

# 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/us/design/postgraduate-diploma/postgraduate-diploma-3d-creature-modeling](http://www.techtitute.com/us/design/postgraduate-diploma/postgraduate-diploma-3d-creature-modeling)

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Certificate

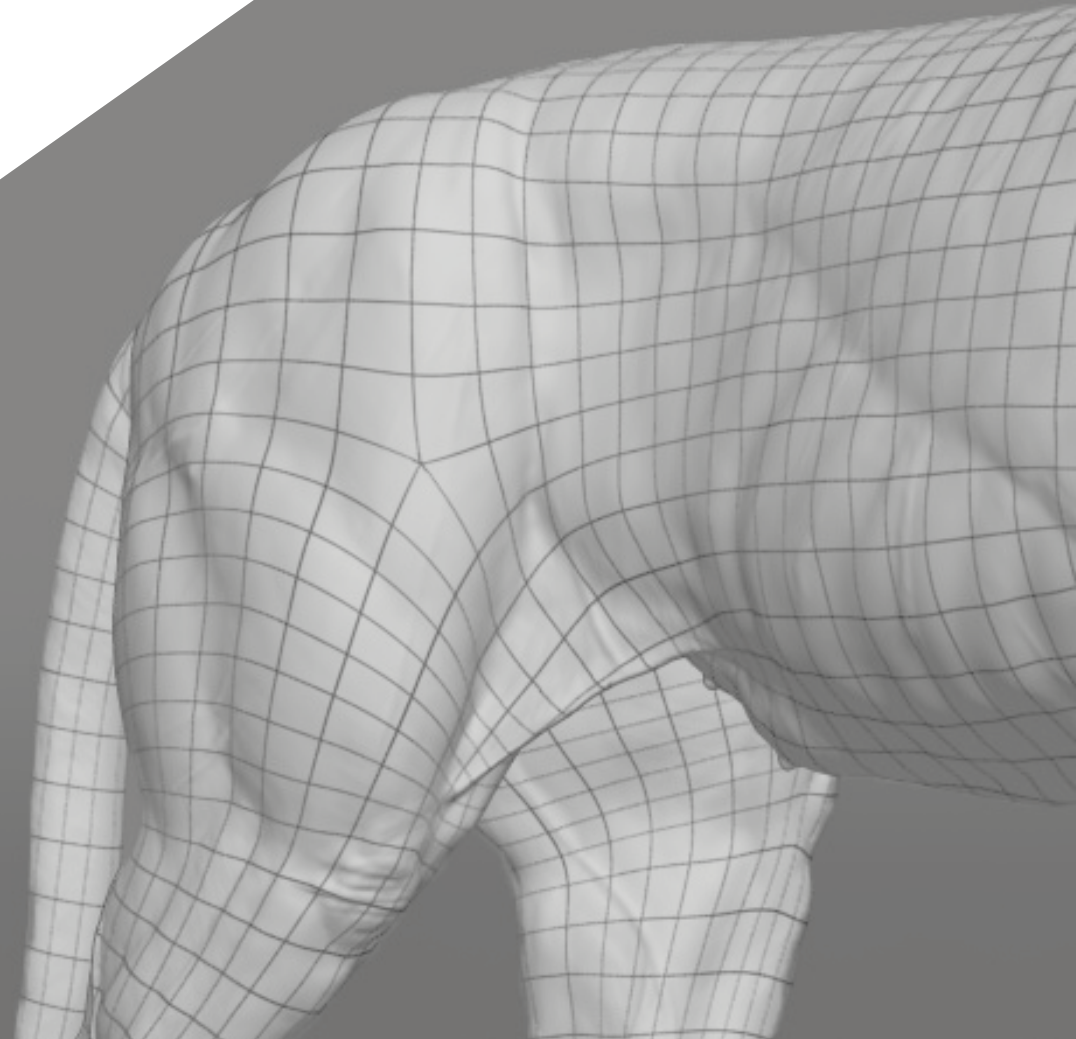
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# 01

# Introduction

Fantasy or science fiction creatures have always fascinated viewers around the world. From the terrifying dinosaurs of Jurassic Park to the fearsome dragons of Game of Thrones, 3D designers have perfected modeling techniques to implausible levels, making these creatures interact with the actors and their environment in a completely realistic way. This level of perfection is only within the reach of the most skilled designers, as the techniques for sculpting creatures are complex and require advanced knowledge. Thanks to this TECH qualification, the students will master all the most cutting-edge tools for 3D creature modeling, being able to position themselves with greater strength in the competitive sector of three-dimensional design.





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*You will be the creator of creatures that will remain in people's collective memory by endowing them with unusual realism and personality"*

If modeling a human body requires excellent skill, when this task is transferred to the realm of fantasy and fictional or real creatures, the effort is even greater, since each of these beings may have a different complexion and anatomy. This requires the design professional to be versed in extensive 3D modeling techniques, especially tools such as ZBrush or Blender, frequently used in all audiovisual fields.

Therefore, with a mastery of these tools and a suitable workflow, the students of this qualification can create creatures of the utmost complexity, giving them personality through sophisticated quality and attention to detail. With this set of skills, the graduate will be much better prepared to tackle larger design projects involving creatures of any kind.

Thanks to TECH's advanced methodology and the educational and professional quality of the teachers, students will be accompanied at all times during the program. The whole team behind the program is involved in the students getting the most out of each theoretical content, so they will be more than willing to solve any kind of doubt related to 3D Creature Modeling.

Additionally, the 100% online nature of the qualification, which greatly facilitates the student's study work, must be added to all this. There are no classes or classroom attendance, but the students themselves can download all the theoretical content from the first day and adjust it to their own pace of life or personal responsibilities.

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

- ◆ The development of case studies presented by experts in 3D modeling
- ◆ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where 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



*You will find the quintessence of 3D modeling in this Postgraduate Diploma, explained in a pleasant and agile way"*

“

*With no pressure to complete a final project or attend online or on-site classes, you'll have the freedom you want to pursue this qualification as you choose"*

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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Don't miss out on this great opportunity to launch your design career to new heights and enroll today with TECH Technological University.*

*If Gollum or Dobby surprised you in their day, you will be able to surpass them thanks to the advanced knowledge of this program.*



# 02 Objectives

This program aims to achieve the highest possible excellence and professionalism for its students in the field of design, providing them with the best techniques in creature modeling so that they are able to surprise the public and the industry itself with their creations. In this way, students are guaranteed an improvement in their work methodology and a substantial improvement in their professional performance, which will undoubtedly have a positive impact on their artistic career.





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*You have very clear career goals. TECH helps you achieve them by putting you in the focus of the qualification, with the freedom and convenience you need to succeed"*



## General Objectives

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- ◆ Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- ◆ Master 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 design creatures as fearsome and mysterious as the Nazgûl from The Lord of the Rings, making you a standard setter in the field of 3D design and modelling”*





## Specific Objectives

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### Module 1. Creature Modeling

- ◆ Learn the modelling 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

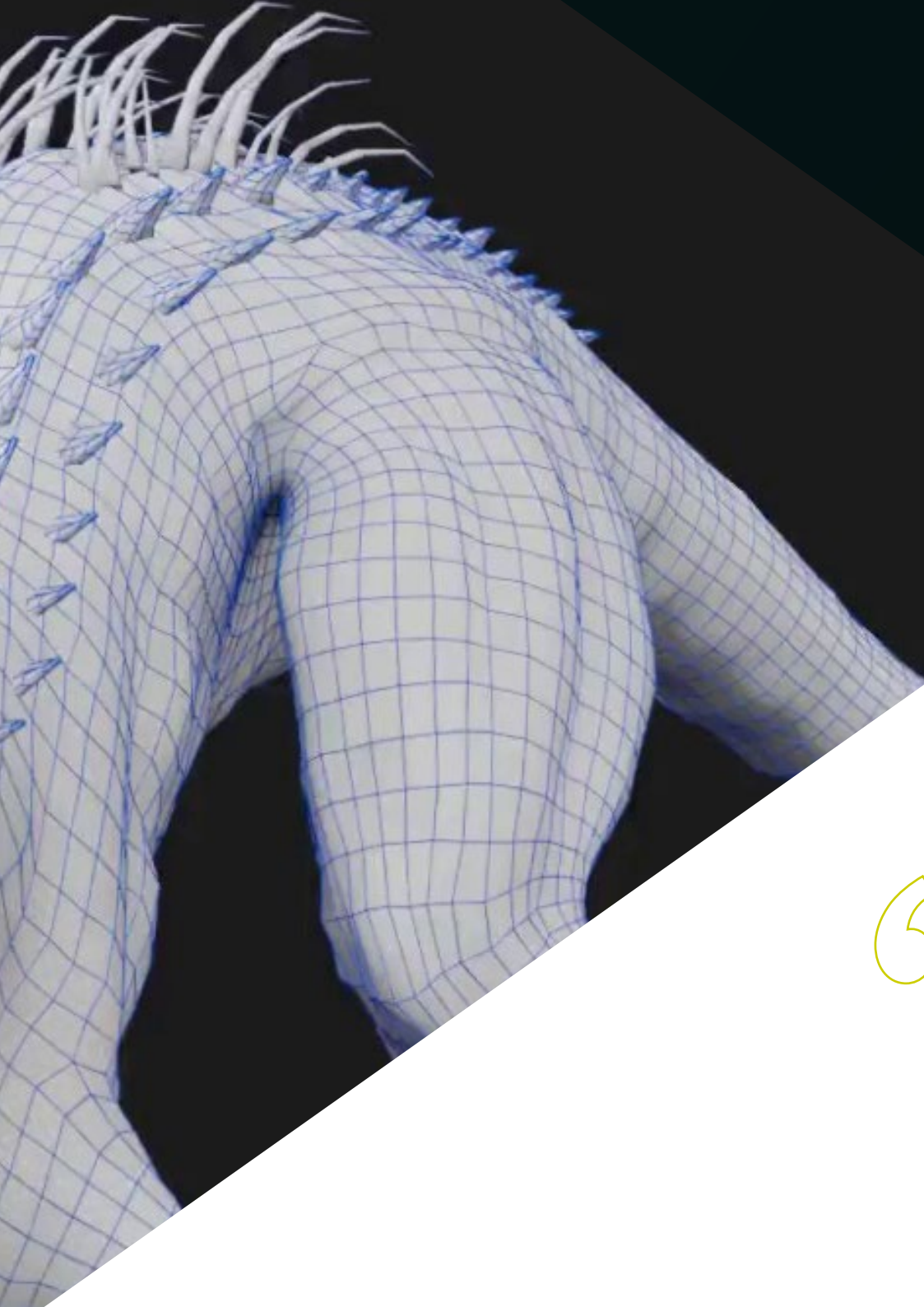
- ◆ Outstanding software performance
- ◆ Transfer knowledge of Maya and ZBrush to Blender to create amazing models
- ◆ Delve into Blender's node system to create different shaders and materials
- ◆ Render Blender practice models with the two types of render engines Eevee and Cycles

# 03

## Course Management

The staff in charge of writing all the theoretical content of this Postgraduate Diploma has been carefully selected by TECH for their excellence in the field of 3D design, especially focused on the creation of both fictional and real creatures. Thanks to the experience of the faculty, the students are getting all the knowledge from the hand of designers like themselves, who know what their career needs to take off and achieve the desired professional success.





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*You will have at your disposal a professional team that will give everything to make you feel fulfilled by creating the most beautiful and majestic 3D 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 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

With the innate complication of the subject matter, this Postgraduate Diploma in 3D Creature Modeling has been created following an innovative educational methodology in which the student is the center of the teaching. As a result, the students will learn complex 3D creature modeling techniques through a practical and contextual instruction, full of examples in which they will be able to see in situ how to apply all the theory they have learned.







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*Take the professional leap you deserve and enroll today in the Postgraduate Diploma in 3D Creature Modeling to add that extra professionalism you are looking for in your résumé”*

## 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



*You're in the right place to learn how to create creatures as memorable as Groot"*

# 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.





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*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.

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*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 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.

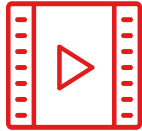
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



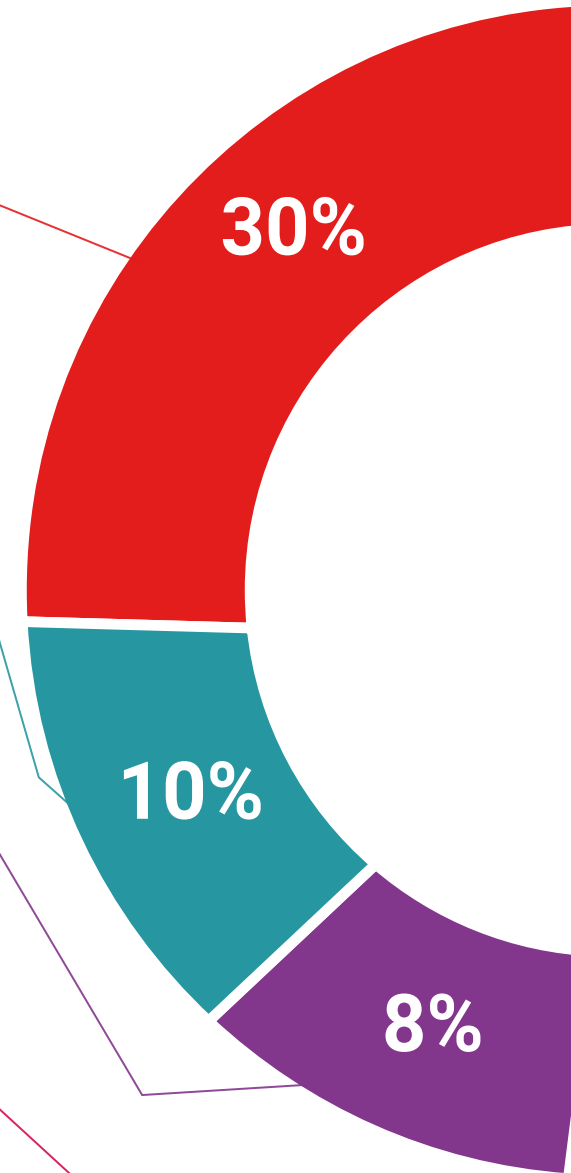
### Practising Skills and Abilities

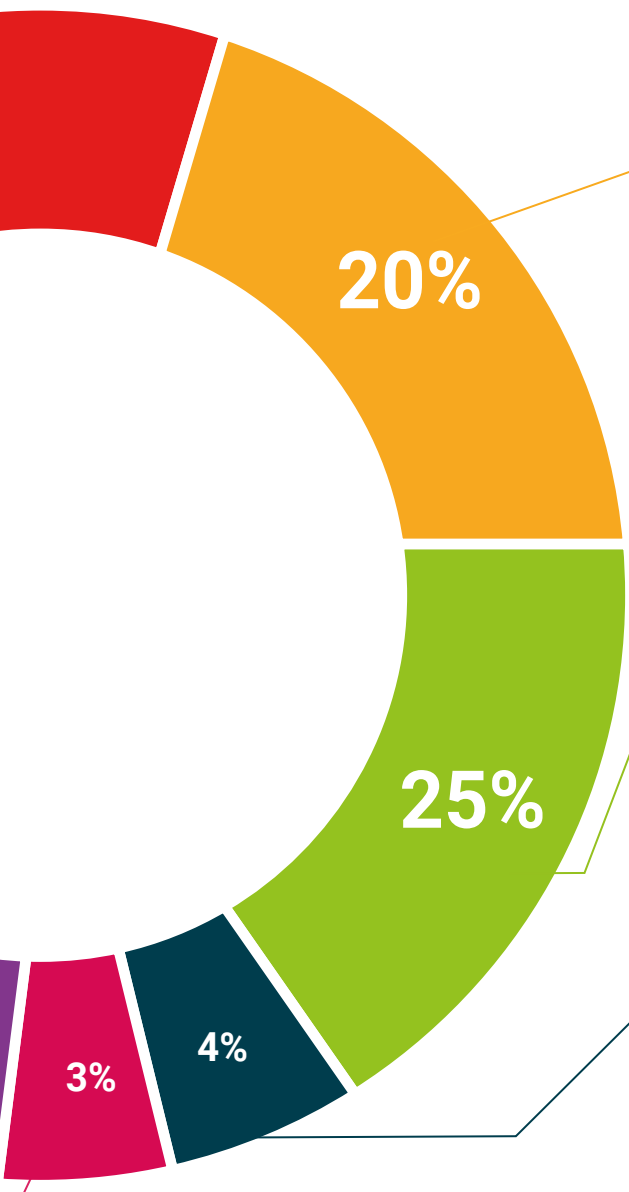
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.



# 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.



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

This **Postgraduate Diploma 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 Diploma** issued by **TECH Technological University** via tracked delivery\*.

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

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

Official N° of hours: **450 h.**



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

future

health

confidence people

education

information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service

innovation

knowledge

present quality

online training

development

language

classroom

**tech** technological  
university

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