

# Postgraduate Diploma Baking, UVS, and Sci-Environments in Art for Virtual Reality



## Postgraduate Diploma Baking, UVS, and Sci-Environments in Art for Virtual Reality

- » 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-baking-uv-sci-environment-art-virtual-reality](http://www.techtitute.com/pk/design/postgraduate-diploma/postgraduate-diploma-baking-uv-sci-environment-art-virtual-reality)

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# 01

# Introduction

Graphic designers must have an up-to-date professional portfolio with their best creations to submit it to the main studios of the Virtual Reality video game industry. To achieve this, you will need to know the main graphic design tools and programs that will help you stand out from the competition. The final result of the learning process in 3D modeling creations oriented to Virtual Reality video games will lead you to obtain an environment and different assets of the highest quality. All this, thanks to an online methodology and a Relearning system that will definitely boost your professional career.





“

*Perfect your graphic designs for Virtual Reality video games thanks to this Postgraduate Diploma”*

This Postgraduate Diploma Baking, UVS, and Sci-Environments in Art for Virtual Reality gives graphic designers the opportunity to hone their creative skills with essential knowledge of the elements that define a 3D creation as excellent. To this end, students in this course have access to a specialized teaching team with experience in the video game industry.

The program allows graphic designers to have the necessary skills to create a graphic design from start to finish, so they can submit it to any company in the industry with the highest quality. This will not be achieved without first perfecting UVs or baking off 3D objects with low-polygonal loading.

Throughout this course, designers will obtain the skills necessary to make a qualitative leap in their careers in the world of Virtual Reality video games.

A Postgraduate Diploma with an online format, which will allow students to learn wherever and whenever they want. All you need is a device with Internet connection to boost your career in an industry that increasingly requires highly qualified personnel.

This **Postgraduate Diploma in Baking, UVS, and Sci-Environments in Art for Virtual Reality** 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 game creation and design through Virtual Reality technology
- ◆ 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



*Specialize in the competitive career of graphic design in Virtual Reality video games with this Postgraduate Diploma”*

“

*Improve yourself with a program focused on graphic design for Virtual Reality video games”*

The program’s teaching team 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.

Its multimedia content, developed with the latest educational technology, will allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive education programmed to prepare in real situations.

The design of this program focuses on Problem-Based Learning, by means of which professionals must try to solve the different professional practice situations that are presented to them throughout the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

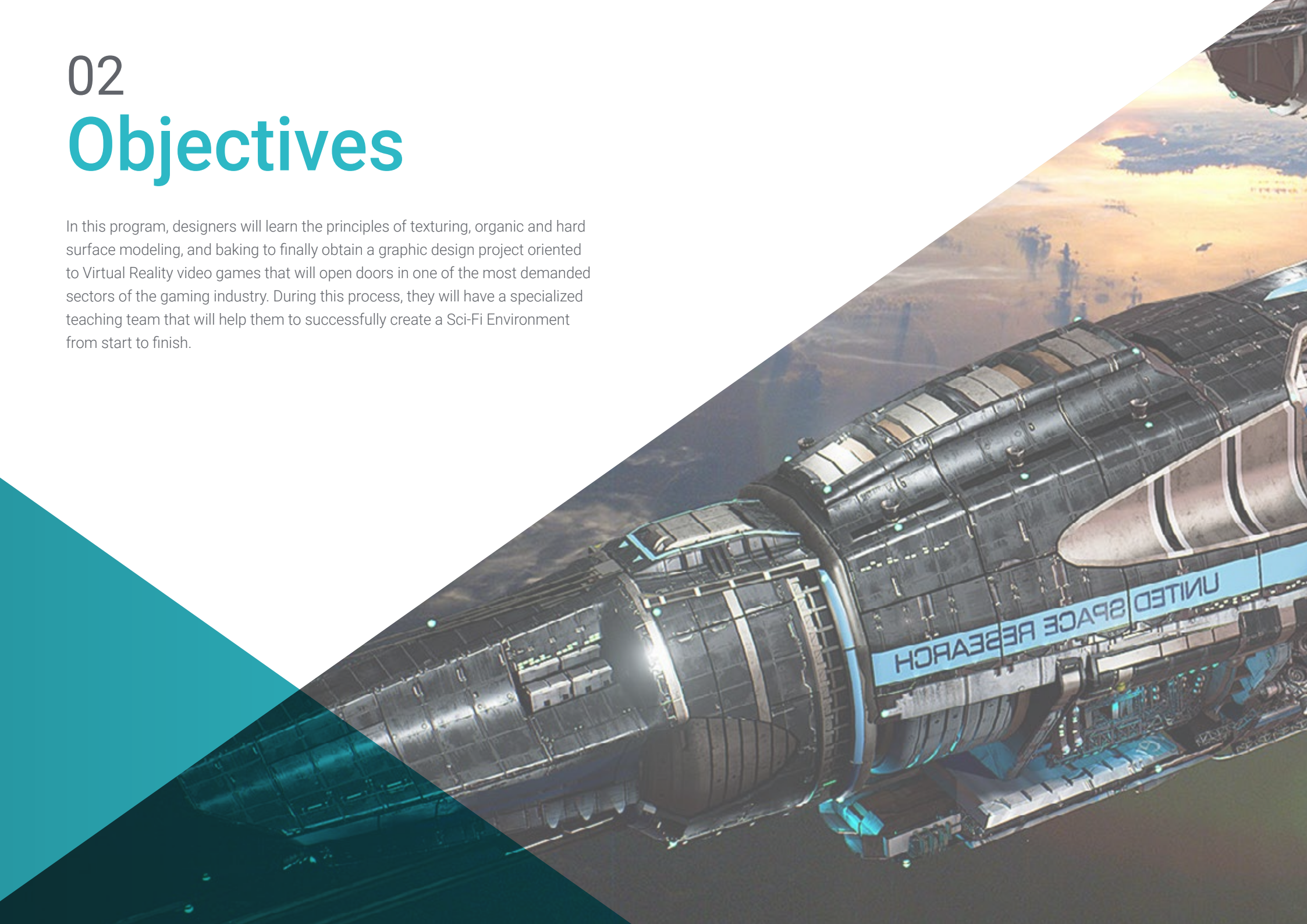
*Take the leap in your professional career and perfect your 3D artistic creations thanks to this Postgraduate Diploma.*

*Enroll now and be part of the best graphic design studios for VR game creators.*



# 02 Objectives

In this program, designers will learn the principles of texturing, organic and hard surface modeling, and baking to finally obtain a graphic design project oriented to Virtual Reality video games that will open doors in one of the most demanded sectors of the gaming industry. During this process, they will have a specialized teaching team that will help them to successfully create a Sci-Fi Environment from start to finish.





“

*The Relearning system and case study simulations will be your greatest allies in this VR video game modeling training”*



## General Objectives

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- ◆ Understand the advantages and constraints provided by Virtual Reality
- ◆ Develop a high-quality hard surface modeling
- ◆ Create a high-quality organic modeling
- ◆ Understand the principles of retopology
- ◆ Understand the principles of UVS
- ◆ Master baking in Substance Painter
- ◆ Expertly manage layers
- ◆ Be able to create a dossier and submit works at a professional level, at the highest quality
- ◆ Make a conscious decision as to which programs best fit your Pipeline

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*Master all the elements of  
3D graphic design for Virtual  
Reality video games and  
boost your career”*





## Specific Objectives

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### Module 1. UVS

- ◆ Master the UV tools available in ZBrush
- ◆ Learn where to cut a modeling
- ◆ Get the best out of the UV space
- ◆ Master the UV specialized tool Rizom

### Module 2. Baking

- ◆ Understand the principles of baking
- ◆ Learn how to solve the problems that may arise when baking a model
- ◆ To be able to bake any modeling
- ◆ Master real-time baking in Marmoset

### Module 3. Sci-Fi Environment

- ◆ Understand the knowledge acquired
- ◆ Understand the usefulness of all the tips applied to a real project
- ◆ Make a conscious decision as to which programs best fit your Pipeline
- ◆ Have a professional quality work in your dossier
- ◆ Analyze and understand an Environment from start to finish

# 03

# Course Management

The teaching team of this Postgraduate Diploma was selected by TECH for their extensive professional experience, to ensure that students will obtain knowledge of what is currently demanded by the VR video game industry. In this way, students will learn from the best to make a qualitative leap in their professional careers.





“

*A specialized teaching team will be your great ally in this Postgraduate Diploma. Their knowledge will help you get ahead in the VR gaming industry”*

## Management



### Mr. Menéndez Menéndez, Antonio Iván

- Senior environment and element artist and 3D consultant at The Glimpse Group VR
- 3D model designer and texture artist at Inmoreality
- Props and environment artist for PS4 games at Rascal Revolt
- Graduated in Fine Arts at the UPV
- Specialist in Graphic Techniques from the University of the Basque Country
- Master's Degree in Sculpture and Digital Modeling by the Voxel School of Madrid
- Master's Degree in Art and Design for Video Games by U-Tad University of Madrid

## Professors

### Mr. Márquez Maceiras, Mario

- ♦ Audiovisual operator PTM Pictures That Moves
- ♦ Gaming tech support agent at 5CA
- ♦ 3D and VR environment creator and designer at Inmoreality
- ♦ Art designer at Seamantis Games
- ♦ Founder of Evolve Games
- ♦ Graduated in Graphic Design at the School of Art of Granada
- ♦ Graduated in Video Games and Interactive Content Design at the School of Art of Granada
- ♦ Master's Degree in Game Design by U-Tad University of Madrid



# 04

# Structure and Content

The syllabus has been prepared under the strict requirements of the teaching team that make up this TECH course. For better learning, three modules have been established, in which the elements and composition of graphic design will be studied in order to create an optimal 3D modeling project. The program is oriented toward designers who are looking to improve their skills and abilities, with multimedia material, complementary reading resources, and a Relearning learning system to improve their knowledge.







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*Guide your professional artistic career towards the VR video game industry, a sector that requires skilled designers like you”*

## Module 1. UVS

- 1.1. Advanced UVS
  - 1.1.1. Warnings
  - 1.1.2. Cuts
  - 1.1.3. Texture Density
- 1.2. Creating UVS in ZBrush-UVMaster
  - 1.2.1. Controls
  - 1.2.2. Unwrap
  - 1.2.3. Unusual Topology
- 1.3. UVMaster: Painting
  - 1.3.1. Painting Control
  - 1.3.2. Creating Seams
  - 1.3.3. Checkseams
- 1.4. UVMaster: Packing
  - 1.4.1. UV Packing
  - 1.4.2. Creating Islands
  - 1.4.3. Flatten
- 1.5. UVMaster: Clones
  - 1.5.1. Working With Clones
  - 1.5.2. Polygroups
  - 1.5.3. Control Painting
- 1.6. Rizom UV
  - 1.6.1. Rizom Script
  - 1.6.2. The Interface
  - 1.6.3. Importing With or Without UVS
- 1.7. Seams and Cuts
  - 1.7.1. Keyboard Shortcuts
  - 1.7.2. 3D Panel
  - 1.7.3. UV Panel
- 1.8. UV Unwrap and Layout Panel
  - 1.8.1. Unfold
  - 1.8.2. Optimize
  - 1.8.3. Layout and Packing

- 1.9. UV: More Tools
  - 1.9.1. Align, Straighten, Flip, and Fit
  - 1.9.2. TopoCopy and Stack1
  - 1.9.3. Edge Loop Parameters
- 1.10. Advanced UV Rizom
  - 1.10.1. Auto Seams
  - 1.10.2. UVS Channels
  - 1.10.3. Texel Density

## Module 2. Baking

- 2.1. Model Baking
  - 2.1.1. Preparing the Model for Baking
  - 2.1.2. Baking Principles
  - 2.1.3. Processing Options
- 2.2. Model Baking: Painter
  - 2.2.1. Baking in Painter
  - 2.2.2. Low Poly Baking
  - 2.2.3. High Poly Baking
- 2.3. Model Baking: Boxes
  - 2.3.1. Using Boxes
  - 2.3.2. Adjusting Distances
  - 2.3.3. Computing Tangent Space per Fragment
- 2.4. Map Baking
  - 2.4.1. Normal
  - 2.4.2. ID
  - 2.4.3. Ambient Occlusion
- 2.5. Map Baking: Curvatures
  - 2.5.1. Curvature
  - 2.5.2. Thickness
  - 2.5.3. Improving Map Quality
- 2.6. Baking in Marmoset
  - 2.6.1. Marmoset
  - 2.6.2. Functions
  - 2.6.3. Real-Time Baking

- 2.7. Setting up the Document for Baking in Marmoset
  - 2.7.1. High Poly and Low Poly in 3DSMax
  - 2.7.2. Organizing the Scene in Marmoset
  - 2.7.3. Verifying That Everything Is Correct
- 2.8. Bake Project Panel
  - 2.8.1. Bake Group, High and Low
  - 2.8.2. The Geometry Menu
  - 2.8.3. Load
- 2.9. Advanced Options
  - 2.9.1. Output
  - 2.9.2. Adjusting the Cage
  - 2.9.3. Setting up Maps
- 2.10. Baking
  - 2.10.1. Maps
  - 2.10.2. Result Preview
  - 2.10.3. Baking Floating Geometry

### Module 3. Sci-Fi Environment

- 3.1. Sci-Fi Concept and Planning
  - 3.1.1. References
  - 3.1.2. Planning
  - 3.1.3. Blockout
- 3.2. Implementation in Unity
  - 3.2.1. Importing the Blockout and Verifying Scaling
  - 3.2.2. Skybox
  - 3.2.3. Files and Preliminary Materials
- 3.3. Module 1: Floors
  - 3.3.1. High to Low Modular Modeling
  - 3.3.2. UVS and Baking
  - 3.3.3. Texturing
- 3.4. Module 2: Walls
  - 3.4.1. High to Low Modular Modeling
  - 3.4.2. UVs and Baking
  - 3.4.3. Texturing

- 3.5. Module 3: Roofs
  - 3.5.1. High to Low Modular Modeling
  - 3.5.2. UVS and Baking
  - 3.5.3. Texturing
- 3.6. Module 4: Extras (Pipes, Railings, Etc.)
  - 3.6.1. High to Low Modular Modeling
  - 3.6.2. UVS and Baking
  - 3.6.3. Texturing
- 3.7. Hero Asset 1: Mechanical Doors
  - 3.7.1. High to Low Modular Modeling
  - 3.7.2. UVS and Baking
  - 3.7.3. Texturing
- 3.8. Hero Asset 2: Hibernation Chamber
  - 3.8.1. High to Low Modular Modeling
  - 3.8.2. UVS and Baking
  - 3.8.3. Texturing
- 3.9. In Unity
  - 3.9.1. Importing Textures
  - 3.9.2. Application of Materials
  - 3.9.3. Scene Lighting
- 3.10. End of Project
  - 3.10.1. VR Visualization
  - 3.10.2. Prefab and Export
  - 3.10.3. Conclusions



*The program of this Postgraduate Diploma will guide you towards a sector in graphic design of Virtual Reality video games with large growth quotas"*

# 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.*



*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.



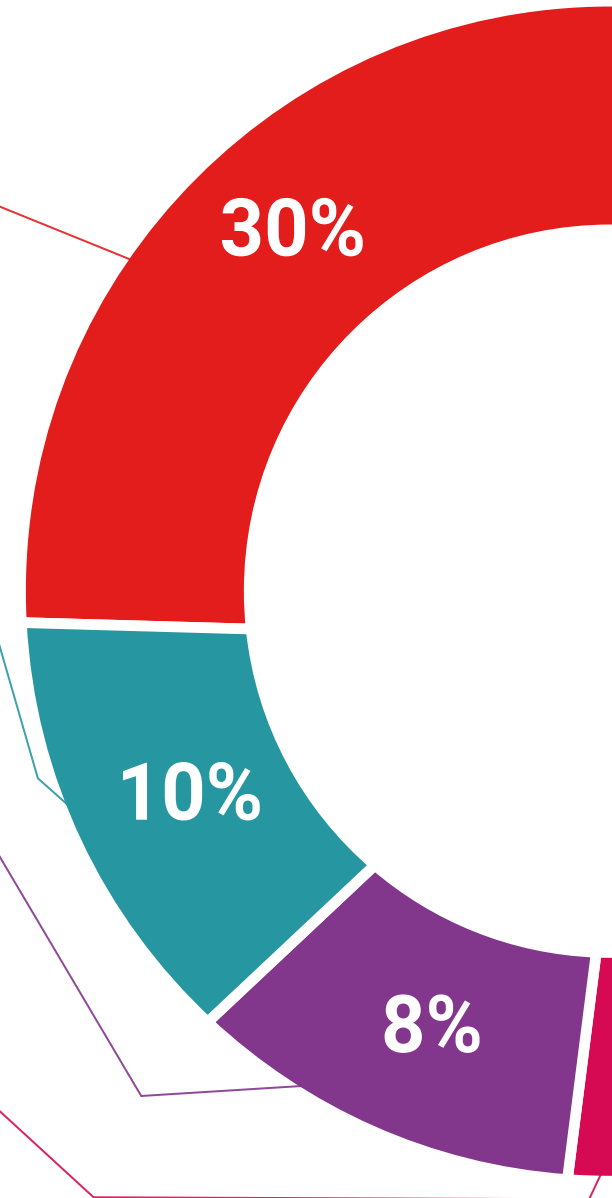
### Practising Skills and Abilities

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 Baking, UVS, and Sci-Environments in Art for Virtual Reality 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 Baking, UVS, and Sci-Environments in Art for Virtual Reality** 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 Baking, UVS, and Sci-Environments in Art for Virtual Reality**

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  
development language  
virtual classroom



## Postgraduate Diploma Baking, UVS, and Sci-Environments in Art for Virtual Reality

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