exportations and Importations
- 7.6.3. Final Art

7.7. Adaptations from 3ds Max to Blender
- 7.7.1. Modeling
- 7.7.2. Texturing and Shading
- 7.7.3. Lighting

7.8. ZBrush to Blender Knowledge
- 7.8.1. 3D Sculpting
- 7.8.2. Brushes and Advanced Techniques
- 7.8.3. Organic Work

7.9. From Blender to Maya
- 7.9.1. Important Steps
- 7.9.2. Settings and Integrations
- 7.9.3. Exploitation of Functionalities

7.10. From Blender to 4D Cinema
- 7.10.1. Tips for 3D Design
- 7.10.2. Use of the Model for Video Mapping
- 7.10.3. Modeling with Particles and Effects

Module 8. Modeling with Light

8.1. Offline Arnold Methods
- 8.1.1. Indoor and Outdoor Lighting
- 8.1.2. Application of Displacement and Normal Maps
- 8.1.3. Render Modifiers

8.2. Vray
- 8.2.1. Lighting Platforms
- 8.2.2. Shading
- 8.2.3. Maps

8.3. Advanced Global Lighting Techniques
- 8.3.1. ActiveShade GPU Management
- 8.3.2. Optimization of Photorealistic Render . Denoiser
- 8.3.3. Non-Photorealistic Rendering (Cartoon and Hand Painted)

8.4. Quick Display of Models
- 8.4.1. Zbrush
- 8.4.2. Keyshot
- 8.4.3. Marmoset

8.5. Post-Production of Renders
- 8.5.1. Multi-Pass
- 8.5.2. 3D Illustration in Zbrush
- 8.5.3. Zbrush Multi-Pass

8.6. Integration into Real Spaces
- 8.6.1. Shading Materials
- 8.6.2. HDRI and Global Lighting
- 8.6.3. Image Tracking

8.7. Unity
- 8.7.1. Interface and Configuration
- 8.7.2. Import into Video Game Engines
- 8.7.3. Materials

8.8. Unreal
- 8.8.1. Interface and Configuration
- 8.8.2. Sculpture in Unreal
- 8.8.3. Shaders

8.9. Modeling in Video Game Engines
- 8.9.1. Pro-Builder
- 8.9.2. Modeling Tools
- 8.9.3. Prefabs and Memory Stored

8.10. Advanced Lighting Techniques for Video Games
- 8.10.1. Realtime, Pre-Calculation of Lights and HDRP
- 8.10.2. Ray Tracing
- 8.10.3. Post-Processing

Module 9. Creation of Organic Terrains and Environments

9.1. Organic Modeling in Nature
- 9.1.1. Brush Adaptations
- 9.1.2. Creation of Rocks and Cliffs
- 9.1.3. Integration with 3D Substance Painter

9.2. Terrain
- 9.2.1. Terrain Displacement Maps
- 9.2.2. Creation of Rocks and Cliffs
- 9.2.3. Scanning Software Libraries

9.3. Vegetation
- 9.3.1. SpeedTree
- 9.3.2. Low Poly Vegetation
- 9.3.3. Fractals

9.4. Unity Terrain
- 9.4.1. Organic Model of Terrain
- 9.4.2. Terrain Painting
- 9.4.3. Creation of Vegetation

9.5. Unreal Terrain
- 9.5.1. Height Map
- 9.5.2. Texturing
- 9.5.3. Unreal Foliage System

9.6. Physics and Realism
- 9.6.1. Physical
- 9.6.2. Wind
- 9.6.3. Fluids

9.7. Virtual Walks
- 9.7.1. Virtual Cameras
- 9.7.2. Third Person
- 9.7.3. First Person FPS

9.8. Cinematography
- 9.8.1. Cinemachine
- 9.8.2. Sequencer
- 9.8.3. Recording and Executables

9.9. Visualization of the Model in Virtual Reality
- 9.9.1. Modeling and Texturing Tips
- 9.9.2. Exploitation of the Interaxial Space
- 9.9.3. Project Preparation

9.10. VR Scene Creation
- 9.10.1. Location of the Cameras
- 9.10.2. Land and Infoarchitecture
- 9.10.3. Parameters of Use

Module 10. Applications of Modeling in 3D printing, VR, AR and Photogrammetry

10.1. Preparation for 3D Printing
- 10.1.1. Types of Printing
- 10.1.2. Polygon Reduction
- 10.1.3. Mesh Projections

10.2. Preparation for 3D Printing
- 10.2.1. Pouring
- 10.2.2. Inserts
- 10.2.3. Tips and Imports

10.3. Photogrammetry
- 10.3.1. Megascan Library
- 10.3.2. Agisoft Metashape Software
- 10.3.3. Model Preparation

10.4. Preparing the Photogrammetry
- 10.4.1. Obtaining Points
- 10.4.2. Retopology
- 10.4.3. Model Optimization

10.5. Working with Virtual Reality
- 10.5.1. Software Quill
- 10.5.2. Interface
- 10.5.3. Brushes and Clone Tool
- 10.5.4. VR Character Creation

10.6. Character and Setting in Quill
- 10.6.1. VR Character Creation
- 10.6.2. Immersive Setting
- 10.6.3. Character Development

10.7. Scene Preparation in Quill
- 10.7.1. VR Character Creation
- 10.7.2. Posing
- 10.7.3. Spawn Area. Camara Adjustments

10.8. De Quill into Arnold and Unreal
- 10.8.1. Exporting and Formatting
- 10.8.2. Render using Arnold
- 10.8.3. Integration in Unreal

10.9. Augmented Reality Unity and Vuforia
- 10.9.1. Importing into Unity
- 10.9.2. Vuforia
- 10.9.3. Lighting an Materials

10.10. Augmented Reality: Scene Set-Up
- 10.10.1. Preparing the Scene
- 10.10.2. Visualization against Real Environment
- 10.10.3. Creation of Multiple Displays in AR

There is no better program to cover the latest in Digital Sculpture"

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 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

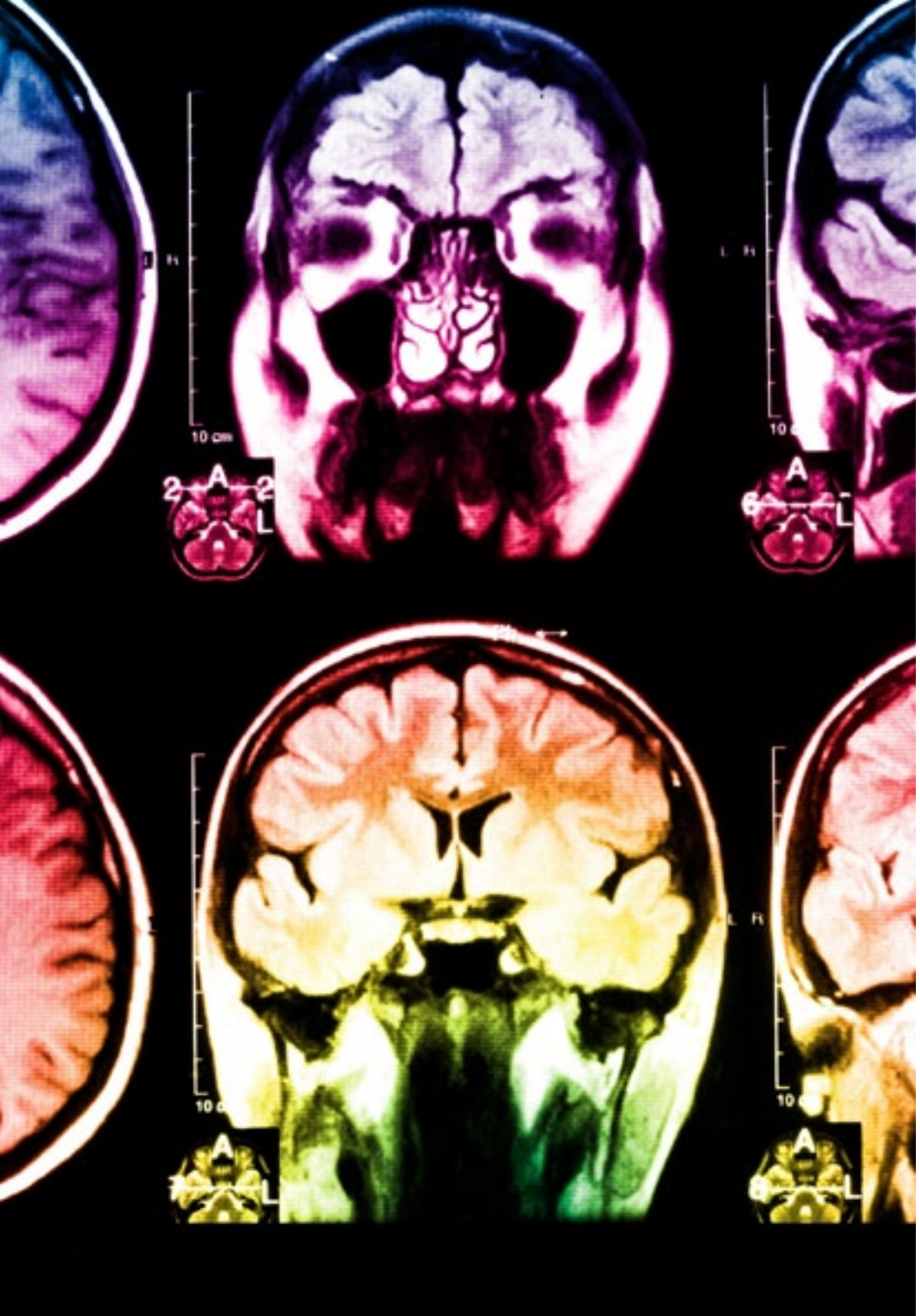
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

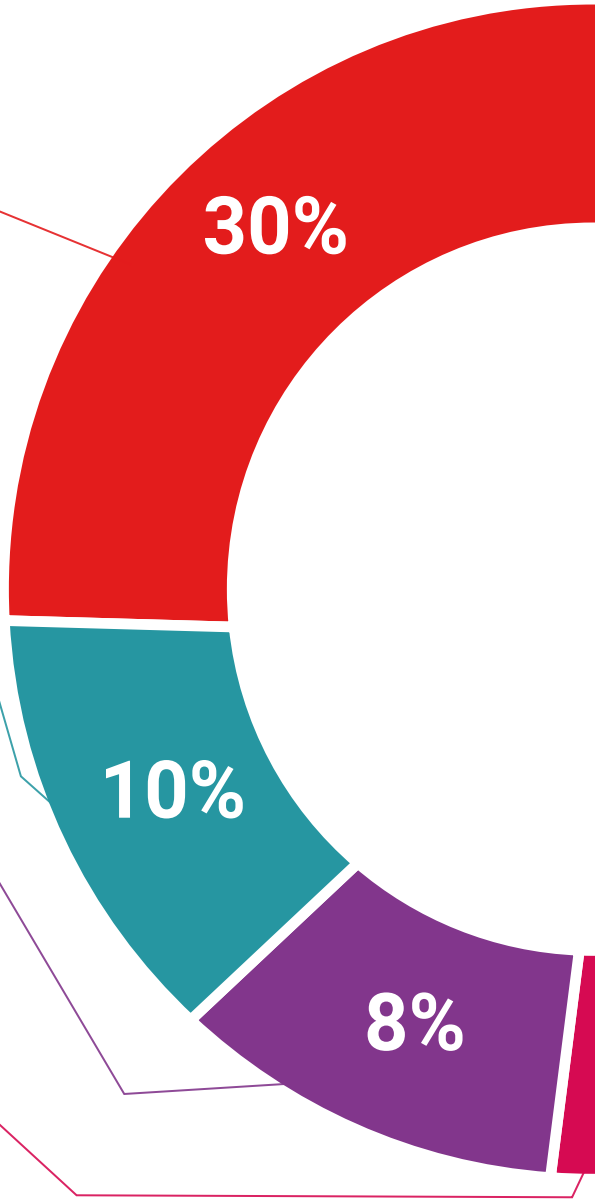
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

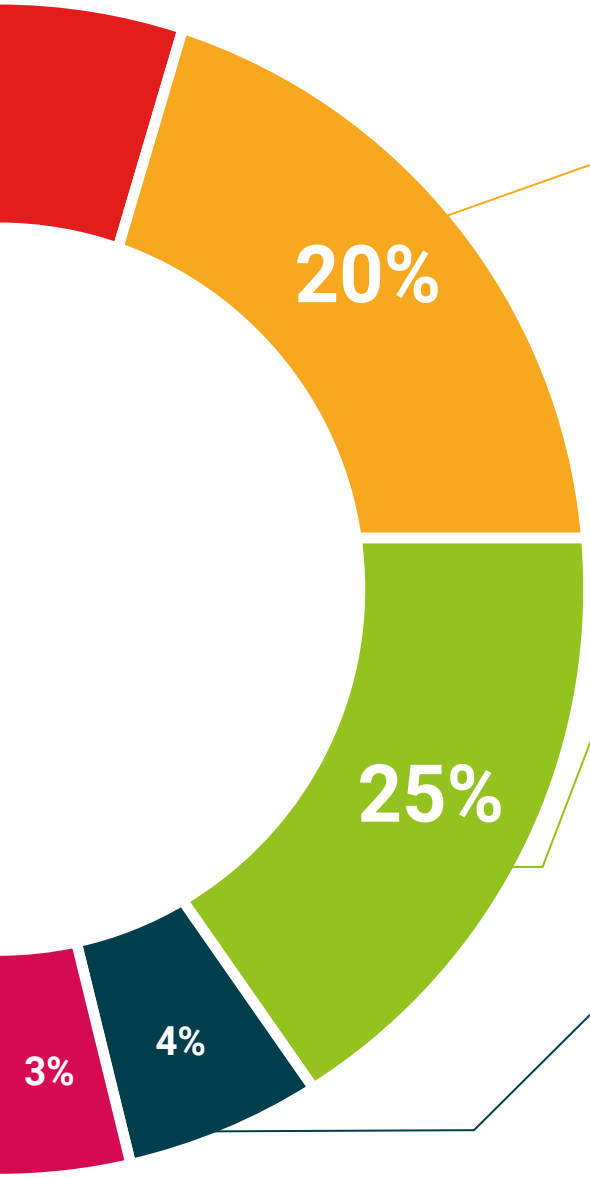
Practising Skills and Abilities

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 Master's Degree in Digital Sculpture guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification issued by TECH Global University.

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

This program will allow you to obtain your **Master's Degree diploma in Digital Sculpture** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ***(official bulletin)*** Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Digital Sculpture**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**

tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Digital Sculpture

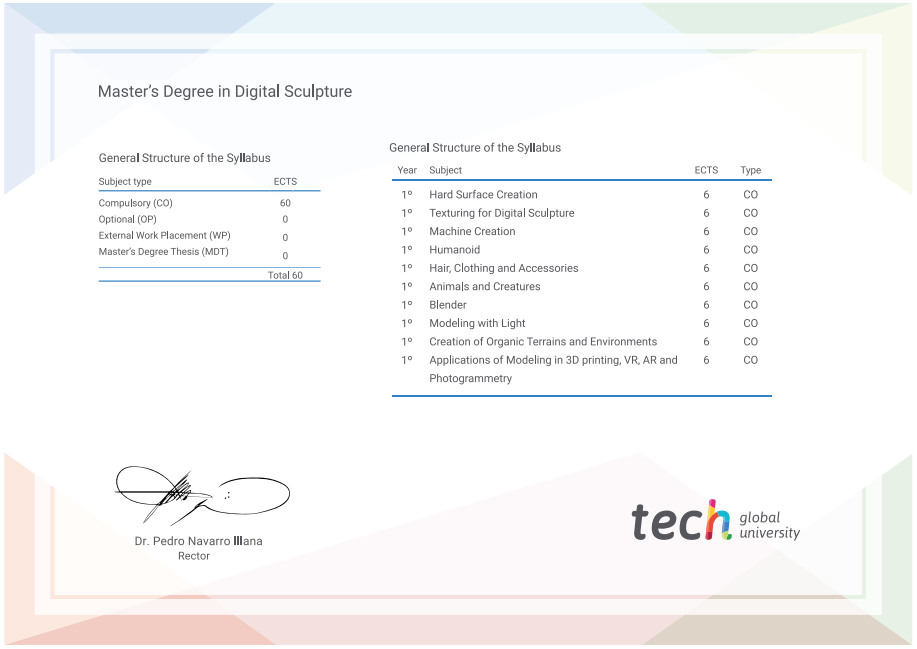
This is a program of 1,500 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

Unique TECH Code: AFWORD23S techtitute.com/certificates


Master's Degree in Digital Sculpture

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Hard Surface Creation	6	CO
1º	Texturing for Digital Sculpture	6	CO
1º	Machine Creation	6	CO
1º	Humanoid	6	CO
1º	Hair, Clothing and Accessories	6	CO
1º	Animals and Creatures	6	CO
1º	Blender	6	CO
1º	Modeling with Light	6	CO
1º	Creation of Organic Terrains and Environments	6	CO
1º	Applications of Modeling in 3D printing, VR, AR and Photogrammetry	6	CO

Dr. Pedro Navarro Illana
Rector

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

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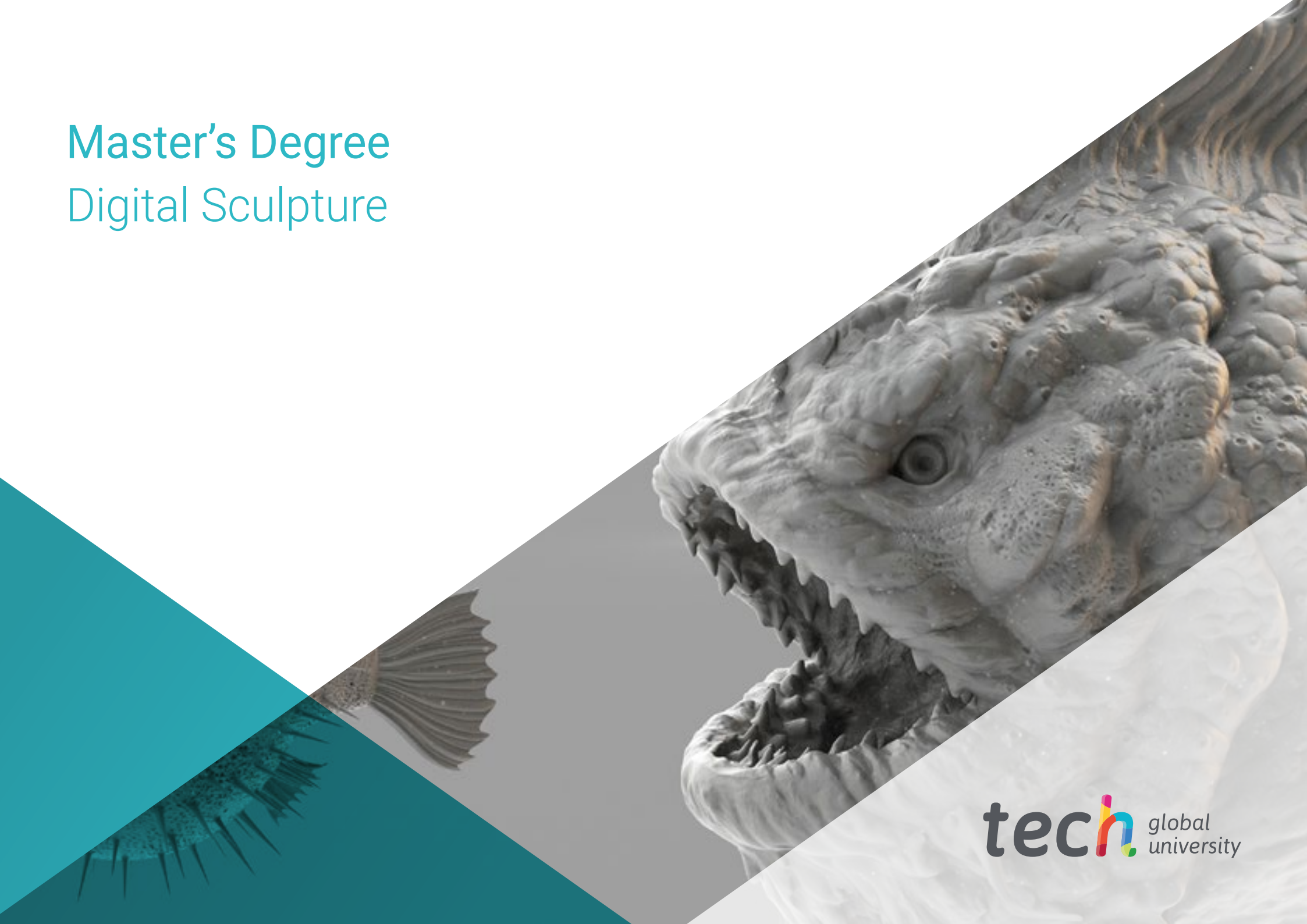
Master's Degree
Digital Sculpture

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

Master's Degree
Digital Sculpture



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