

# Postgraduate Diploma 3D Creature Modeling





## Postgraduate Diploma 3D Creature Modeling

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

Website: [www.techtitute.com/in/videogames/postgraduate-diploma/postgraduate-diploma-3d-creature-modeling](http://www.techtitute.com/in/videogames/postgraduate-diploma/postgraduate-diploma-3d-creature-modeling)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

Video games are often based on fictional worlds. For this reason, they have extravagant creatures that accompany the hero or, on the contrary, are the great villains and enemies to be defeated. Fantasy titles tend to exploit this idea much more, so the "monsters" are more fearsome and elaborate. Regardless of the genre, the modeling of these beings is hard work that requires a lot of creativity and skill. In this program, the programmers or designers will find all the tools and tricks they need to master this art, being able to position themselves as a specialist on a par with the greats of the sector.





“

*Create the next video game  
Nemesis by learning how to  
model 3D creatures”*

Modeling a human body in 3D is a job that requires precision and anatomical knowledge, but transferring that knowledge to fictional creatures requires a lot of skill and creativity. Each of these beings has special and complex characteristics, often having to design the skeleton and muscles from scratch.

Thus, and taking into account the importance of this task, this Postgraduate Diploma has been designed, which will allow the student to create creatures from scratch, starting from different reference models such as the anatomical structure of animals. All the contents will be available in an online program, which greatly facilitates the study work of professionals who are currently working in other activities, but who are eager to start specializing in the sector.

On the other hand, the didactic material of the program will allow to deepen in the development of a rig in Maya, to animate a 3D model, as well as to take the knowledge of ZBrush to Blender, a computer program dedicated to modeling, lighting, rendering and animating different graphic compositions.

This **Postgraduate Diploma in 3D Creature Modeling** contains the most complete and up-to-date program on the market. Its most notable features are:

- ◆ The development of case studies presented by experts in 3D modeling
- ◆ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Chocobos, Pokémon or the mythical Spyro. Learn all the modeling secrets behind the main creatures of the video game world"*

“

*It is imperative that you control creature modeling if you want to succeed in the video game industry”*

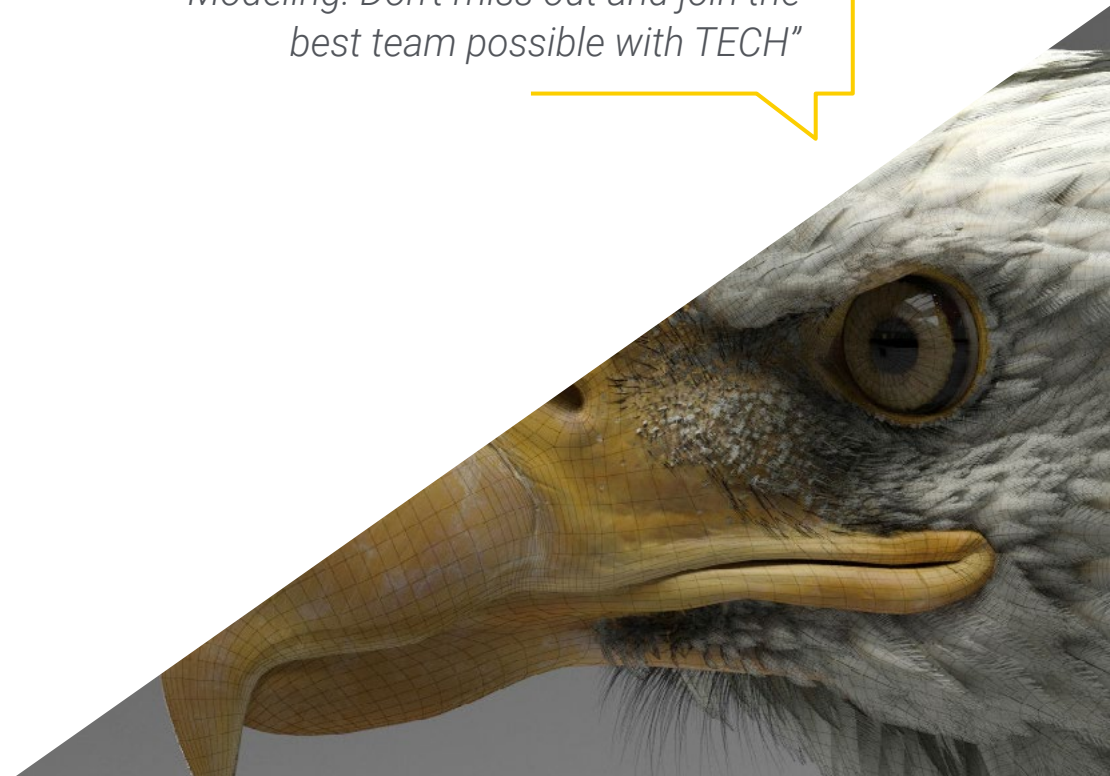
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 immersive 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will make your own models look immensely better thanks to the advanced techniques you will learn in this program”*

*You have in your hand the opportunity to reach the top of 3D Creature Modeling. Don't miss out and join the best team possible with TECH”*



# 02

# Objectives

The main objective of this program is to provide its students with the best tools and cutting-edge techniques of 3D modeling in videogames, oriented to recreate the most incredible creatures. Thanks to this expertise, the students will be able to improve not only their professional quality, but also their own labor status, gaining access to positions of greater responsibility or rank and increasing their economic retribution. Therefore, this program focuses on the professional and personal improvement of the student in the 3D video game design sector.







“

*If your professional goal is to push yourself significantly in the world of video games, with TECH you will go even further than you imagine”*



## General Objectives

- ◆ Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- ◆ Master the retopology, UVs and texturing to perfect the models created
- ◆ Create an optimal and dynamic workflow to work more efficiently with 3D modeling
- ◆ Have the skills and knowledge most in demand in the 3D industry to be able to apply for the best jobs.



*You will be able to perfectly recreate fearsome enemies or endearing companions. You choose your own path with this TECH Postgraduate Diploma”*





## Specific Objectives

---

### Module 1 Creature Modeling

- ◆ Learn the modeling of different types of animal anatomy
- ◆ Review the different types of reptiles and how to create scales with *Displacement* Maps and Alphas
- ◆ Investigate how to export models to Mari for realistic texturing
- ◆ Learn more about *Grooming* and how to Groom animals with Xgen
- ◆ Render models in Arnold Render in Maya

### Module 2 Rendering, Lighting and Posing of Models

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

### Module 3 Blender: a new twist in the industry

- ◆ Outstanding software performance
- ◆ Transfer knowledge of Maya and ZBrush to Blender to create amazing models
- ◆ Delve into Blender's node system to create different shaders and materials
- ◆ Render Blender practice models with the two types of render engines Eevee and Cycles



# 03

## Course Management

The professionals in charge of elaborating all the didactic material offered in this Postgraduate Diploma have the necessary knowledge base to teach the student the best techniques and procedures for 3D Creature Modeling. The student can benefit from the experience of professionals already versed in the industry to learn the current demands of 3D video game design departments and meet them in an elegant and effective way.



“

*Take advantage of this TECH Postgraduate Diploma to learn from professionals who understand what you are looking for and want to see you succeed by modelling the most impressive video game creatures”*

## Management



### Ms. Gómez Sanz, Carla

- ◆ 3D Generalist at Blue Pixel 3D
- ◆ Concept Artist, 3D Modeler, Shading in Timeless Games Inc.
- ◆ Collaboration with multinational consulting firm for the design of vignettes and animation for commercial proposals
- ◆ Advanced Technician in 3D Animation, video games and interactive environments at CEV School of Communication, Image and Sound.
- ◆ Master's Degree and Bachelor's Degree in 3D Art, Animation and Visual Effects for video games and cinema at CEV School of Communication, Image and Sound.



# 04

# Structure and Content

The entire content of this program is available to the students from the first day of the course, so that they can immediately study the modeling subjects that interest them most, even choosing the order in which they study them. In TECH it is the students who have total control over their study time, being able to adapt it to their own pace of life. Thanks to innovative and creative content, the student is guaranteed a more prosperous working future at the forefront of 3D design of the best video game creatures.







“

*You won't find anywhere else such complete and focused training material for your professional improvement as a 3D creature designer”*

## Module 1. Creature Modeling

- 1.1. Understanding Animal Anatomy
  - 1.1.1. Study of the Bones
  - 1.1.2. Proportions of an Animal Head
  - 1.1.3. Anatomic Differences
- 1.2. Anatomy of the Skull
  - 1.2.1. Animal Face
  - 1.2.2. Muscles of the Head
  - 1.2.3. Skin Layer, Over Bones and Muscles
- 1.3. Anatomy of the Spine and Thoracic Cage
  - 1.3.1. Animal Torso and Hip Musculature
  - 1.3.2. Central Axis of its Body
  - 1.3.3. Creation of Torsos in Different Animals
- 1.4. Animal Musculature
  - 1.4.1. Muscle
  - 1.4.2. Synergy Between Muscles and Bones
  - 1.4.3. Shapes of an Animal Body
- 1.5. Reptiles and Amphibians
  - 1.5.1. Reptilian Skin
  - 1.5.2. Small Bones and Ligaments
  - 1.5.3. Fine Detail
- 1.6. Mammals
  - 1.6.1. Fur
  - 1.6.2. Larger, Stronger Bones and Ligaments
  - 1.6.3. Fine Detail
- 1.7. Animals with Feathers
  - 1.7.1. Plumage
  - 1.7.2. Elastic and Light Bones and Ligaments
  - 1.7.3. Fine Detail
- 1.8. Analysis of the Jaw and Creation of Teeth
  - 1.8.1. Animal Specific Teeth
  - 1.8.2. Detailing of Teeth
  - 1.8.3. Teeth in the Jaw Cavity

- 1.9. Creation of Fur, Fur for Animals
  - 1.9.1. Xgen in Maya: *Grooming*
  - 1.9.2. Xgen: Feathers
  - 1.9.3. Render
- 1.10. Fantastic Animals
  - 1.10.1. Fantastic Animal
  - 1.10.2. Complete Modeling of the Animal
  - 1.10.3. Texturing, Lighting and Rendering

## Module 2 Rendering, Lighting and Posing of Models

- 2.1. Characters Posing in ZBrush
  - 2.1.1. Rig in ZBrush with ZSpheres
  - 2.1.2. Transpose Master
  - 2.1.3. Professional Finish
- 2.2. Rigging and Weighting of our Own Skeleton in Maya
  - 2.2.1. Rig in Maya
  - 2.2.2. Rigging Tools with Advanced Skeleton
  - 2.2.3. Rig Weighting
- 2.3. *Blend Shapes* to Give Life to Your Character's Face
  - 2.3.1. Facial Expressions
  - 2.3.2. *Blend Shapes* of Maya
  - 2.3.3. Animation with Maya
- 2.4. Mixamo, a Quick Way to Present Our Model
  - 2.4.1. Mixamo
  - 2.4.2. Mixamo Rigs
  - 2.4.3. Animations
- 2.5. Lighting Concepts
  - 2.5.1. Lighting Techniques
  - 2.5.2. Light and Color
  - 2.5.3. Shade

- 2.6. Arnold Render Lights and Parameters
    - 2.6.1. Lights with Arnold and Maya
    - 2.6.2. Lighting Control and Parameters
    - 2.6.3. Arnold Parameters and Configuration
  - 2.7. Lighting of our Models in Maya with Arnold Render
    - 2.7.1. Lighting *Set Up*
    - 2.7.2. Model Lighting
    - 2.7.3. Mixing Light and Color
  - 2.8. Going Deeper in Arnold: Denoising and the Different AOV's
    - 2.8.1. AOV's
    - 2.8.2. Advanced Noise Treatment
    - 2.8.3. Denoiser
  - 2.9. Real-Time Rendering in Marmoset Toolbag
    - 2.9.1. *Real-Time* vs. Ray Tracing
    - 2.9.2. Advanced Marmoset Toolbag
    - 2.9.3. Professional Presentation
  - 2.10. Post-Production Rendering in Photoshop
    - 2.10.1. Image Processing
    - 2.10.2. Photoshop: Levels and Contrasts
    - 2.10.3. Layers: Characteristics and their Effects
- Module 3** Blender: a new twist in the industry
- 3.1. Blender vs. ZBrush
    - 3.1.1. Advantages and Differences
    - 3.1.2. Blender and the 3D Art Industry
    - 3.1.3. Advantages and Disadvantages of Freeware
  - 3.2. Blender Interface and Program Knowledge
    - 3.2.1. Interface
    - 3.2.2. Customization
    - 3.2.3. Experimentation
  - 3.3. Head Sculpting and Transpolation of Controls from ZBrush to Blender
    - 3.3.1. The Human Face
    - 3.3.2. 3D Sculpting
    - 3.3.3. Blender Brushes
  - 3.4. Full Body Sculpting
    - 3.4.1. The Human Body
    - 3.4.2. Advanced Techniques
    - 3.4.3. Detail and Refinement
  - 3.5. Retopology and UVs in Blender
    - 3.5.1. Retopology
    - 3.5.2. UVs
    - 3.5.3. Blender UDIMs
  - 3.6. From Maya to Blender
    - 3.6.1. Hard Surface
    - 3.6.2. Modifiers
    - 3.6.3. Keyboard Shortcuts
  - 3.7. Blender Tips & Tricks
    - 3.7.1. Range of Possibilities
    - 3.7.2. *Geometry Nodes*
    - 3.7.3. Workflow
  - 3.8. Nodes in Blender: Shading and Texture Placement
    - 3.8.1. Nodal System
    - 3.8.2. Shaders Through Nodes
    - 3.8.3. Textures and Materials
  - 3.9. Rendering in Blender with Cycles and Eevee
    - 3.9.1. Cycles
    - 3.9.2. Eevee
    - 3.9.3. Lighting
  - 3.10. Implementation of Blender in our Workflow as Artists
    - 3.10.1. Implementation in the Workflow
    - 3.10.2. Search for Quality
    - 3.10.3. Types of Exports

0?

# 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.*



### 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 student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Over the course of 4 years, you will be presented with multiple practical case studies. You will have to combine all your knowledge, and research, argue, and defend your ideas and decisions.

## Relearning Methodology

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

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.





In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

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



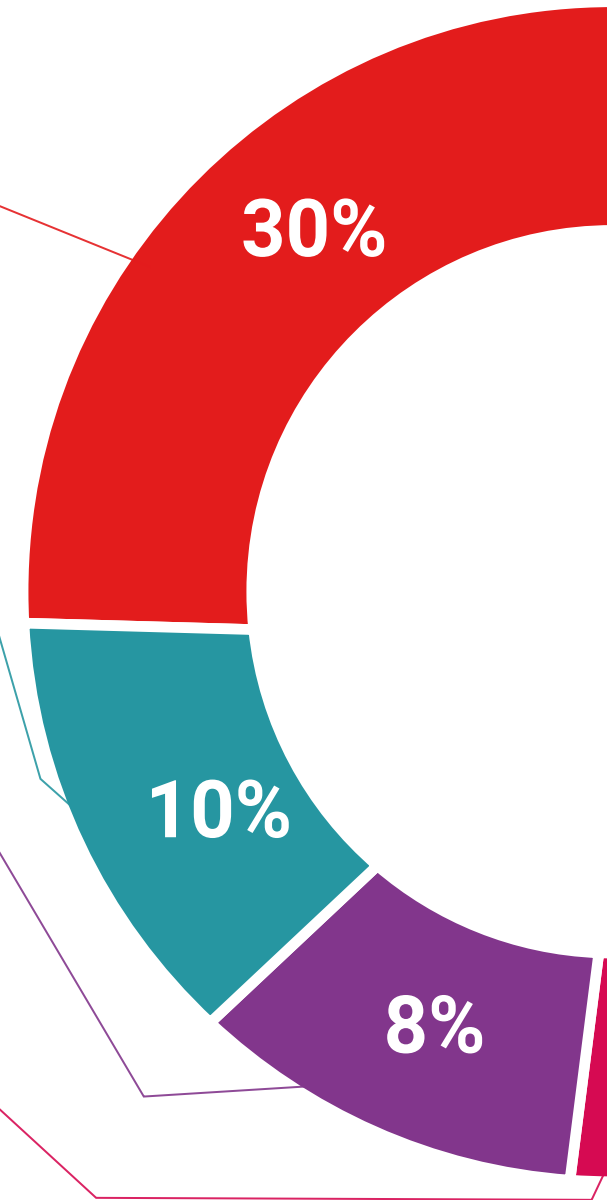
### Practising Skills and Abilities

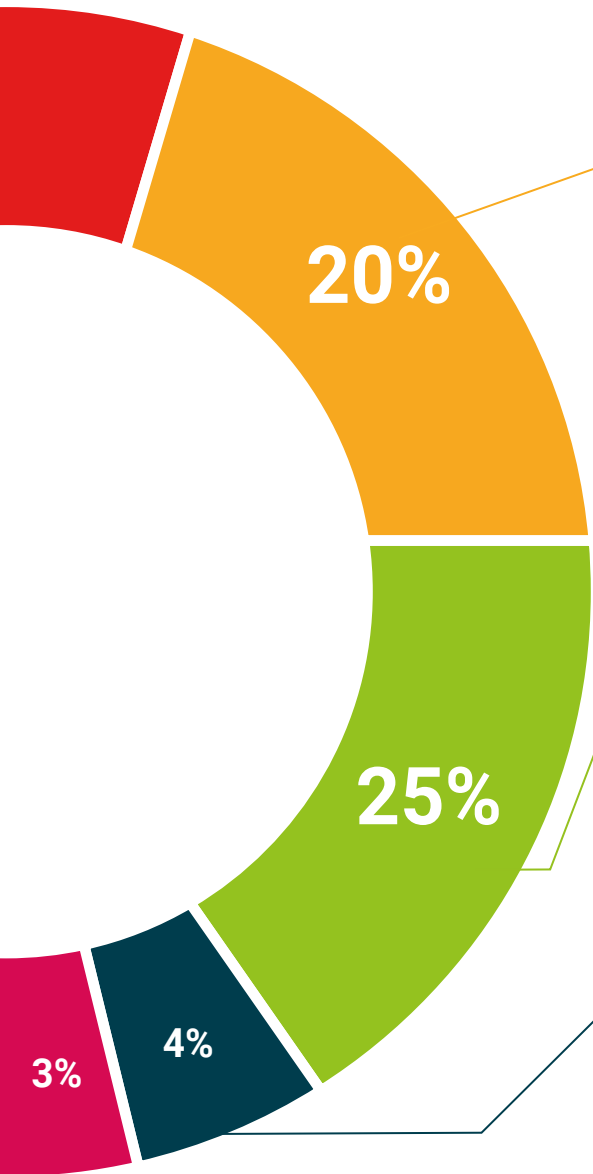
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization we live in.



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



# 06 Certificate

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



“

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

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

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

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly required by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in 3D Creature Modeling**

Official Number of Hours: **450 h.**



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

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development language  
virtual classroom

**tech** technological  
university

## Postgraduate Diploma 3D Creature Modeling

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

# Postgraduate Diploma 3D Creature Modeling

