

A woman is shown in profile, wearing a VR headset. The image is partially obscured by a large, diagonal, semi-transparent teal shape. At the top of the image, there is a horizontal bar composed of several colored segments: blue, cyan, green, yellow, orange, and red. The background is a soft-focus image of a person's face wearing a VR headset, with a bokeh effect of light spots in the background.

Postgraduate Diploma

Art for Virtual Reality with Unity, Blender, and 3DS MAX



Postgraduate Diploma

Art for Virtual Reality with Unity, Blender, and 3DS MAX

- » 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-art-virtual-reality-unity-blender-3ds-max

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

The artistic creation of video games with technology applied to Virtual Reality currently requires specialized designers in a field that has been boosted in recent years thanks to technical progress. The proposals for graphic creativity in this video game industry would not be brilliant without the work of professional designers who master the most powerful software on the market. In this course, the students will be able to integrate all the knowledge acquired about programs and 3D modeling tools to offer a Pipeline that will open doors in the video game sector. The online and Relearning teaching method, along with a variety of resources, will enrich the learning of designers seeking to improve their professional career.



“

Get to know the creative possibilities offered by the main graphic design programs for Virtual Reality video games thanks to this Postgraduate Diploma”

The Postgraduate Diploma in Art for Virtual Reality with Unity, Blender, and 3DS Max is aimed at graphic designers who wish to work with high-level professional studios that require qualified profiles in their teams. This program provides an answer to graphic design professionals who wish to be part of a labor market with a present and future.

The specialized teaching team of this program delves into each of the essential tools for graphic designers to be able to capture the object they want to convey in VR video games with high quality. From a practical approach, students will understand the best techniques to use in modeling, texturing, use of filters, design optimization, and workflows.

Graphic designers will be provided with multimedia material, video summaries, and a wide range of resources that will enrich their learning and facilitate the understanding of the content. An experienced teaching team will accompany students in this course that will help them shine in the best studios of the video game industry.

All this with an exclusively online methodology that will allow the acquisition of knowledge from anywhere and at any time. To do so, students need only a device with Internet connection and the desire to specialize in one of the fastest growing technological fields in recent years.

This **Postgraduate Diploma in Art for Virtual Reality with Unity, Blender, and 3DS MAX** 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



*Beat Saber was created with Unity.
Learn to control this software and you
will master the world of graphic design
for Virtual Reality video games"*

“

Online learning will allow you to acquire the skills that will propel you into the VR video game art industry from anywhere, anytime”

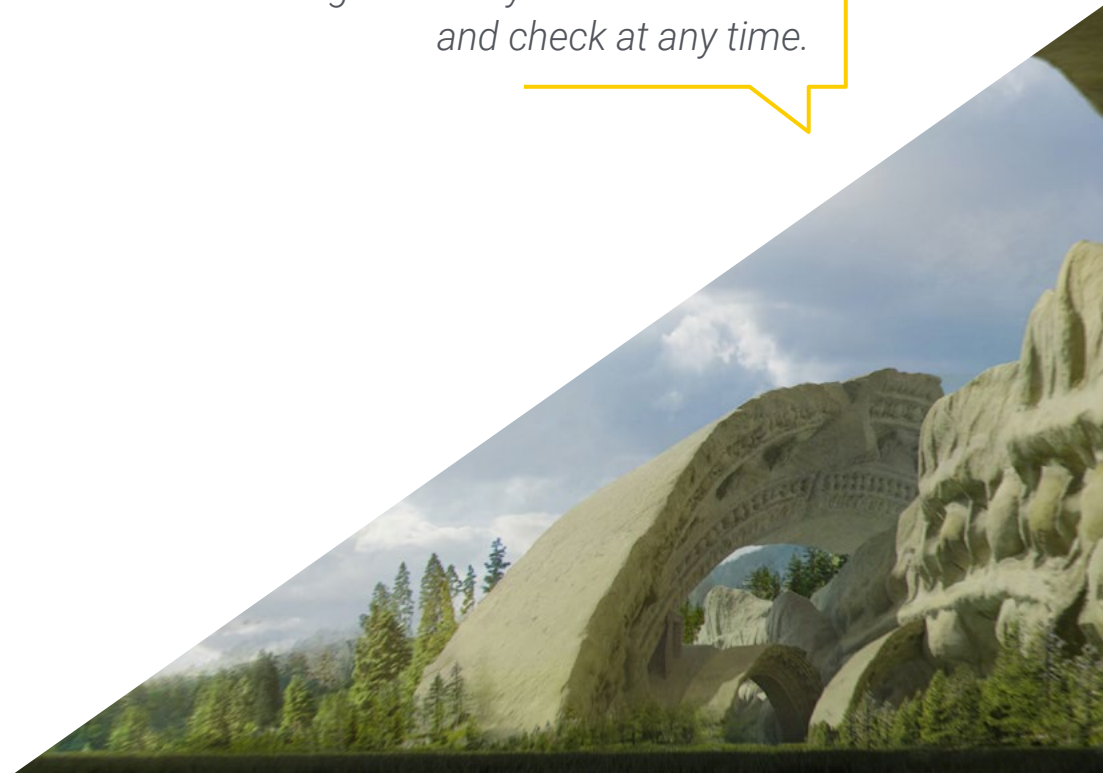
The program’s teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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.

Improve yourself in 3D modeling with the most powerful programs used by the best video game studios of the moment.

You have a wide variety of multimedia resources for graphic designers that you can download and check at any time.



02 Objectives

The syllabus of this Postgraduate Diploma will help graphic designers to understand the world of Virtual Reality applied to video games thanks to a global and practical vision provided by the teaching team. The program will enable graphic designers to apply all the knowledge acquired in their professional field in an optimal and decisive manner. In this way, students will be able to improve their creative capacity and acquire the skills required by companies in the sector.



“

Your professional goals are closer to being achieved thanks to the mastery of the main 3D modeling software used in this Postgraduate Diploma”



General Objectives

- ◆ Understand the advantages and constraints provided by Virtual Reality
- ◆ Develop high-quality hard surface modeling
- ◆ Create 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



The learning in this Postgraduate Diploma on graphic design in VR video games are in line with the demand of the main studios in the sector. Sign up"





Specific Objectives

Module 1. The Project and the Unity Graphics Engine

- ◆ Develop a VR project
- ◆ Delve into Unity for VR
- ◆ Import textures and implement the necessary materials efficiently
- ◆ Create realistic and optimized lighting

Module 2. Blender

- ◆ Develop procedural materials
- ◆ Be able to animate a model
- ◆ Use fluid, hair, particle, and clothing simulations with ease
- ◆ Create high-quality renders in both Eevee and Cycles
- ◆ Learn how to operate the new grease pencil and how to get the best out of it
- ◆ Learn how to use the new geometry nodes and be able to do fully procedural modeling

Module 3. 3DS Max

- ◆ Master modeling in 3DS MAX
- ◆ Learn the compatibility of 3DS MAX with Unity for VR
- ◆ Learn the most used modifiers and be able to handle them with ease
- ◆ Use real workflow techniques

03

Course Management

The competitive and complex Virtual Reality video games sector has only a few specialized professionals. For this reason, TECH has carefully selected the teaching team of this course to ensure that the program responds to a high number of professionals that seek to advance professionally in the field of graphic design in the gaming industry.



“

*Stand out from the competition in
the VR video game sector thanks
to this Postgraduate Diploma”*

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. Morro, Pablo

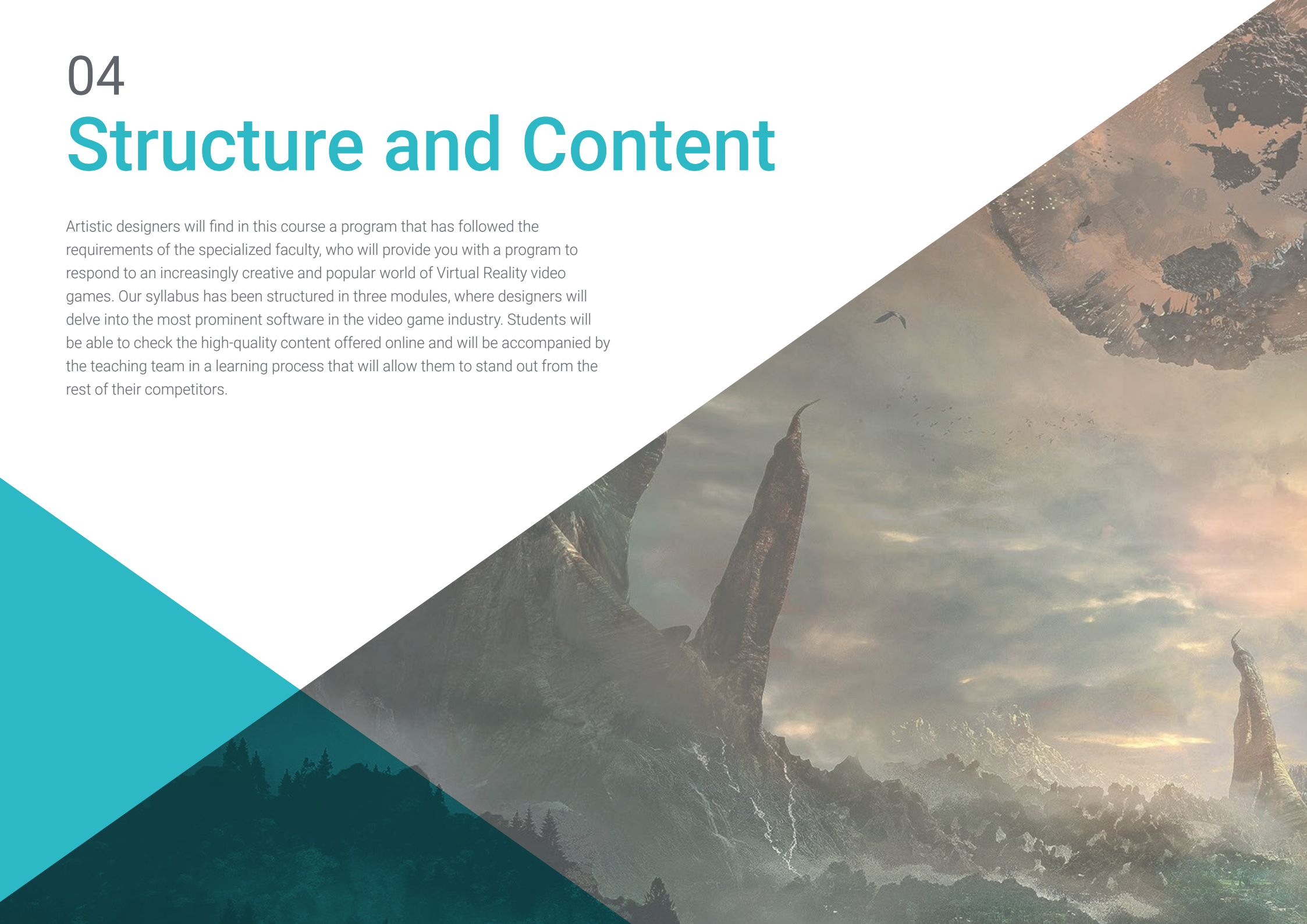
- ♦ 3D Artist specialized in modeling, VFX, and textures
- ♦ 3D Artist at Mind Trips
- ♦ Graduated in Video Game Creation and Design at Jaume I University



04

Structure and Content

Artistic designers will find in this course a program that has followed the requirements of the specialized faculty, who will provide you with a program to respond to an increasingly creative and popular world of Virtual Reality video games. Our syllabus has been structured in three modules, where designers will delve into the most prominent software in the video game industry. Students will be able to check the high-quality content offered online and will be accompanied by the teaching team in a learning process that will allow them to stand out from the rest of their competitors.



“

This is your opportunity to learn from industry professionals who are experts in graphic design for Virtual Reality video games”

Module 1. The Project and the Unity Graphics Engine

- 1.1. Design
 - 1.1.1. Pureref
 - 1.1.2. Scaling
 - 1.1.3. Differences and Limitations
- 1.2. Project Planning
 - 1.2.1. Modular Planning
 - 1.2.2. Blockout
 - 1.2.3. Assembly
- 1.3. Visualization in Unity
 - 1.3.1. Setting up Unity for Oculus
 - 1.3.2. The Oculus App
 - 1.3.3. Collision and Camera Adjustments
- 1.4. Visualization in Unity: Scene
 - 1.4.1. Setting up Scene for VR
 - 1.4.2. Export of APKs
 - 1.4.3. Installing APKs on Oculus Quest 2
- 1.5. Materials in Unity
 - 1.5.1. Standard
 - 1.5.2. Unlit: Features of This Material and When to Use It
 - 1.5.3. Optimization
- 1.6. Textures in Unity
 - 1.6.1. Importing Textures
 - 1.6.2. Transparency
 - 1.6.3. Sprite
- 1.7. Lighting
 - 1.7.1. VR Lighting
 - 1.7.2. The Lighting Menu in Unity
 - 1.7.3. VR Skybox
- 1.8. Lighting: Lightmapping
 - 1.8.1. Lightmapping Settings
 - 1.8.2. Types of Lights
 - 1.8.3. Emissive

- 1.9. Lighting 3: Baking
 - 1.9.1. Baking
 - 1.9.2. Ambient Occlusion
 - 1.9.3. Optimization
- 1.10. Organizing and Exporting
 - 1.10.1. Folders
 - 1.10.2. Prefab
 - 1.10.3. Exporting and Importing Unity Packages

Module 2. Blender

- 2.1. Interface
 - 2.1.1. Software Blender
 - 2.1.2. Controls and Shortcuts
 - 2.1.3. Scenes and Customization
- 2.2. Modeling
 - 2.2.1. Data Science
 - 2.2.2. Mesh
 - 2.2.3. Curves and Surfaces
- 2.3. Modifiers
 - 2.3.1. Modifiers
 - 2.3.2. How Are They Used
 - 2.3.3. Types of Modifiers
- 2.4. Hard Surface Modeling
 - 2.4.1. Prop Modeling
 - 2.4.2. Prop Modeling's Evolution
 - 2.4.3. Prop Modeling's Final Assessment
- 2.5. Materials
 - 2.5.1. Assignment and Components
 - 2.5.2. Creating Materials
 - 2.5.3. Creating Procedural Materials
- 2.6. Animation and Rigging
 - 2.6.1. Keyframes
 - 2.6.2. Armatures
 - 2.6.3. Constraints

- 2.7. Simulation
 - 2.7.1. Fluids
 - 2.7.2. Hair and Particles
 - 2.7.3. Clothing
- 2.8. Rendering
 - 2.8.1. Cycles and Eevee
 - 2.8.2. Light
 - 2.8.3. Cameras
- 2.9. Grease Pencil
 - 2.9.1. Structure and Primitives
 - 2.9.2. Properties and Modifiers
 - 2.9.3. Examples
- 2.10. Geometry Nodes
 - 2.10.1. Attributes
 - 2.10.2. Types of Nodes
 - 2.10.3. Practical Example

Module 3. 3DS MAX

- 3.1. Interface Set-Up
 - 3.1.1. Project Start
 - 3.1.2. Automatic and Incremental Saving
 - 3.1.3. Measuring Units
- 3.2. Menu Create
 - 3.2.1. Objects
 - 3.2.2. Light
 - 3.2.3. Cylindrical and Spherical Objects
- 3.3. The Modify Menu
 - 3.3.1. The Menu
 - 3.3.2. Button Configuration
 - 3.3.3. Uses
- 3.4. Edit Poly: Polygons
 - 3.4.1. Edit Poly Mode
 - 3.4.2. Edit Polygons
 - 3.4.3. Edit Geometry
- 3.5. Edit Poly: Selection
 - 3.5.1. Selection
 - 3.5.2. Soft Selection
 - 3.5.3. IDs and Smoothing Groups
- 3.6. The Hierarchy Menu
 - 3.6.1. Pivot Conditions
 - 3.6.2. Reset XFom and Freeze Transform
 - 3.6.3. Adjusting the Pivot Menu
- 3.7. Material Editor
 - 3.7.1. Compact Material Editor
 - 3.7.2. Slate Material Editor
 - 3.7.3. Multi/Sub-Object
- 3.8. Modifier List
 - 3.8.1. Modeling Modifiers
 - 3.8.2. Modeling Modifier Evolution
 - 3.8.3. Modeling Modifier Final Assessment
- 3.9. XView and Non-Quads
 - 3.9.1. XView
 - 3.9.2. Checking for Errors in Geometry
 - 3.9.3. Non-Quads
- 3.10. Exporting to Unity
 - 3.10.1. Triangulating the Asset
 - 3.10.2. Direct Signs X or Open GI for Normal
 - 3.10.3. Conclusions



Virtual Reality-based video games are waiting for your artistic creations. Learn with TECH™

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.

“*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.

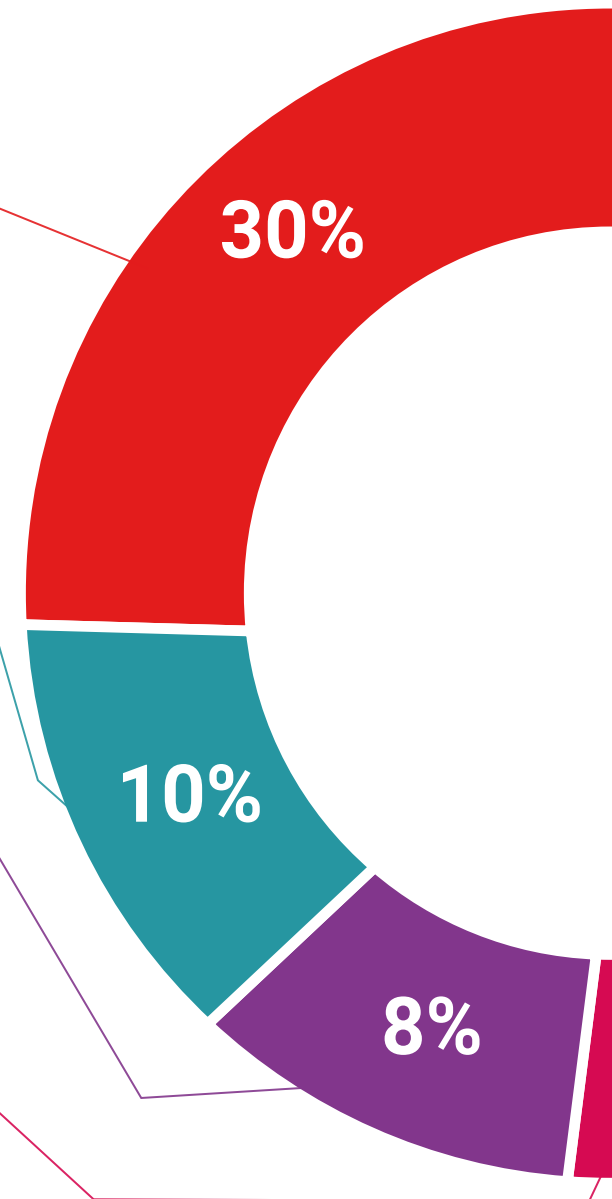
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

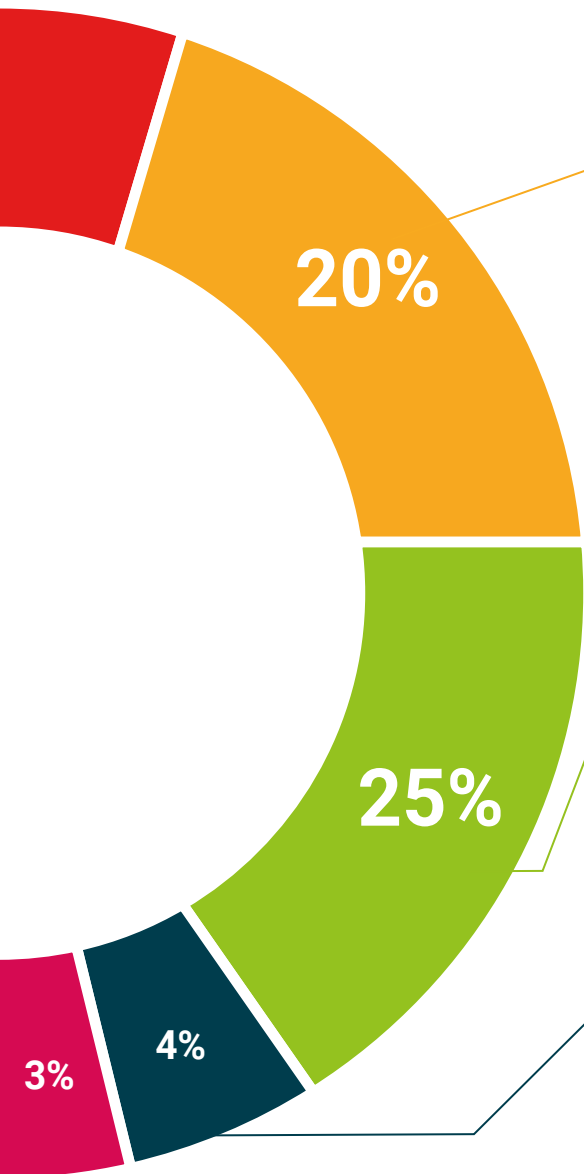
Practising Skills and Abilities

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 Art for Virtual Reality with Unity, Blender, and 3DS MAX guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.





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

This **Postgraduate Diploma in Art for Virtual Reality with Unity, Blender, and 3DS MAX** 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 Art for Virtual Reality with Unity, Blender, and 3DS MAX**

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.



Postgraduate Diploma

Art for Virtual
Reality with Unity,
Blender, and 3DS MAX

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

Postgraduate Diploma

Art for Virtual Reality with Unity, Blender, and 3DS MAX

