

# Professional Master's Degree

Design and Creation of 3D  
Characters for Animation  
and Video Games



## Professional Master's Degree Design and Creation of 3D Characters for Animation and Video Games

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

Website: [www.techtute.com/us/videogames/professional-master-degree/master-design-creation-3d-characters-animation-video-games](http://www.techtute.com/us/videogames/professional-master-degree/master-design-creation-3d-characters-animation-video-games)

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# 01

# Introduction to the Program

The Design and Creation of 3D Characters for Animation and Video Games has become one of the most innovative and dynamic areas within the entertainment industry. In fact, according to a report by the International Association of Film Producers, more than 70% of current film productions use 3D Animation technology in one of their phases. In light of these advancements, it is essential for creatives to stay up-to-date and understand the inner workings of the tools that shape the future. In this context, TECH offers a cutting-edge university program focused on this field, which is also delivered in a convenient online format. In addition, it is taught in a convenient online modality.







“

*Thanks to this 100% online university qualification, you will design three-dimensional characters adapted to different narratives, visual styles, and technical requirements”*

3D Character Design and Creation has experienced exponential growth in recent years, becoming a fundamental tool within the digital animation industry. For example, advances in rigging and rendering now allow digital characters to be reproduced in hyper-realistic detail, even replacing real actors in cases where they cannot continue filming. In this context, creatives must gain a comprehensive understanding of the technical processes involved in simulating expressions, movements, and highly precise anatomical details to achieve flawless, high-quality results.

In this scenario, TECH introduces a comprehensive program in Design and Creation of 3D Characters for Animation and Video Games. Designed by leaders in the field, the academic itinerary will delve into the fundamentals of body rigging as the structural foundation of the character. In line with this, the curriculum will explore specialized tools, such as the sticky lips system, crucial for achieving greater naturalness in facial expressions. Additionally, the educational materials will offer professionals multiple resources to implement automation that streamlines production processes. As a result, graduates will develop advanced skills to design highly functional and expressive characters. This will enhance their professional profiles in an increasingly competitive sector.

Moreover, the university qualification is based on a comfortable 100% online format that allows creatives to plan their schedules individually. In fact, all they will need is an electronic device with internet access to access the Virtual Campus. Furthermore, TECH uses its disruptive Relearning system, which ensures professionals naturally and progressively update their knowledge. It is worth noting that a renowned International Guest Director will conduct 10 comprehensive Masterclasses.

This **Professional Master's Degree in Design and Creation of 3D Characters for Animation and Video Games** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The development of practical case studies presented by experts in Video Games
- ♦ 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
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*A prestigious International Guest Director will deliver 10 exclusive Masterclasses on the latest trends in Design and Creation of 3D Characters for Animation and Video Games”*

“

*A syllabus based on the disruptive Relearning system, which will facilitate the assimilation of complex concepts in a fast and flexible manner”*

It includes faculty members from the video game industry, who bring their real-world experience to this program, as well as renowned specialists from leading organizations 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 an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will apply advanced techniques in texturing, shading, and lighting to enhance the appearance and realism of the characters.*

*You will digitally model characters using professional tools such as ZBrush, Blender, or Maya.*





02

# Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.





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*Study at the world's largest online university  
and guarantee your professional success.  
The future starts at TECH”*

**The world's best online university, according to FORBES**

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

**Forbes**

The best online university in the world

The most complete  
**syllabus**

**The most complete syllabuses on the university scene**

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

**The best top international faculty**

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

**TOP**  
international faculty



The most effective methodology

**A unique learning method**

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

**The world's largest online university**

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

**World's No.1**  
The World's largest online university

### The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

### Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



### Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



### The official online university of the NBA

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### The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

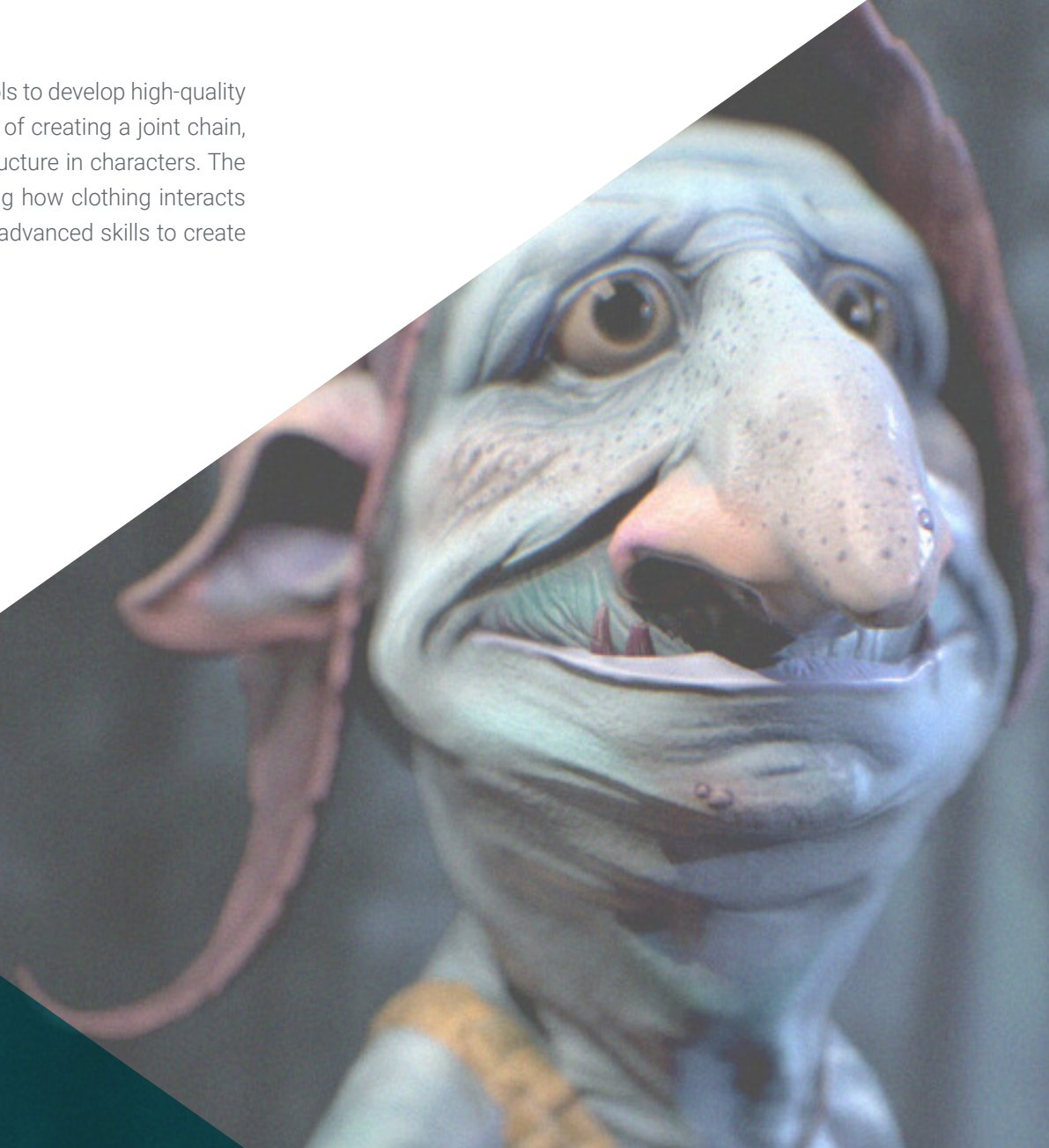


### Leaders in employability

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# 03 Syllabus

This program will provide experts with the most innovative tools to develop high-quality characters. The syllabus will delve into the key fundamentals of creating a joint chain, an essential process for establishing a functional skeletal structure in characters. The program will also cover clothing rigging, crucial for simulating how clothing interacts realistically with the body. As a result, graduates will acquire advanced skills to create dynamic and realistic 3D characters.





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*You will master both the artistic and technical fundamentals of 3D character design, applying anatomy, proportions, expressiveness, and visual style”*

## Module 1. The Rigger, the Rig, the Industry, and Essential Tools

- 1.1. The Role of the Rigger in the Industry
  - 1.1.1. What does a Rigger do?
  - 1.1.2. Production and Workflow
  - 1.1.3. Differences between Rigging for Film and Video Games
- 1.2. The Software
  - 1.2.1. Autodesk Maya
  - 1.2.2. Installing Maya
  - 1.2.3. Interface and Navigation
  - 1.2.4. Display Layers and Naming Conventions
- 1.3. Studying the 3D Model
  - 1.3.1. Topology
  - 1.3.2. Poses
  - 1.3.3. Elements, Hair, and Clothing
  - 1.3.4. Poor Topology
- 1.4. Phases and Parts of the Rig
  - 1.4.1. Deformation and Control Rigging
  - 1.4.2. Body and Facial Rigging
  - 1.4.3. Automation and Final Processes
- 1.5. Main Elements of Rigging
  - 1.5.1. Joints (Bones)
  - 1.5.2. Curves (Controls)
  - 1.5.3. *Clusters*
- 1.6. Constraint Elements
  - 1.6.1. What are Constraints?
  - 1.6.2. Types of Constraints
  - 1.6.3. Using Constraints in Rigging
- 1.7. Position and Transformations of an Object
  - 1.7.1. Relative and Absolute Position
  - 1.7.2. Direct Connections
  - 1.7.3. Basic Nodes

- 1.8. Deformers
  - 1.8.1. *Blend Shapes*
  - 1.8.2. *Lattice*
  - 1.8.3. *Wire*
  - 1.8.4. Others (Non-linear)
- 1.9. NURBS Curves
  - 1.9.1. What are NURBS Curves?
  - 1.9.2. Predefined NURBS Curves
  - 1.9.3. Editing NURBS Curves
- 1.10. Job Search in the Industry
  - 1.10.1. Online Resources
  - 1.10.2. The Job Market for the Rigger
  - 1.10.3. The Reel, Portfolio Platforms, and Employment

## Module 2. Body Deformation Rigging

- 2.1. Preliminary Basics
  - 2.1.1. Topology Review
  - 2.1.2. System Setup
  - 2.1.3. Model Preparation
- 2.2. Creating a Joint Chain
  - 2.2.1. Skeleton Anatomy
  - 2.2.2. Joint Nomenclature
  - 2.2.3. Joint Editing Tools
  - 2.2.4. Joint Placement and Hierarchy
- 2.3. Joint Orientation
  - 2.3.1. The Importance of Correct Orientation
  - 2.3.2. Joint Orientation Tool
  - 2.3.3. Joint Symmetry
- 2.4. *Skinning*
  - 2.4.1. Binding Skeleton to Geometry
  - 2.4.2. Influence Painting Tools
  - 2.4.3. Influence Symmetry on the Model

- 2.5. Painting Absolute Influences
  - 2.5.1. Setting Up the Influence Painting Process
  - 2.5.2. Phases of Vertex Painting
  - 2.5.3. Influences on Body Parts Between 2 Joints
  - 2.5.4. Influences on Body Parts Between 3 or More Joints
- 2.6. Deformation of the Lower Body
  - 2.6.1. Anatomy of Joint Movement
  - 2.6.2. Animations for Influence Smoothing
  - 2.6.3. Smoothing Process
- 2.7. Deformation of the Upper Body
  - 2.7.1. Anatomy of Joint Movement
  - 2.7.2. Animations for Influence Smoothing
  - 2.7.3. Smoothing Process
- 2.8. Quadrupeds
  - 2.8.1. Animal Anatomy
  - 2.8.2. Creating the Joint Chain
  - 2.8.3. Deformation Process
- 2.9. Birds
  - 2.9.1. Animal Anatomy
  - 2.9.2. Creating the Joint Chain
  - 2.9.3. Deformation Process
- 2.10. Final Skinning Processes
  - 2.10.1. Final Touch-Up of the Deformation Process
  - 2.10.2. Volume Preservation
  - 2.10.3. Error Correction with Deformers and PSDs
  - 2.10.4. Baking Deformations in Skin Cluster
  - 2.10.5. Exporting and Importing Influence Weighting
  - 2.10.6. Protecting Rigging through References
  - 2.10.7. *NgSkinTools*

### Module 3. Advanced Limbs Rigging

- 3.1. Introduction to FK and IK Systems
  - 3.1.1. Differences Between FK and IK Systems
  - 3.1.2. Limitations of FK and IK Systems
  - 3.1.3. Hybrid FK/IK System
- 3.2. Building FK and IK Systems
  - 3.2.1. Building the FK System
  - 3.2.2. IK Handle Solvers
  - 3.2.3. Elbow or Knee Control
- 3.3. Channel Box and Node Editor
  - 3.3.1. Channels
  - 3.3.2. Attribute Editing
  - 3.3.3. *Set Driven Key*
  - 3.3.4. *Node Editor*
- 3.4. *FK/IK Switch*
  - 3.4.1. Using Set Driven Keys
  - 3.4.2. Using Nodes
  - 3.4.3. Controller and Attributes
- 3.5. Twist, Squash, and Stretch
  - 3.5.1. *Upper Arm Twist*
  - 3.5.2. *Lower Arm Twist*
  - 3.5.3. *Stretch*
  - 3.5.4. *Squash*
- 3.6. Completing the Limb
  - 3.6.1. Clavicle
  - 3.6.2. Hands
  - 3.6.3. Elbow and Knee
- 3.7. Reverse Foot/Hand Systems
  - 3.7.1. *Reverse Foot*
  - 3.7.2. Channels and Controllers
  - 3.7.3. *Reverse Hand*

- 3.8. Finalizing the FK/IK System
  - 3.8.1. Setting Up FK and IK Control Visibility
  - 3.8.2. Hierarchies and Nomenclature
  - 3.8.3. Duplicating the System
- 3.9. Quadruped Limbs
  - 3.9.1. Understanding the Functionality of the Limb
  - 3.9.2. Evaluating the Best System
  - 3.9.3. Building the System
- 3.10. Wing Rigging
  - 3.10.1. Understanding the Functionality of a Wing
  - 3.10.2. Building the System
  - 3.10.3. Wing Folding

#### Module 4. Advanced Rigging of Torso, Neck, and Head

- 4.1. Introduction to Advanced Torso Rigging
  - 4.1.1. Limitations of a Basic Rig
  - 4.1.2. Improvement Proposals
  - 4.1.3. Setting Up the Advanced System
- 4.2. Spline IK Handle Tool
  - 4.2.1. Functionality of the Tool
  - 4.2.2. Tool Configurations
  - 4.2.3. *Twist*
- 4.3. Creating IK Controls for the Torso
  - 4.3.1. Manipulating the Curve
  - 4.3.2. Twist Control
  - 4.3.3. Nomenclature and Hierarchy
- 4.4. Squash and Stretch for the Torso
  - 4.4.1. Respecting the Position of Joints on the Curve
  - 4.4.2. Finding the Scale Factor
  - 4.4.3. Basic System Connections
- 4.5. Advanced Squash and Stretch for the Torso
  - 4.5.1. remapValue Node
  - 4.5.2. Basic remapValue Connections
  - 4.5.3. Advanced remapValue Connections

- 4.6. Creating FK Controls for the Torso
  - 4.6.1. Creating Curves
  - 4.6.2. *Integration with the IK System*
  - 4.6.3. Nomenclature and Hierarchy
- 4.7. Inner FK System
  - 4.7.1. Creating Controls
  - 4.7.2. Modifying Constraints
  - 4.7.3. Second Joint Chain
- 4.8. System Completion
  - 4.8.1. Hierarchy Organization
  - 4.8.2. Nomenclature
  - 4.8.3. Review and Scaling
- 4.9. Creating the Neck and Head System
  - 4.9.1. Bone Placement
  - 4.9.2. Smooth FK System for the Neck
  - 4.9.3. Follow Attribute for Neck and Head
- 4.10. Conclusion and Other Examples
  - 4.10.1. Creating Rig by Modules and Joining Them
  - 4.10.2. Other Applications for the Smooth FK System
  - 4.10.3. Other Applications for the Torso System

#### Module 5. Cartoon Rig, Proxies, Props, and Clothing

- 5.1. Introduction to the Bend System
  - 5.1.1. What is a Bend System?
  - 5.1.2. System Setup
  - 5.1.3. Wire Deformer
- 5.2. Developing the Bend System
  - 5.2.1. Creating Curves and Clusters
  - 5.2.2. Painting Influences for the Bend System
  - 5.2.3. Implementing the General Control
- 5.3. 2D Facial Rig on 3D Models in Maya
  - 5.3.1. System Setup
  - 5.3.2. Connecting Frames with Texture Layer
  - 5.3.3. 2D Animation Control



- 5.4. *Proxies*
  - 5.4.1. What are Proxies?
  - 5.4.2. Model Partitioning
  - 5.4.3. Connecting Proxies to Joint Chains
- 5.5. Clothing Rigging
  - 5.5.1. Setup
  - 5.5.2. Geometry Preparation
  - 5.5.3. Influence Projection
- 5.6. Props Rigging
  - 5.6.1. What are Props?
  - 5.6.2. Setup
  - 5.6.3. System Development
- 5.7. Hair Rigging
  - 5.7.1. Introduction to Hair Systems
  - 5.7.2. System for Geometric Hair
  - 5.7.3. System for Hair Generated by xGen
- 5.8. Arch Rigging
  - 5.8.1. Studying Arch Deformation
  - 5.8.2. Setup
  - 5.8.3. Development
- 5.9. Vehicle Rigging
  - 5.9.1. Studying Mechanics
  - 5.9.2. Wheels
  - 5.9.3. Other Elements
- 5.10. Tank Rigging
  - 5.10.1. Studying Mechanics
  - 5.10.2. Wheels
  - 5.10.3. Other Elements

## Module 6. Advanced Facial Rigging

- 6.1. Introduction to Facial Rigging
  - 6.1.1. Study of Facial Expressions
  - 6.1.2. Facial Topology
  - 6.1.3. Deformation Methods
- 6.2. Facial Rigging with Blend Shapes
  - 6.2.1. Facial Partitioning of Key Shapes
  - 6.2.2. Modeling Muscle Movements
  - 6.2.3. Distribution of Blend Shape Deformations
- 6.3. Rigging of Nose, Jaw, and Tongue
  - 6.3.1. Anatomical Study and Setup, Node Editor
  - 6.3.2. Deformation and Control of Nose and Jaw
  - 6.3.3. Deformation and Control of Tongue
- 6.4. Lip Rigging
  - 6.4.1. System Setup
  - 6.4.2. *Blend Shapes, Joints*
  - 6.4.3. Correction Shapes and Controls
- 6.5. Sticky Lips System (Lip Sealing)
  - 6.5.1. What It Is and What It's Used For
  - 6.5.2. System Setup
  - 6.5.3. Development
- 6.6. Rigging of Eyes, Eyelids, Eyebrows, and Ears
  - 6.6.1. IK, FK System for Eyes
  - 6.6.2. Deformation by Curves and Correction Shapes for Eyebrows
  - 6.6.3. Eyelid System
- 6.7. Rigging of Cheeks
  - 6.7.1. Deformation by Curves and Blend Shapes
  - 6.7.2. Creating Joints and Controls
  - 6.7.3. Squash and Stretch

- 6.8. Facial Control Rigging
  - 6.8.1. Joystick Control Setup
  - 6.8.2. Controls for the Face
  - 6.8.3. Set Driven Key Tool
- 6.9. Connecting Facial Rig to Body Rig
  - 6.9.1. Analyzing Our Rig System, Cleaning, and Testing
  - 6.9.2. Deformer Hierarchy
  - 6.9.3. Hierarchy and Prevention of Double Transformations
- 6.10. Automations
  - 6.10.1. Benefits and Examples of Facial Automations, Motion Capture (MocapX App)
  - 6.10.2. Setup
  - 6.10.3. Development

## Module 7. Rigging for Video Games

- 7.1. Rigging for Video Games in Unity
  - 7.1.1. Differences Between Film and Video Game Rigging
  - 7.1.2. Download and Installation
  - 7.1.3. Unity Interface and Navigation
- 7.2. Unity Tools for Rigging
  - 7.2.1. Types of Unity Rigs
  - 7.2.2. Avatar Tool
  - 7.2.3. *Retargeting*
- 7.3. Facial Rigging for Video Games
  - 7.3.1. Issues and Solution Approach
  - 7.3.2. System Creation
  - 7.3.3. Painting Influences
- 7.4. Adapting Film Rig to Video Games
  - 7.4.1. Exploring Rig and Limitations
  - 7.4.2. Creating Skeleton for Unity Humanoid
  - 7.4.3. Connecting Video Game Skeleton to Film Skeleton with Python





- 7.5. Skinning for Video Games
  - 7.5.1. Limitations of Skin Cluster Deformer for Unity
  - 7.5.2. Influence Weighting
  - 7.5.3. Handling Facial Controllers
- 7.6. Finalizing Rig for Video Games
  - 7.6.1. Character Clothing Rig
  - 7.6.2. Root Motion and Character Weapons
  - 7.6.3. *Twist Joints*
- 7.7. *Human IK*
  - 7.7.1. Introduction to Human IK Tool
  - 7.7.2. Creating Character Definition
  - 7.7.3. Eyes, Auxiliary Joints, and Rig Control
- 7.8. *Mixamo*
  - 7.8.1. Free Rigging and Animation Tool - Mixamo
  - 7.8.2. Character and Animation Library
  - 7.8.3. Creating a Rig with Mixamo
- 7.9. Importing and Exporting Rigs and Animations
  - 7.9.1. Exporting
  - 7.9.2. Importing
  - 7.9.3. Baking Animations
- 7.10. Importing Rig into Unity
  - 7.10.1. Rig Import Configuration in Unity
  - 7.10.2. Humanoid Configuration
  - 7.10.3. Rig Physics Configuration

## Module 8. Muscle Systems with Ziva

- 8.1. What is Ziva and Where Has It Been Used
  - 8.1.1. Requirements, Setup, and Interface
  - 8.1.2. Workflow in Ziva
- 8.2. Starting from the Basics
  - 8.2.1. How Ziva Works
  - zSolver: What It Is and Its Most Common Attributes
  - 8.2.3. zCache: Explain How It Works and How to Use It

- 8.3. First Steps I
  - 8.3.1. zTissues and zBones
  - 8.3.2. *Attachment Mode: Fixed – Sliding*
  - 8.3.3. Build First Example with Basic Geometries
- 8.4. First Steps II
  - 8.4.1. zMaterial and zMaterial Layer
  - 8.4.2. zCloth
  - 8.4.3. A Bit of Anatomy
- 8.5. The Fascia
  - 8.5.1. A Bit of Anatomy
  - 8.5.2. Basic Example of Building Fascia in Ziva
  - 8.5.3. Building Fascia with Basic Geometry Model
- 8.6. Arm with Anatomical Geometry
  - 8.6.1. *Quality Check*
  - 8.6.2. Build the Fascia
  - 8.6.3. Build the Muscles
- 8.7. Detail Setup
  - 8.7.1. *Sliding Attachments*
  - 8.7.2. LOAs – Fibers – Corrective BS
  - 8.7.3. Simulation of Fascia and Fat
- 8.8. Complex Systems (Human Body)
  - 8.8.1. System Setup
  - 8.8.2. Creation of Basic Elements
  - 8.8.3. Detail Setup
- 8.9. Scene Merge
  - 8.9.1. Introduction to Merge
  - 8.9.2. Factors to Consider and Precautions
  - 8.9.3. Applying and Setting Up the Merge
- 8.10. Other Ziva Tools
  - 8.10.1. *Harmonic Warp*
  - 8.10.2. *Bone Warp*
  - 8.10.3. *ZivaRig*

## Module 9. MAYA Programming Focused on Rigging

- 9.1. Maya Setup for Scripting
  - 9.1.1. Commands
  - 9.1.2. Modules
  - 9.1.3. Packages
  - 9.1.4. *Python Path*
- 9.2. Scripting Tools
  - 9.2.1. *Script Editor*
  - 9.2.2. *Autodesk Help*
  - 9.2.3. MEL Interpretation
  - 9.2.4. *PyCharm*
- 9.3. Python Fundamentals for Rigging 1
  - 9.3.1. Print and Comments
  - 9.3.2. Data Types and Variables
  - 9.3.3. Lists and Tuples
  - 9.3.4. Dictionaries
  - 9.3.5. Operators
  - 9.3.6. Getting and Modifying Attributes
- 9.4. Python Fundamentals for Rigging 2
  - 9.4.1. Conditions
  - 9.4.2. Loops
  - 9.4.3. Functions
  - 9.4.4. Global Variables
- 9.5. Object-Oriented Programming (OOP)
  - 9.5.1. OOP vs. Non-OOP
  - 9.5.2. Classes
  - 9.5.3. Attributes and Methods
  - 9.5.4. Inheritance
- 9.6. *Shelf and User Interfaces (UI)*
  - 9.6.1. *Custom Shelf*
  - 9.6.2. *Import Shelf*
  - 9.6.3. Window
  - 9.6.4. Buttons
  - 9.6.5. Other Elements



- 9.7. Introductory Tools
  - 9.7.1. Tool Library for Controllers
  - 9.7.2. FK Chain Tool
  - 9.7.3. Controller Modifier Tool
- 9.8. Autorig Limb FK/IK
  - 9.8.1. FK System
  - 9.8.2. IK System
  - 9.8.3. Window Design
  - 9.8.4. General Control / Settings
- 9.9. *Tool Match Limb FK/IK*
  - 9.9.1. *Match FK to IK*
  - 9.9.2. *Match IK to FK*
  - 9.9.3. Window Design
- 9.10. Create Picker with Qt
  - 9.10.1. *Qt Designer*
  - 9.10.2. Design a Picker
  - 9.10.3. Connect Buttons

## Module 10. Rigging with Blender

- 10.1. The Software
  - 10.1.1. What is Blender?
  - 10.1.2. Installation
  - 10.1.3. Interface and Navigation
  - 10.1.4. Panels and Modes
- 10.2. Basic Concepts
  - 10.2.1. Selection and Transformations
  - 10.2.2. 3D Cursor and Pivot Points
  - 10.2.3. Hierarchies and Collections
- 10.3. Modifiers and Constraints
  - 10.3.1. *Curve*
  - 10.3.2. *Lattice*
  - 10.3.3. *Object Constraint*

- 10.4. Bones
  - 10.4.1. Creating Bones
  - 10.4.2. Bone Orientation
  - 10.4.3. *Symmetrize*
  - 10.4.4. *Bone Constraint*
- 10.5. Skinning in Blender
  - 10.5.1. Binding Mesh to Skeleton
  - 10.5.2. Painting Influences
  - 10.5.3. Mirroring Influences
- 10.6. Inverse Kinematics with Blender
  - 10.6.1. Creating IK System
  - 10.6.2. Bone Transformation Constraints
  - 10.6.3. Pole Target Controls
- 10.7. Body Rig with Rigify I
  - 10.7.1. *Addon*
  - 10.7.2. *Basic Human Meta-Rig*
  - 10.7.3. Editing Skeleton
- 10.8. Body Rig with Rigify II
  - 10.8.1. Editing Influences
  - 10.8.2. *Rigify Buttons*
  - 10.8.3. Control Parameters
- 10.9. Facial Rigging
  - 10.9.1. Jaw Control
  - 10.9.2. Eyes
  - 10.9.3. Facial Expressions with Shape Keys
- 10.10. Hard-Surface Rigging with Blender
  - 10.10.1. Gear Rigging
  - 10.10.2. Vehicle Rigging
  - 10.10.3. Rigging Cables and Ropes

# 04

# Teaching Objectives

This program is designed to provide creatives with the most advanced tools in 3D Characters Design and Creation for Animation and Video Games. In this regard, graduates will develop advanced skills to work with constraint elements, precisely controlling the movements and behaviors of the joints. Additionally, they will be trained in the application of the muscle deformer technique, essential for simulating detailed muscle movements in characters.





“

*You will texture and light 3D models for integration into animation and video game projects”*





## General Objectives

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- ◆ Develop advanced competencies in rigging techniques for 3D characters
- ◆ Update knowledge in the use of specialized software for 3D modeling, texturing, rigging, and animation
- ◆ Train in the morphological and technical analysis of 3D models, integrating anatomical, functional, and aesthetic criteria focused on optimizing rigging
- ◆ Handle the design and implementation of mechanical systems and internal structures of the character



*You will prepare characters using rigging and skinning techniques for proper Animation”*







## Specific Objectives

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### Module 1. The Rigger, the Rig, the Industry, and Essential Tools

- ◆ Understand the role of the Rigger within the digital entertainment industry, differentiating their functions in film or video game production
- ◆ Familiarize yourself with the working environment in Autodesk Maya, including installation, interface navigation, and basic concepts such as display layers and nomenclature
- ◆ Analyze the structure and phases of a rigging system, recognizing its fundamental components: joints, curves, clusters, constraints, and deformers
- ◆ Acquire practical knowledge of topology and 3D model preparation, identifying common errors and considering their impact on the rigging process

### Module 2. Body Deformation Rigging

- ◆ Apply basic anatomical knowledge in the creation and hierarchization of joint chains, adapting them to human bodies, quadrupeds, and birds
- ◆ Develop skills in the skinning process, including techniques for painting influences, symmetries, and editing tools
- ◆ Implement workflows for the correction and optimization of deformations, using deformers, PSD, and NgSkinTools to achieve a clean and functional rig
- ◆ Understand and execute advanced processes for exporting, protecting, and maintaining the rig, ensuring its integrity and reusability in production

### **Module 3. Advanced Limbs Rigging**

- ♦ Differentiate and build FK, IK, and hybrid FK/IK systems, understanding their advantages, limitations, and applications in different joints
- ♦ Master control and automation tools such as Channel Box, Set Driven Keys, and Node Editor to create functional and customizable rigs
- ♦ Integrate advanced techniques like Twist, Squash, and Stretch in arms and legs, enhancing the expressiveness and elasticity of the limbs
- ♦ Build specific systems such as reverse foot/hand and wing rigs, adapting the rig to the anatomical and functional needs of the character

### **Module 4. Advanced Rigging of Torso, Neck, and Head**

- ♦ Analyze the limitations of the basic torso rig and design advanced systems that improve deformation, control, and flexibility of the character
- ♦ Implement tools such as Spline IK, Twist, and Squash & Stretch to create a dynamic, expressive, and technically solid torso
- ♦ Design and integrate FK and IK controls for the torso, working on hierarchy, nomenclature, and coupling between systems for greater versatility
- ♦ Build articulated systems for the neck and head, using techniques such as smooth FK and follow attributes, while applying best practices for organization and modularity

### **Module 5. Cartoon Rig, Proxies, Props, and Clothing**

- ♦ Develop Cartoon Rigging systems based on deformers such as wire and bend, creating stylized and exaggerated characters
- ♦ Create systems for proxies, props, and clothing, focusing on animation efficiency, geometry optimization, and connection with the skeleton
- ♦ Implement 2D facial rigging on 3D models to enable stylized animations that blend 2D and 3D media
- ♦ Build functional rigs for complex mechanical elements and accessories, such as arches, vehicles, and tanks, studying their mechanics and movement

### **Module 6. Advanced Facial Rigging**

- ♦ Study facial anatomy and expressiveness to design precise and natural deformation systems using blend shapes, joints, and curves
- ♦ Implement detailed systems for individual facial features, such as lips, eyes, eyebrows, and cheeks, using specific deformers and controllers
- ♦ Develop intuitive facial animation controls, such as joysticks and attributes connected with Set Driven Keys, optimizing the animator's workflow
- ♦ Connect the facial rig to the body rig in a clean and functional way, avoiding common errors such as double transformations and optimizing the deformer hierarchy

### Module 7. Rigging for Video Games

- ♦ Understand the fundamental differences between rigging for film and video games, focusing on technical requirements, optimization, and workflows within engines like Unity
- ♦ Apply specific Unity tools such as Avatar, Retargeting, and Human IK, integrating body and facial rigs adapted to interactive environments
- ♦ Adapt and optimize film rigs for use in video games, using Python, skinning systems, and export/import techniques compatible with Unity and Mixamo
- ♦ Develop full character rigs with clothing, weapons, and root motion, ensuring their functionality in real-time and correct implementation within the game engine

### Module 8. Muscle Systems with Ziva

- ♦ Understand how Ziva Dynamics works and its integration in professional productions, including its workflow, initial setup, and tissue simulation
- ♦ Build basic and advanced muscle systems using zTissues, zBones, zMaterials, and zCloth, integrating knowledge of functional anatomy
- ♦ Simulate complex structures like fascia, muscles, and body fat, controlling their physical attributes through attachments, fibers, layers, and corrections using blend shapes
- ♦ Optimize and merge muscle simulations for full characters, learning to work with scene merge, tools like Harmonic Warp, and ZivaRig

### Module 9. MAYA Programming Focused on Rigging

- ♦ Master the fundamentals of Python programming within the Maya environment
- ♦ Apply basic and advanced Python concepts, including object-oriented programming, to automate common rigging tasks and develop custom tools
- ♦ Develop custom user interfaces (UI) through shelves, windows, and graphical elements using Maya commands and Qt design
- ♦ Create automated rigging tools, such as FK/IK systems, match tools, and visual pickers, optimizing technical workflows within production

### Module 10. Rigging with Blender

- ♦ Familiarize yourself with the environment and basic tools of Blender, understanding its interface, navigation, and workflow related to rigging
- ♦ Apply modifiers, constraints, and bone creation to develop body and facial rig systems
- ♦ Perform complete skinning processes and set up IK systems, including influences, symmetries, and pole targets, for characters and mechanical structures
- ♦ Develop functional rigs for characters, vehicles, and hard-surface systems, integrating shape keys for facial expressions and constraints for technical elements

# 05

## Career Opportunities

This university program represents a great opportunity for experts who wish to perfect their skills in Design and Creation of 3D Characters for Animation and Video Games. As such, upon completing the syllabus, graduates will master work organization in Maya, optimizing the modeling process. Additionally, they will be trained to apply retopology for the rigger, improving mesh deformation and movement in animations. Thanks to this specialized knowledge, creatives will be prepared to develop high-quality, visually and functionally optimized 3D characters, enhancing their impact on entertainment projects.







“

*You will adapt design processes to industrial workflows, ensuring the optimization of graphic resources”*

### Graduate Profile

The graduate of this Design and Creation of 3D Characters for Animation and Video Games will be a highly skilled professional, able to integrate advanced technologies into their projects. They will also apply motion tracking systems to capture and transfer real-world movements to digital models with precision. Moreover, they will master editing key parameters to optimize the behavior and response of characters in real-time. Additionally, they will be prepared to effectively implement twist chain orientation, ensuring anatomically coherent deformation in limbs during animation.

*You will have the ability to develop custom tools by creating Script Snap FK/IK with Python.*

- ♦ **3D Technology Integration in Visual Productions:** Ability to incorporate digital tools such as Autodesk Maya and ZBrush into character creation processes, improving efficiency and the visual impact of animated projects
- ♦ Solving Technical Rigging Challenges: Aptitude for applying critical thinking in implementing FK/IK Systems and deformers, optimizing the natural and realistic movement of characters
- ♦ **Mastery of Advanced Modeling and Texturing Techniques:** Competence in using professional methods for retopology, shading, and UV mapping, ensuring functional and visually appealing models
- ♦ **Creative Ethics and Artistic Responsibility:** Commitment to developing characters that respect cultural diversity and narrative, promoting inclusion and ethical quality in the video game and animation industry







After completing this university program, you will be able to apply your knowledge and skills in the following positions:

- 1. 3D Character Modeler:** Responsible for sculpting and building 3D character models, applying techniques of shape, proportion, and detail to achieve realistic or stylized figures, depending on the project's style.
- 2. Character Rigger:** Responsible for creating skeletons, controls, and movement systems so that 3D characters can be properly animated, also implementing FK/IK structures, deformers, and virtual muscles.
- 3. 3D Texturer:** Responsible for applying textures, materials, and UV maps to 3D models.
- 4. 3D Character Animator:** Responsible for bringing characters to life by animating their movements and expressions.
- 5. Concept Character Designer:** Responsible for creating the original 2D or 3D design of the character, defining its appearance, style, personality, and silhouette.
- 6. Character Production Supervisor:** Supervises the workflow from concept to final integration, ensuring the technical and artistic quality of the models.

“

*You will create artistic and technical documentation to guide the work of animators or programmers”*



06

# Software Licenses Included

TECH is a leading reference in the academic world for combining the latest technology with teaching methodologies to enhance the teaching-learning process. To achieve this, it has established a network of alliances that allows it to access the most advanced software tools used in the professional world.





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*Upon enrolling, you will receive, completely free of charge, academic use credentials for the following professional software applications”*

TECH has established a network of professional alliances with the leading providers of software applied to various professional fields. These alliances allow TECH to access hundreds of software applications and licenses, making them available to its students.

The academic software licenses will allow students to use the most advanced applications in their professional field, so they can become familiar with them and master their use without incurring additional costs. TECH will handle the contracting process, ensuring that students can use the software unlimitedly during their time in the Professional Master's Degree in Design and Creation of 3D Characters for Animation and Video Games, and they can do so completely free of charge.

TECH will provide free access to the following software applications:



### Motion Builder

As part of TECH's firm commitment to academic excellence and applied learning, specialists enrolled in this university program will receive **free access to Motion Builder**, a professional motion capture and animation tool valued at approximately **2,230 dollars**. This License is one of the most advanced and recognized platforms on the market for the development of real-time animation, being widely used in creative industries such as film, video games and virtual reality. Its powerful rendering engine and support for sophisticated motion capture systems enable the creation of characters and scenes with exceptional fluidity, precision and realism.

During the academic itinerary, professionals will have the opportunity to experiment with this tool in real projects, integrating highly realistic human movements, complex simulations and advanced 3D animation processes. All this will be done from an intuitive and highly professional interface, used by leading studios worldwide. In this way, this practical experience will facilitate the development of essential technical and creative skills, preparing specialists to face the challenges of the audiovisual sector and provide value in professional environments that demand innovation and quality in their productions.

#### Key Features:

- ♦ Real-time animation with immediate visualization of complex movements
- ♦ Seamless integration with motion capture hardware
- ♦ Advanced rigging control for precise adjustment of skeletons and deformations
- ♦ Interoperability with Maya and other 3D environments for collaborative production workflows
- ♦ Efficient manipulation of data and animated sequences to optimize creative processes

In conclusion, this unique professional experience will allow graduates to develop essential skills with one of the most demanded tools in the audiovisual industry.



“

*Thanks to TECH, you will be able to use the best professional software applications in your field for free”*



07

# Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.





“

*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“

*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want”*



## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*



## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”*

### The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*



As such, the best educational materials, thoroughly prepared, will be available in this program:



#### 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### Interactive Summaries

We present 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".



#### Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





**Case Studies**

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.



**Testing & Retesting**

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



**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 for future difficult decisions.



**Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.





# 08

# Teaching Staff

The faculty members selected by TECH for this university program in Design and Creation of 3D Characters for Animation and Video Games have a strong professional background in high-level animation studios. As a result, they have perfected techniques such as line-by-line execution, which is essential for detailing facial expressions with maximum precision. They are also experts in using the isolate mode for the head, a tool that allows focused work on complex features without visual distractions.





“

*The teaching staff for this university degree consists of true leaders in Design and Creation of 3D Characters for Animation and Video Games”*

## International Guest Director

Jessica Bzonek is a leading designer and creator of 3D characters, with more than ten years of experience in the video game industry that have established her as an influential professional in the international scene. In fact, her career has been characterized by her commitment to innovation and collaboration, fundamental aspects in her work, where technology and art are creatively intertwined. She has contributed to the realization of important animation projects, including “*Avatar: Frontiers of Pandora*” and “*The Division 2: Year 4*”, which has consolidated her reputation as an expert in the creation of *pipelines* and rigging.

She has also held the position of Associate Technical Director of Cinematics at Ubisoft Toronto, where she has been essential in the production of high-quality cinematic sequences. Here, she has been particularly noted for her participation as a co-presenter at the 2024 Ubisoft Developers Conference, a testament to her leadership in the industry. She has also played a crucial role at Stellar Creative Lab, where she co-developed a custom automated system for *character rigs*. In this regard, her ability to manage the communication of issues and solutions between departments has been instrumental in optimizing workflows.

Jessica Bzonek’s career has also included significant work at DHX Media, where she has worked closely with supervisors and other pipeline workers to solve problems and test new tools, organizing learning sessions that have promoted team cohesion. At Rainmaker Entertainment Inc. he has developed character and element rigs, using a modular rigging system that has improved the functionality of the production process. Finally, her work as a Junior Rigging Artist, at *Bardel Entertainment*, has allowed her to develop scripts to optimize the workflow.





## Ms. Bzonek, Jessica

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- ♦ Associate Technical Director of Cinematics at Ubisoft, Toronto, Canada
- ♦ Technical Director of Pipeline / Rigging at Stellar Creative Lab
- ♦ Pipeline Technical Director at DHX Media
- ♦ Character Pipeline Technical Director at DHX Media
- ♦ Creature Pipeline Technical Director at Rainmaker Entertainment Inc.
- ♦ Junior Rigging Artist at Bardel Entertainment
- ♦ Course in 3D Animation and Visual Effects at the Vancouver Film School
- ♦ Course in Advanced Character Rigging by Gnomon
- ♦ Course in Introduction to Python by UBC - Continuing Education
- ♦ B.A. in Multimedia and History from McMaster University

“

*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Mr. Guerrero Cobos, Alberto

- ♦ Technical Artist and Rigger of 3D Animations for Video Games
- ♦ Rigger and animator for the video game Vestigion by Lovem Games
- ♦ Master's Degree of Art and Production in Animation by the University of South Wales
- ♦ Master's Degree in 3D Character Modeling by ANIMUM
- ♦ Master's Degree in 3D Character Animation for Film and Video Games by ANIMUM
- ♦ Degree in Multimedia and Graphic Design at the University School of Design and Technology (ESNE)

## Professors

### Mr. Chávez, Eduardo

- ♦ Character Artist in Maya, Modeler, and Rigging Technician
- ♦ Character Artist
- ♦ Rigger TD
- ♦ Lead Character & Creature Artist
- ♦ Character Artist
- ♦ Image and sound designer

### Mr. Villaescusa, Francisco

- ♦ 3D Modeler
- ♦ 3D Artist and Audiovisual Creative - Freelance
- ♦ Master's Degree in 3D modeling by Animum
- ♦ Bachelor's Degree in Architecture from the ETSAV of the UPC

**Mr. Yovera, Gianfranco**

- ♦ 3D Character Animation
- ♦ Master's Degree in Animation at Animum
- ♦ Bachelor of Fine Arts and Visual Arts by ENSABAP

**Mr. Urendez Serrano, Héctor**

- ♦ Mid Rigger
- ♦ Junior Rigger
- ♦ Character Rigger at Iction Games
- ♦ Animation & VFX, Modeling & Rigging

**Mr. Jerónimo, Juan José**

- ♦ 3D Rigger Advertising, Film and Video Games
- ♦ Rigging Department Manager at ProtocolGames
- ♦ Master's Degree in Advanced 3D Production (Generalist 3D)
- ♦ Autodesk Certificate for finalist in The Rookie

**Mr. Bosque, Roger**

- ♦ Rigging TD
- ♦ Rigging Technical Director
- ♦ Producer, Rigger and animation specialist
- ♦ Degree in 3D animation at L'Idem in Barcelona

**Ms. Juan Mompó, Rut**

- ♦ 3D Rigging Artist
- ♦ Junior Character Rigger
- ♦ Technical Character Artist
- ♦ Master's Degree in 3D Animation
- ♦ Bachelor of Fine Arts
- ♦ Bachelor of Digital Arts

**Mr. Vera, Víctor**

- ♦ CFX Creature TD
- ♦ Mid CFX Creature TD
- ♦ Junior Creature TD
- ♦ 3D Rigger - Freelance
- ♦ Master's Degree in 3D Infoarchitecture and Interior Design
- ♦ Professional Master's Degree in 3D and Visual Effects



*A unique, essential and decisive learning experience to boost your professional development”*



09

# Certificate

This Professional Master's Degree in Design and Creation of 3D Characters for Animation and Video Games guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Professional Master's Degree 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 private qualification will allow you to obtain a diploma for the **Professional Master's Degree in Design and Creation of 3D Characters for Animation and Video Games** 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.

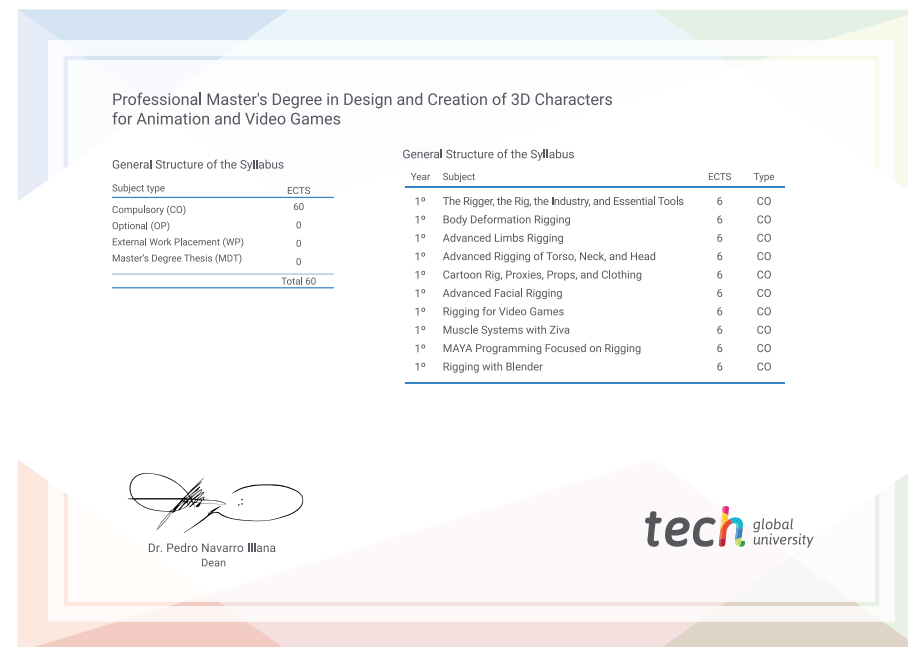
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Professional Master's Degree in Design and Creation of 3D Characters for Animation and Video Games**

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





**Professional Master's  
Degree**  
Design and Creation of 3D  
Characters for Animation  
and Video Games

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

# Professional Master's Degree

Design and Creation of 3D  
Characters for Animation  
and Video Games

