

Postgraduate Diploma

3D Modeling with 3D Studio Max



Postgraduate Diploma 3D Modeling with 3D Studio Max

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitude.com/us/videogames/postgraduate-diploma/postgraduate-diploma-3d-modeling-3d-studio-max

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Study Methodology

p. 22

06

Certificate

p. 32

01

Introduction

Three-dimensional modeling is one of the key factors behind the revolution in the video game graphics industry. Not long ago, we encountered two-dimensional, flatter scenes, characters, and shapes; now, screen games stand out for their stunning realistic effects, largely due to the integration of 3D design and the subsequent techniques and tools that provide a greater sense of reality to productions. 3D Studio Max is a leading program in the field of graphic design for video games and animations, and mastering it is essential for the curriculum of a professional specializing in this area. This online training combines the necessary features to learn how to handle it with skill. This online training combines the necessary features to learn how to handle it with skill.



“

Learn to perform 3D modeling with 3D Studio Max through this online training”

3D Studio Max is one of the leading programs in the creation of images, graphics, and shapes for video games due to its efficiency, speed, and simplicity, ensuring that professionals in the sector can work with quality in their designs. Therefore, specializing in its use opens a competitive advantage over professionals who do not master this software.

This Postgraduate Diploma starts with a review of the program's features, focusing on the interface, controls, and its most important settings. The study plan then focuses on recognizing all types of edits within the program to address any modeling requests.

This training also covers rendering techniques with the V-Ray engine, an Autodesk extension that enables the creation of hyper-realistic renders with proprietary materials. The user will also explore the basic settings of 3DS Max to make it work with V-Ray. Additionally, the program delves into modeling tricks that do not require changing the geometry of the object, achieving a smoother surface effect.

All of this content is available online, allowing students to organize their time and learning pace according to their professional activities. Thanks to the Relearning methodology, the educational path provides the best pedagogical resources for students to explore at their own pace and based on their available time.

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

- ♦ The development of case studies presented by experts in 3D Modeling with 3D Studio Max
- ♦ 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 the process of 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



Learn everything you need to know about 3D modeling with 3D Studio Max through this Postgraduate Diploma and specialize your resume"

“

This Postgraduate Diploma will teach you how to render models using the V-Ray engine, an Autodesk extension, enabling you to create hyper-realistic renders”

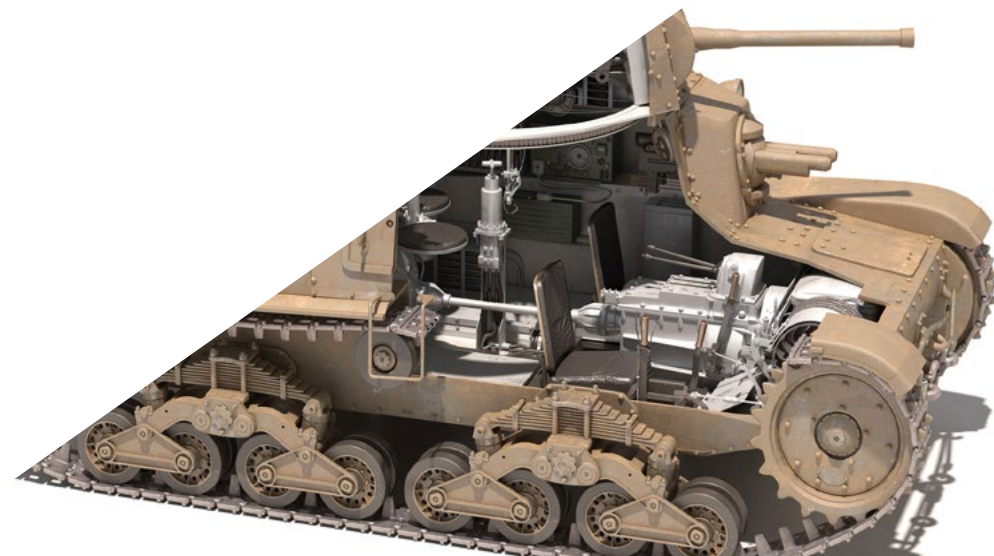
Get to know the program in depth, its settings, controls, and interface, so you can use it effectively in your professional projects.

Enjoy this fully online training and explore it at your own pace and speed.

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational 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 education programmed to learn 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.



02 Objectives

In order to offer a study plan that meets industry demands, the main goal of this Postgraduate Diploma is to learn 3D modeling with 3D Studio Max, as well as to render productions using the V-Ray engine assigned to the software. To achieve this, various objectives are set for each module of the training. The first is to master the program's features and interface; the second focuses on learning the different editing methods within the program; and finally, the third aims to provide in-depth knowledge of the V-Ray engine to create realistic renders and learn how to export textures.





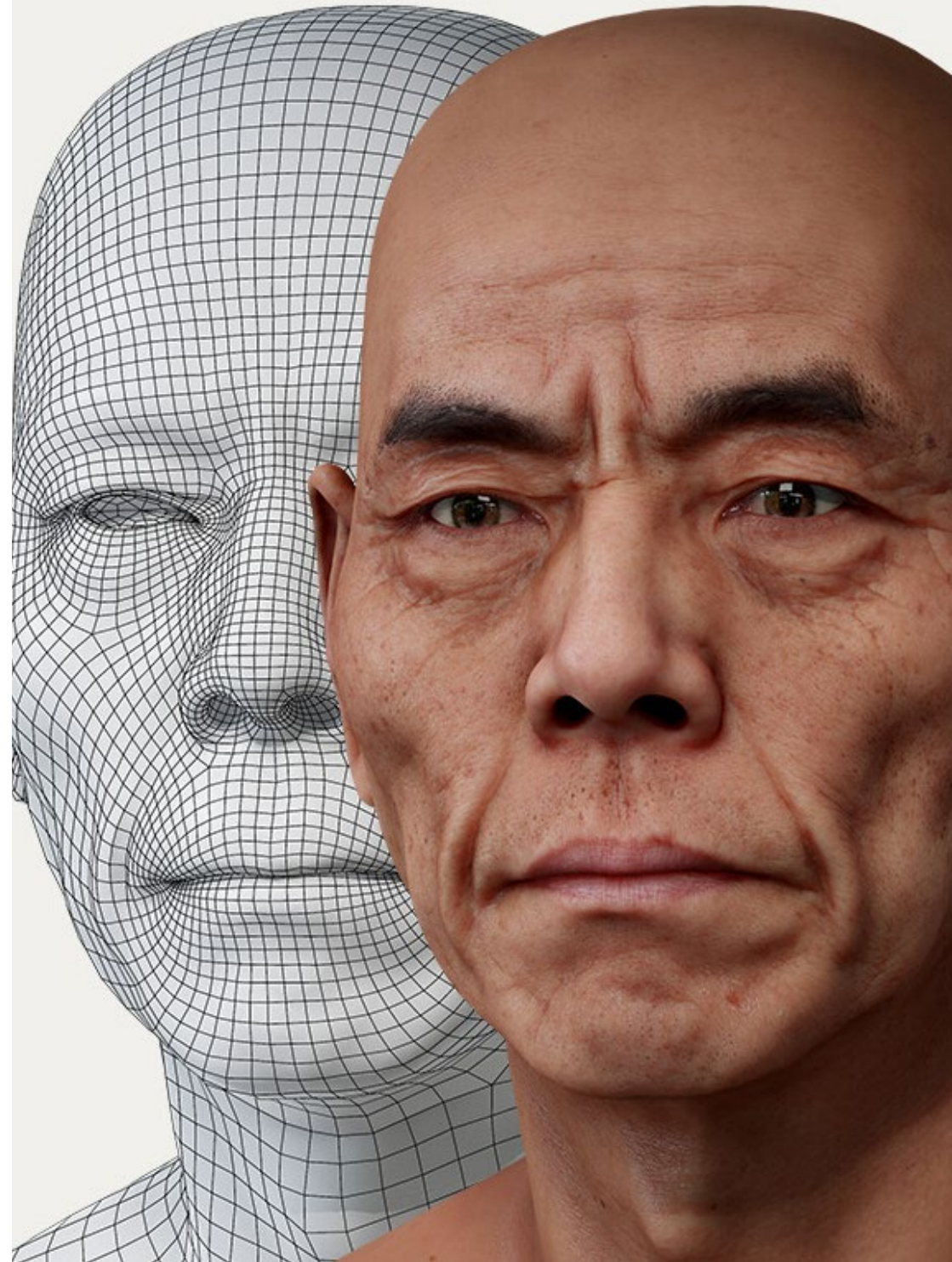
“

Learn 3D modeling with 3DS Max and render models using the V-Ray engine to create hyper-realistic renders”



General Objectives

- ♦ Gain a deep understanding of all the steps involved in creating a professional 3D model
- ♦ Understand in detail how textures work and how they influence modeling
- ♦ Master various programs focused on modeling, texturing, and real-time applications currently used in the professional world
- ♦ Apply the acquired knowledge to solve problems in 3D modeling
- ♦ Learn how to organize and manage time effectively when working on a complete 3D model, while evaluating your work in relation to potential job opportunities
- ♦ Stay up-to-date with the latest advancements in the world of modeling and video games, learning to use the most current and widely-used tools in each program
- ♦ Expertly use the acquired knowledge to create personal projects and strategically add them to your portfolio
- ♦ Develop the resources of each program to achieve the best effect for your modeling
- ♦ Be professionally prepared to manage an appropriate work schedule for a job
- ♦ Solve complex problems and make responsible decisions





Specific Objectives

Module 1. 3D Modeling with 3DS Max

- ♦ Gain an in-depth understanding of the functionality of the 3ds Max software
- ♦ Gain an in-depth understanding of the program's interface and controls
- ♦ Transform the geometry to get the shape we want in the fastest and most efficient way
- ♦ Learn all the effects of the modifiers and learn how to combine them for greater effect
- ♦ Understand boolean operations and know how to use them to our advantage
- ♦ Use 2D elements to combine them with our 3D to create shapes more efficiently

Module 2. Advanced 3D Modeling with 3DS Max

- ♦ Learn in depth two ways of editing and use them according to the type of modeling or according to the objective
- ♦ Master all types of editing in the software to create any type of model proposed by the user
- ♦ Customize the program to use it in the fastest and most efficient way for each professional
- ♦ Know and use the most advanced tools of the program
- ♦ Delve into Plugins and Scripts to use them for the benefit of modeling

Module 3. Rendering with V-Ray Engine in 3ds Max

- ♦ In-depth knowledge of the V-Ray engine assigned to the 3DS Max program
- ♦ Configure rendering options to assign the ideal rendering engine
- ♦ Get to know V-Ray's own materials and work with them through nodes
- ♦ Migrate textures created in Substance Painter to V-Ray engine
- ♦ Configure the lighting of our V-Ray scene
- ♦ Give more details to our model without the need to change or add geometry
- ♦ Intelligently position our model and camera to create an interesting scene
- ♦ Make static and animated renders of 3D modeling



Use the most advanced settings of 3D Studio Max software and create designs that stand out above the rest"

03

Course Management

The Postgraduate Diploma in 3D Modeling with 3D Studio Max has been designed by experts in the field, who have a solid professional track record and extensive experience in the industry. These highly valuable professionals make their knowledge and willingness available to students to facilitate the learning process. Throughout the course, the student will be supported at all times by the teaching staff and will learn not only in a theoretical dimension but also in a practical and professional manner, developing both critical and artistic thinking.





“

Develop professionally alongside the best experts in 3D modeling and learn not only from theory and practice but also from their experience and expertise”

Management



Ms. Vidal Peig, Teresa

- ♦ Specialist in Arts and Technology (digital art, 2D, 3D, VR and AR)
- ♦ Designer and creator of 2D character sketches for mobile video games
- ♦ Designer at Sara Lee, Motos Bordy, Hebo and Full Gass
- ♦ Teacher and director of Master's Degree in Video Game Programming
- ♦ Professor at the University of Girona
- ♦ PhD in Architecture from the Polytechnic University of Catalonia
- ♦ Degree in Fine Arts from the University of Barcelona

Faculty

Ms. Jiménez Vaquero, Laura

- ♦ Organic and props modeler, grooming, texturing and shading artist
- ♦ Organic and Inorganic 3D modeler at Utopia Avatars at EGO W3RLD
- ♦ Development of 3D hard surface modeling for advertising campaigns at Kutuko Studio
- ♦ Development of organic modeling for advertising campaign at Nein Club
- ♦ Development of 3D modeling for interior design at Miltidesign
- ♦ Realization and coordination of the women collective exhibition "Femenino plural"
- ♦ Image work for 2D animation "Naturaleza Encendida" at the Royal Botanical Garden of Madrid
- ♦ Degree in Fine Arts from the Complutense University of Madrid
- ♦ Master's Degree in Organic Modeling by Lightbox Academy



04

Structure and Content

The content of this Postgraduate Diploma is divided into 3 modules, which are designed to be completed over the course of 6 months. Each module has a different purpose, with the structure providing a progression from introductory and conceptual terms and concepts to more specific and advanced ones. The modules also include 10 subsections each, making the content more easily digestible.



“

This qualification is divided into 3 modules that will take you from the most introductory concepts to the more advanced and specific ones, ensuring a progressive learning experience”

Module 1. 3D Modeling with 3ds Max

- 1.1. 3D Modeling with 3ds Max
 - 1.1.1. Orbit, Viewers and Views
 - 1.1.2. Geometry Display Modes
 - 1.1.3. *Steering Wheels*
- 1.2. Transformations and Geometry
 - 1.2.1. Interactive and Parametric Transformations
 - 1.2.2. Standard and Extended Primitives
 - 1.2.3. Scaling Transformation
 - 1.2.4. *Select and Place / Select and Rotate*
 - 1.2.5. Align and Symmetry
- 1.3. Main Operations
 - 1.3.1. Duplicate, Interactive Selection and Selection Groups and Elements
 - 1.3.2. Layers, Grid, Snap and Pivot Point
 - 1.3.3. Links, Coordinate Systems, Actions, Views and Isolate Geometry
- 1.4. Parametric Modifiers
 - 1.4.1. Bend, Taper, Skew, and Twist
 - 1.4.2. *Stretch and Squeeze*
 - 1.4.3. *Ripple, Wave and Noise*
 - 1.4.4. *Spherify, Lattice and Mirror*
 - 1.4.5. *Push and Relax*
 - 1.4.6. *Slice, Shell and CapHoles*
- 1.5. Free Deformation Modifiers
 - 1.5.1. FFD Modifiers
 - 1.5.2. FFD Cyl
 - 1.5.3. FFD Box
- 1.6. Composition Objects
 - 1.6.1. Boolean Operations. Boolean and ProBoolean
 - 1.6.2. Objects Dispersion Scatter
 - 1.6.3. Morphism. *Morph*



- 
- 1.7. 2D Shapes. *Splines*
 - 1.7.1. Splines and its Options
 - 1.7.2. The Line and Vertex Types
 - 1.7.3. Vertex, Segment and Splines Subobjects
 - 1.8. 2D Shapes. Advanced Splines
 - 1.8.1. Editable Splines and use of Grid and Snap to Create 2D Shapes
 - 1.8.2. Parametric Modifiers, FFD and Booleans with Splines
 - 1.8.3. Extended Splines and Section
 - 1.9. Modifiers of Splines
 - 1.9.1. Extrude
 - 1.9.2. *Bevel*
 - 1.9.3. *Sweep*
 - 1.9.4. *Lathe*
 - 1.10. Composition Objects. Splines
 - 1.10.1. *Loft*
 - 1.10.2. *Terrain*
 - 1.10.3. *Shape Merge*

Module 2. Advanced 3D Modeling with 3DS Max

- 2.1. Mesh Editing Polygonal Editing
 - 2.1.1. Polygonal Editing *EditablePoly* and *EditPoly*
 - 2.1.2. Panels, Selection and Flexible Selection
 - 2.1.3. TurboSmooth, MeshSmooth and HSDS Modifier
- 2.2. Mesh Editing. Geometry
 - 2.2.1. Vertex, Edge and Edge Editing
 - 2.2.2. Polygon, Element and Geometry Editing
 - 2.2.3. Geometry Cutting Planes and Added Resolution
- 2.3. Mesh Editing Selection Groups
 - 2.3.1. Geometry Alignment and Visibility
 - 2.3.2. Selection Subobjects, Material IDs and Smoothing Groups
 - 2.3.3. Surface Subdivision and Vertex Painting

- 2.4. Mesh Editing. *Surface*
 - 2.4.1. Geometry Displacement and Deformation Brush
 - 2.4.2. Flat Mode and EditableMesh
 - 2.4.3. Splines + Surface
- 2.5. Advanced Mesh Editing
 - 2.5.1. *EditablePatch*
 - 2.5.2. Model Sheet and Setup for Modeling
 - 2.5.3. Symmetry Tracing and Symmetry
- 2.6. User Customization
 - 2.6.1. Display Floater Tool and Panel Display
 - 2.6.2. Object Properties and Preferences
 - 2.6.3. UI Personalization. Shortcuts, Menus and Colors
 - 2.6.4. Viewer Configuration
- 2.7. Object Distribution
 - 2.7.1. Orthographic View
 - 2.7.2. Spacing Tool and SnapShot
 - 2.7.3. Cloning and Alignment Tool
 - 2.7.4. Matrices. *Array*
- 2.8. Geometric Operations
 - 2.8.1. Polygonal and Parametric Combination
 - 2.8.2. Polygonal Combination and Shapes
 - 2.8.3. Polygonal and Boolean Combination
 - 2.8.4. Polygonal, Spline, Parametric and Boolean Combination
- 2.9. Other Tools
 - 2.9.1. Loops, Constraints and Edge Splitting
 - 2.9.2. Isoline and Collapse Modifiers
 - 2.9.3. Polygon Counter and Types of Optimization
- 2.10. *Plugins and Scripts*
 - 2.10.1. *Plugins and Scripts. Grass - o - Matic*
 - 2.10.2. Creation of Herbs and Fibers with Grass-o-Matic
 - 2.10.3. Plugin Greeble
 - 2.10.4. Script Voronoi. *Fracture*



Module 3. Rendering with V-Ray Engine in 3ds Max

- 3.1. V-Ray Render Engine Assignment
 - 3.1.1. Preparation of the Rendering Space
 - 3.1.2. Render Setup Options and Assign Render
 - 3.1.3. Optimize Rendering Time
- 3.2. Lighting and Light Creation
 - 3.2.1. 3-Point Lighting
 - 3.2.2. Light Setup
 - 3.2.3. *Render Region*
- 3.3. Creation and Application of Materials
 - 3.3.1. V-Ray Materials
 - 3.3.2. V-Ray Materials Settings
 - 3.3.3. *Self-Illumination*
- 3.4. From Substance Painter to V-Ray
 - 3.4.1. Connect Nodes and Material Settings
 - 3.4.2. Export Presets
 - 3.4.3. Set Up Smart Material in V-Ray
- 3.5. Details and Positioning in the Scene
 - 3.5.1. Application of Shades According to the Position of the Model
 - 3.5.2. Adjust Model and Silhouette
 - 3.5.3. Metallic Base
- 3.6. Surface Rounding
 - 3.6.1. V-RayEdgeTex
 - 3.6.2. Functionality and Setup
 - 3.6.3. Rendering With and Without Rounding
- 3.7. Field of View
 - 3.7.1. Camera and Shot
 - 3.7.2. Camera Aperture
 - 3.7.3. Field of View
- 3.8. Ambient Occlusion and Global Illumination
 - 3.8.1. *GI and Render Elements*
 - 3.8.2. V-RayExtraTex and V-RayDirt
 - 3.8.3. Global Illumination Multiplier

- 3.9. Rendering of a Static Frame
 - 3.9.1. Adjust Render Values
 - 3.9.2. Save Final Render
 - 3.9.3. Composition of Ambient Occlusion
- 3.10. Rendering of a Sequence
 - 3.10.1. Camera Animation
 - 3.10.2. Rendering Options for Sequence
 - 3.10.3. Frame Assembly for the Sequence



This online training will allow you to update your knowledge and specialize your professional trajectory in graphic and image design for video games"

05 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

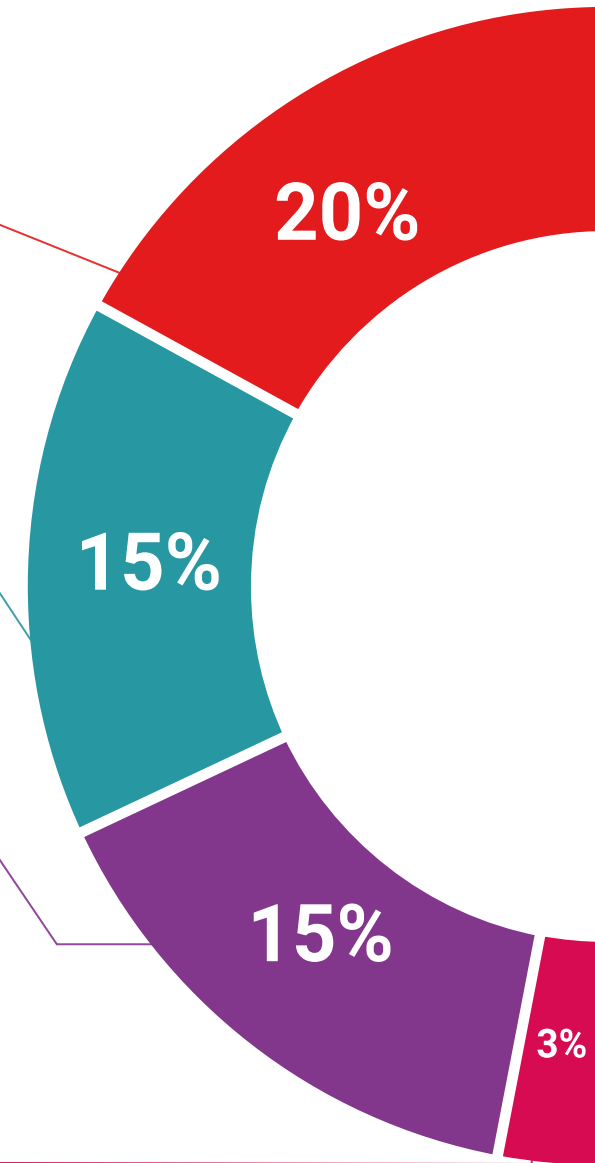
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

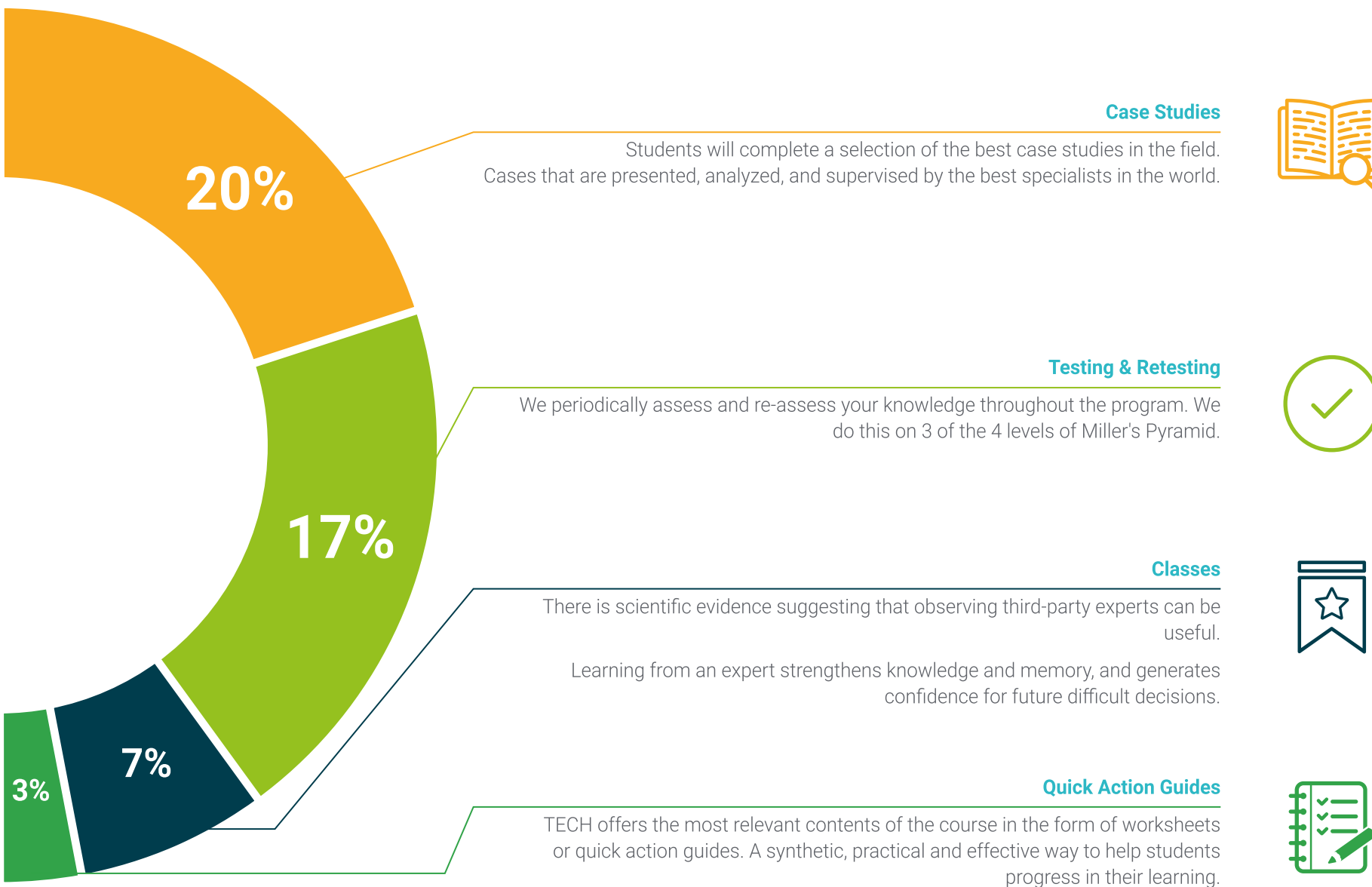
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





06 Certificate

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



“

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 **Postgraduate Diploma in 3D Modeling with 3D Studio Max** 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: **Postgraduate Diploma in 3D Modeling with 3D Studio Max**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**





Postgraduate Diploma 3D Modeling with 3D Studio Max

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Accreditation: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Postgraduate Diploma

3D Modeling with 3D Studio Max