

# Postgraduate Diploma Advanced 3D for Animation





## Postgraduate Diploma Advanced 3D for Animation

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

Website: [www.techtitute.com/pk/design/postgraduate-diploma/postgraduate-diploma-advanced-3d-animation](http://www.techtitute.com/pk/design/postgraduate-diploma/postgraduate-diploma-advanced-3d-animation)

# 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

Animation is one of the branches of the design profession. This is a complex, broad and changing area, but one in which any specialist can undoubtedly find a niche through a thorough knowledge of its specifications and the use of its tools. In conclusion, there is nothing that you cannot achieve with the course of this program offered by TECH. It is a novel and austere degree that gathers all the information that the graduate needs to become an expert in this field. For this, you will have 450 hours of the best content presented in a convenient and accessible 100% online format, with which you will be able to perfect your professional skills in 3D project management in less than 6 months.





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*The 3D Animation sector has not yet reached its peak. Do you want to be part of the group of professionals who have already jumped on the bandwagon of progress and success? Choose this program and get it"*

Design encompasses multiple professional opportunities, among which animation stands out. Thanks to the advance of new technologies and the development of increasingly specific and specialized tools and software, today it is possible to create incredible projects from anywhere and without the need to invest long working days as in the past.

However, this requires a detailed knowledge of the industry, as well as the latest creative strategies, something that the graduate will be able to work on with the course of this Postgraduate Diploma in Advanced 3D for Animation. TECH and its team of experts have included in this program the most innovative and austere information, developed based on the pedagogical methodology that is achieving the best academic results.

Through 450 hours of theoretical, practical and additional material, you will delve into the intricacies of art and 3D in the video game industry, as well as advanced strategies for mastering techniques such as Texturing, Sculpting or the use of Polypaint. In addition, it also focuses on the handling of the most important software for animation.

All this, through the best 100% online content, which will be available in the Virtual Classroom from the beginning of the academic activity. This will make it possible for the graduate to organize the experience based on his or her absolute availability, being able to choose when and from where to connect, without schedules or face-to-face classes. It is, therefore, a fantastic opportunity to implement into your practice the technical requirements to consider yourself a true 3D animation expert.

This **Postgraduate Diploma in Advanced 3D for Animation** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in Video Games and Video Technologies
- ◆ 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
- ◆ Special emphasis on 3D modeling and animation in virtual environments
- ◆ 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



*Large audiovisual companies such as Sony or Pixar demand the presence in their staffs of professionals versed in advanced 3D. Would you like to be selected next?"*



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*This Postgraduate Diploma includes a specific module dedicated to the mastery of advanced 3D modeling techniques, so that you will know in detail the keys to create avant-garde and specialized projects"*

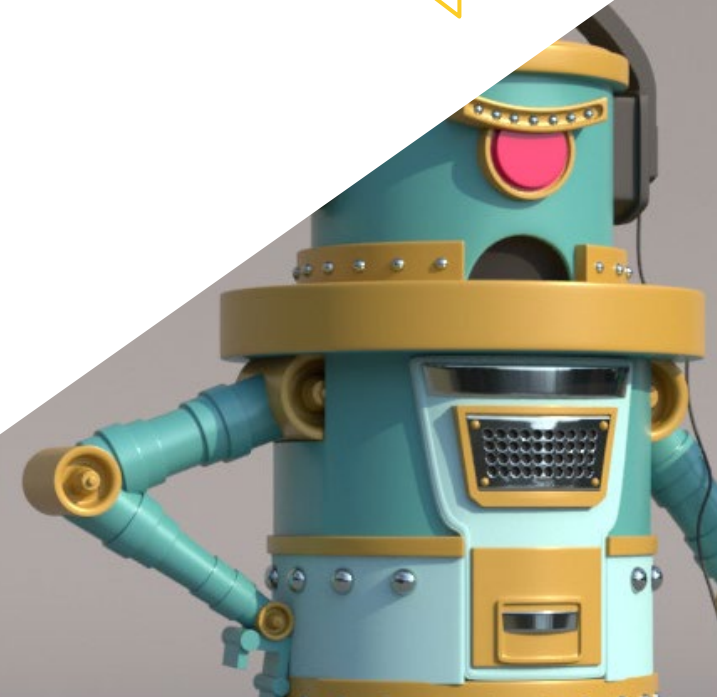
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*A program that combines the dynamism of modern and up-to-date training with the austerity and absolute professionalism of the animation sector.*

*You will work with the latest academic tools, being able to perfect your skills in the creation of scenarios and assets in a practical and immersive way.*



# 02 Objectives

TECH develops all of its degrees always thinking that its students can get the most out of them. For this reason, the objective of this program is to provide the graduate with the knowledge he or she needs to become a true 3D animation expert. It will provide you with the best academic tools in the university sector and allow you to adapt the experience to your availability and pace.





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*Without schedules or on-site classes, in less than 6 months you will have become an expert in Advanced 3D for Animation”*



## General Objectives

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- ◆ Generate specialized knowledge in Virtual Reality
- ◆ Determine assets , characters and Virtual Reality integration
- ◆ Analyze the importance of audio in video games
- ◆ Use the ZBrush program for 3D sculpting
- ◆ Develop organic modeling and retopology techniques
- ◆ Finalize 3D characters for portfolios
- ◆ Animate biped and quadruped 3D characters
- ◆ Discover 3D Rigging
- ◆ Analyze the importance of the animator's body movement in order to have animation references





## Specific Objectives

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### Module 1. Art and 3D in the Video Game Industry

- ◆ Examine 3D mesh creation and image editing software
- ◆ Analyze the possible problems and resolution in 3D VR projects
- ◆ Be able to define the aesthetic line for the generation of the artistic style of a video game
- ◆ Determine the reference sites for the search for aesthetics
- ◆ Assess the time constraints for the development of an artistic style
- ◆ Produce assets and integrate them into a scenario
- ◆ Create characters and integrate them into a scenario
- ◆ Value the importance of audio and sounds of a video game

### Module 2. Advanced 3D

- ◆ Master the most advanced 3D modeling techniques
- ◆ Develop the necessary knowledge for 3D texturing
- ◆ Export objects for 3D and Unreal Engine software
- ◆ Specialize students in digital sculpture
- ◆ Analyze the different digital sculpting techniques
- ◆ Research character retopology
- ◆ Examine how to pose a character to loosen the 3D model
- ◆ Refine our work with advanced high-polygon modeling techniques

### Module 3. 3D Animation

- ◆ Develop specialized knowledge in the use of 3D animation software
- ◆ Determine the similarities and differences between a biped and a quadruped
- ◆ Develop several animation cycles
- ◆ Interiorize lipsync, rig and facial
- ◆ Analyze the differences between animation made for film and for video games
- ◆ Develop customized skeletons
- ◆ Master camera and shot composition



*Whatever your goals are, TECH will provide you with everything you need to not only achieve them, but exceed”*

# 03

## Course Management

One of TECH's priorities is always to form a teaching team that can help graduates in their specialization. For this, it is necessary that they have a detailed knowledge of the sector, something they will be able to do with the help of the group of professionals that this university has selected for the direction and faculty of the Postgraduate Diploma. They are experts in the area of design with years of experience in the management of successful projects who will also be available to answer any questions that may arise during the course of this academic experience.







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*The teaching staff will be at your disposal to answer any questions you may have during the course of this academic experience”*



## Management



### Mr. Ortega Ordóñez, Juan Pablo

- ♦ Director of Engineering and Gamification Design for the Intervenía Group
- ♦ Professor at ESNE of Video Game Design, Level Design, Video Game Production, Middleware, Creative Media Industries, etc
- ♦ Advisor in the foundation of companies such as Avatar Games or Interactive Selection
- ♦ Author of the book Video Game Design
- ♦ Member of the Advisory Board of Nima World

## Professors

### Dr. Pradana Sánchez, Noel

- ♦ Specialist in Rigging and 3D Animation for videogames
- ♦ 3D Graphic Artist at Dog Lab Studios
- ♦ Producer at Imagine Games leading the video game development team
- ♦ Graphic artist at Wildbit Studios with 2D and 3D works.
- ♦ Teaching experience in ESNE and in the CFGS in 3D Animation: games and educational environments
- ♦ Master's Degree in Video Game Design and Development from ESNE University
- ♦ Master's Degree for Teachers by URJC
- ♦ Specialist in Rigging and 3D Animation Voxel School



# 04

## Structure and Content

The teaching team has been working for months to create an austere, dynamic and highly empowering degree program. Thanks to this, TECH can offer this Postgraduate Diploma as a unique academic opportunity to enjoy 450 hours of the best theoretical, practical and additional content. In addition, its convenient 100% online format allows you to access the Virtual Classroom from any device with an internet connection and enjoy this experience based on your availability.







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*You will be provided with case studies to perfect your creative skills as you progress through the course of this Postgraduate Diploma"*

## Module 1. Art and 3D in the Video Game Industry

- 1.1. 3D VR Projects
  - 1.1.1. 3D Mesh Creation Software
  - 1.1.2. Image Editing Software
  - 1.1.3. Virtual Reality
- 1.2. Typical Problems, Solutions and Project Needs
  - 1.2.1. Project Needs
  - 1.2.2. Possible Problems
  - 1.2.3. Solutions
- 1.3. Aesthetic Line Study for the Artistic Style Generation in Video Games: From Game Design to 3D Art Generation
  - 1.3.1. Video Game Target Choice. Who Do We Want to Reach?
  - 1.3.2. Developer's Artistic Possibilities
  - 1.3.3. Final Definition of the Aesthetic Line
- 1.4. Aesthetic Benchmarking and Competitor Analysis
  - 1.4.1. Pinterest and Similar Sites
  - 1.4.2. Modelsheet Creation
  - 1.4.3. Competitor Search
- 1.5. Bible Creation and Briefing
  - 1.5.1. Bible Creation
  - 1.5.2. Bible Development
  - 1.5.3. Briefing Development
- 1.6. Scenarios and Assets
  - 1.6.1. Production Asset Planning at Production Levels
  - 1.6.2. Scenario Design
  - 1.6.3. Asset Design
- 1.7. Asset Integration in Levels and Tests
  - 1.7.1. Integration Process at All Levels
  - 1.7.2. Texture.
  - 1.7.3. Final Touches
- 1.8. Characters
  - 1.8.1. Character Production Planning
  - 1.8.2. Character Design
  - 1.8.3. Character Asset Design

- 1.9. Character Integration in Scenarios and Tests
  - 1.9.1. Character Integration Process in Levels
  - 1.9.2. Project Needs
  - 1.9.3. Animations
- 1.10. 3D Video Game Audio
  - 1.10.1. Project Dossier Interpretation for Sound Identity Generation of Video Games
  - 1.10.2. Composition and Production Processes
  - 1.10.3. Soundtrack Design
  - 1.10.4. Sound Effect Design
  - 1.10.5. Voice Design

## Module 2. Advanced 3D

- 2.1. Advanced 3D Modeling Techniques
  - 2.1.1. Interface Configuration
  - 2.1.2. Modeling Observation
  - 2.1.3. Modeling in High
  - 2.1.4. Organic Modeling for Videogames
  - 2.1.5. Advanced 3D Object Mapping
- 2.2. Advanced 3D Texturing
  - 2.2.1. Substance Painter Interfaces
  - 2.2.2. Materials, Alphas and Brush Use
  - 2.2.3. Particle Use
- 2.3. 3D Software and Unreal Engine Export
  - 2.3.1. Unreal Engine Integration in Designs
  - 2.3.2. 3D Model Integration
  - 2.3.3. Unreal Engine Texture Application
- 2.4. Digital Sculpting
  - 2.4.1. DigitalSculpting with ZBrush
  - 2.4.2. First Steps in ZBrush
  - 2.4.3. Interface, Menus and Navigation
  - 2.4.4. Reference Images
  - 2.4.5. Full 3D Modeling of Objects in ZBrush
  - 2.4.6. Base Mesh Use
  - 2.4.7. Part Modeling
  - 2.4.8. 3D Model Export in ZBrush



- 2.5. Polypaint Use
  - 2.5.1. Advanced Brushes
  - 2.5.2. Texture.
  - 2.5.3. Default Materials
- 2.6. The retology
  - 2.6.1. The retology Use in the Video Game Industry
  - 2.6.2. Low-Poly Mesh Creation
  - 2.6.3. Software Use for Rhetopology
- 2.7. 3D Model Positions
  - 2.7.1. Reference Image Viewers
  - 2.7.2. Transpose Use
  - 2.7.3. Transpose Use for Models Composed of Different Pieces
- 2.8. 3D Model Export
  - 2.8.1. 3D Model Export
  - 2.8.2. Texture Generation for Exportation
  - 2.8.3. 3D Model Configuration with the Different Materials and Textures
  - 2.8.4. Preview of the 3D Model
- 2.9. Advanced Working Techniques
  - 2.9.1. 3D Modeling Workflow
  - 2.9.2. 3D Modeling Work Process Organization
  - 2.9.3. Production Effort Estimates
- 2.10. Model Finalization and Export for Other Programs
  - 2.10.1. Workflow for Model Finalization
  - 2.10.2. Zplugging Exportation
  - 2.10.3. Possible Files. Advantages and Disadvantages.

## Module 3. 3D Animation

- 3.1. Software Operation
  - 3.1.1. Information Management and Work Methodology
  - 3.1.2. Animation
  - 3.1.3. Timing and Weight
  - 3.1.4. Animation With Basic Objects
  - 3.1.5. Direct and Inverse Cinematics
  - 3.1.6. Inverse Kinematics
  - 3.1.7. Kinematic Chain

- 3.2. Anatomy: Biped Vs. Quadruped
  - 3.2.1. Biped
  - 3.2.2. Quadruped
  - 3.2.3. Walking Cycle
  - 3.2.4. Running Cycle
- 3.3. Facial Rig and Morpher
  - 3.3.1. Facial Language. LipSync, Eyes and Focal Points
  - 3.3.2. Sequence Editing
  - 3.3.3. Phonetics. Importance
- 3.4. Applied Animation
  - 3.4.1. 3D Animation for Film and Television
  - 3.4.2. Animation for Video Games
  - 3.4.3. Animation for Other Applications
- 3.5. Motion Capture with Kinect
  - 3.5.1. Motion Capture for Animation
  - 3.5.2. Sequence of Movements
  - 3.5.3. Blender Integration
- 3.6. Skeleton, Skinning and Setup
  - 3.6.1. Interaction Between Skeleton and Geometry
  - 3.6.2. Mesh Interpolation
  - 3.6.3. Animation Weights
- 3.7. Acting
  - 3.7.1. Body Language
  - 3.7.2. Poses
  - 3.7.3. Sequence Editing
- 3.8. Cameras and Plans
  - 3.8.1. The Camera and the Environment
  - 3.8.2. Composition of the Shot and the Characters
  - 3.8.3. Finishes
- 3.9. Visual Special Effects
  - 3.9.1. Visual Effects and Animation
  - 3.9.2. Types of Optical Effects
  - 3.9.3. 3D VFX L
- 3.10. The Animator as an Actor
  - 3.10.1. Expressions
  - 3.10.2. Actors' References
  - 3.10.3. From Camera to Program

# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



“

*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

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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.*



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

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“*Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.



## Relearning Methodology

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

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

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

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

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



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

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

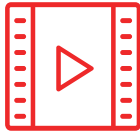
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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

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



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



### Study Material

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

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



### Classes

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

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



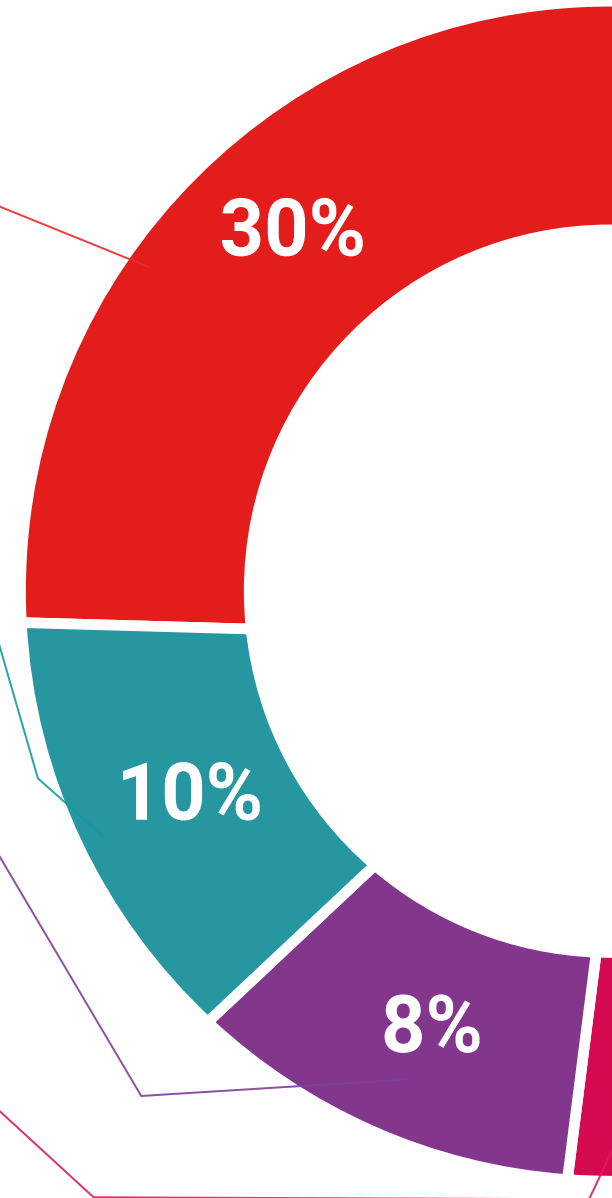
### Practising Skills and Abilities

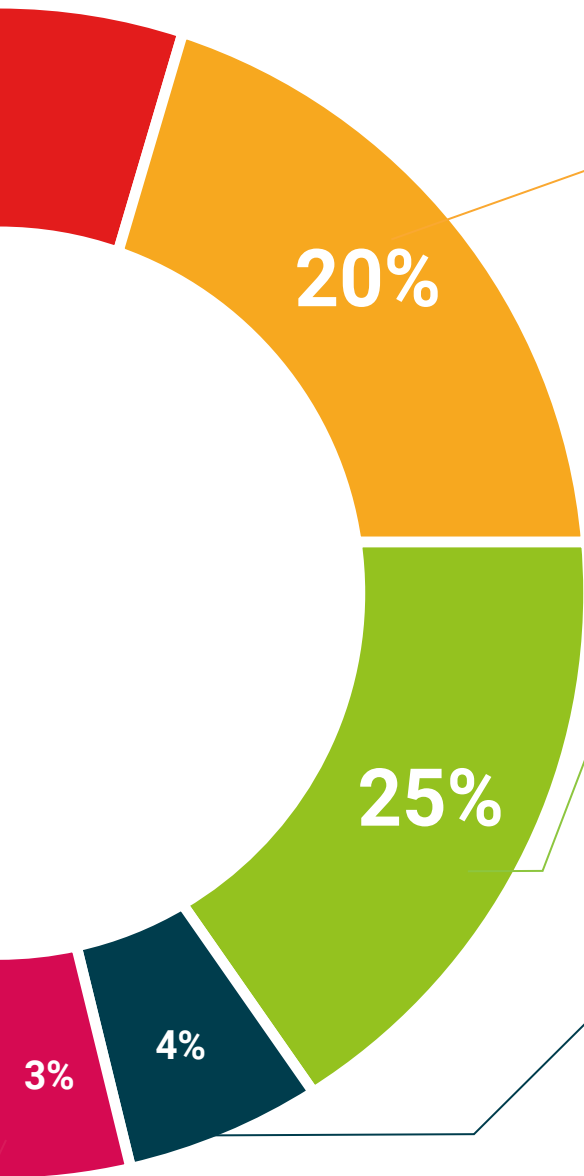
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

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





#### Case Studies

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



#### Interactive Summaries

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

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



#### Testing & Retesting

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





# 06 Certificate

The Postgraduate Diploma in Advanced 3D for Animation 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 Advanced 3D for Animation** 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 certificate 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 Advanced 3D for Video Animation**

Official N° 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 languages  
virtual classroom



## Postgraduate Diploma Advanced 3D for Animation

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

# Postgraduate Diploma

## Advanced 3D for Animation

