

# Postgraduate Certificate

## Art Project for Virtual Reality and the Unity Graphics Engine



## Postgraduate Certificate Art Project for Virtual Reality and the Unity Graphics Engine

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

Website: [www.techtute.com/pk/design/postgraduate-certificate/art-project-virtual-reality-unity-graphics-engine](http://www.techtute.com/pk/design/postgraduate-certificate/art-project-virtual-reality-unity-graphics-engine)



# 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

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*p. 28*

# 01

# Introduction

One of the most powerful tools designers and artists have to bring their creativity to the video game industry is the Unity graphics engine. Its intuitive visual system makes it one of the most used programs by professionals in the video game industry. This software is aimed at designer who wish to become experts in virtual reality art. The 100% online and eminently practical methodology of this course will help students who wish to have easy access to the most up-to-date educational content. A course oriented toward a specialization in the gaming industry with a wide range of job opportunities.





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*Get a professional touch in your 3D modeling by mastering texturing and lighting with Unity. Enroll in this Postgraduate Certificate and improve your skills”*

The Postgraduate Certificate in Art Project for Virtual Reality and the Unity Graphics Engine gives the opportunity to designers and artistic creators to enhance all their creativity applied to Virtual Reality thanks to the mastery of one of the most used programs for 3D modeling.

The course offers a journey through Virtual Reality that will lead students to lay solid foundations on this concept and to know its advantages, limitations, and disparities with other creations in the world of video games. The specialized teaching team will accompany the designers to show them which are the most used materials in VR and will teach them how to make a correct planning of a title with guaranteed success.

The 100% online methodology provides flexibility to students who wish to combine their personal and professional lives since they only need a computer or tablet with an Internet connection to access the content of the syllabus of this program. Additionally, the Relearning teaching system, based on the reiteration of content, will facilitate the consolidation of knowledge.

This **Postgraduate Certificate in Art Project for Virtual Reality and the Unity Graphics Engine** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The development of case studies presented by experts in Art for Virtual Reality
- ♦ 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



*Create spectacular virtual worlds with the Unity graphics engine. Enroll in this Postgraduate Certificate and you will achieve it"*



“Achieve successful artistic creations for VR video games. Specialize! All major studios are waiting for you”

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

*Your career is about to take a leap. Take the step and improve your artistic skills with this Postgraduate Certificate.*

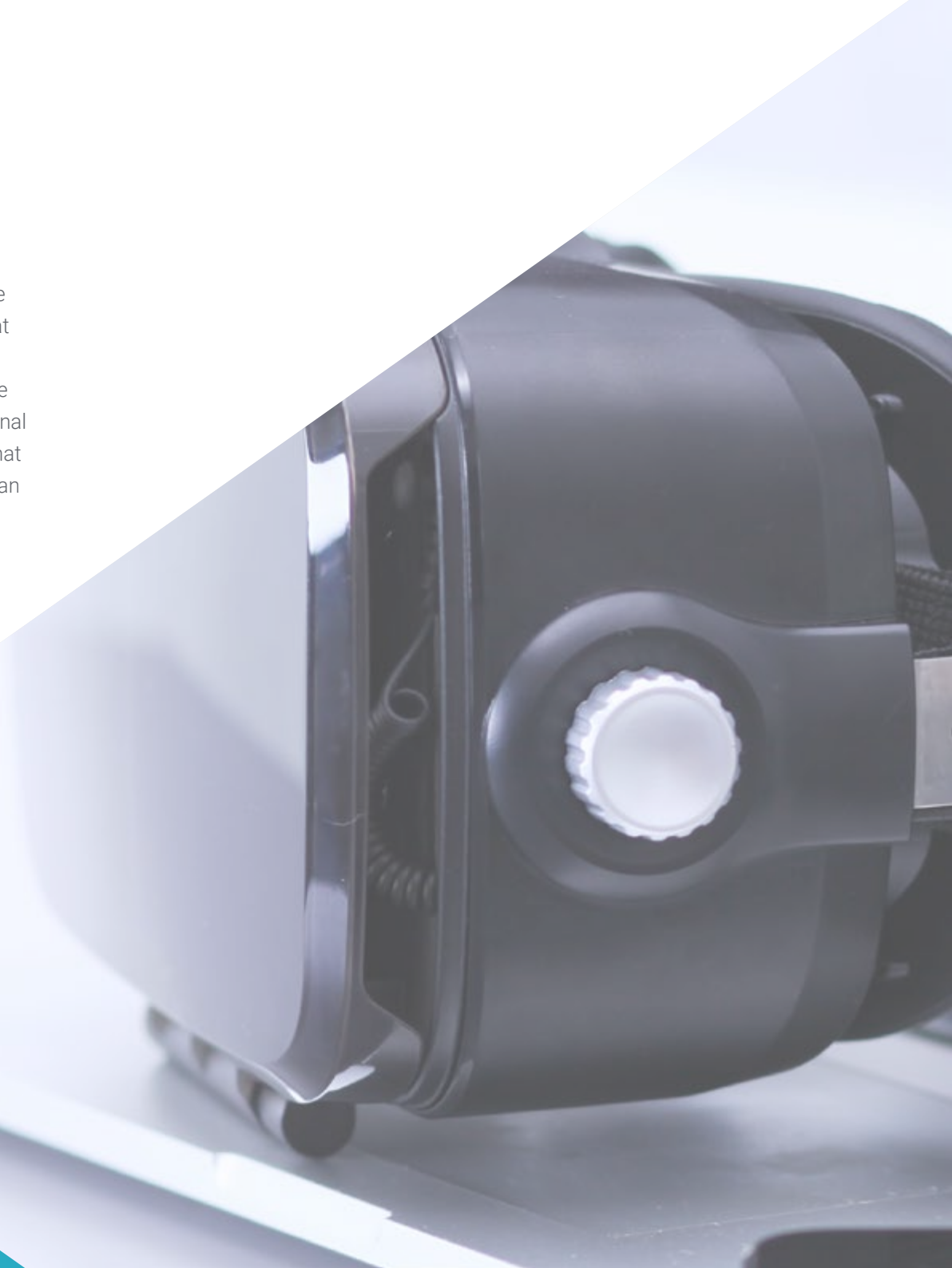
*Your art will be on par with the greatest titles. Achieve professional color grading and lighting with this Postgraduate Certificate.*



# 02

## Objectives

The program of this Postgraduate Certificate in Art Project for Virtual Reality and the Unity Graphics Engine is aimed at all designers who are looking for an education that allows them to progress in their professional career. Thus, at the end of this course, students will be able to analyze the pros and cons of VR-based projects. At the same time, the syllabus will lead the designer to delve into the elements of three-dimensional modeling for the development of excellent creations. All this through case studies that will lead the digital artist towards the materialization of their own projects, so they can submit them to the main studios of the sector.





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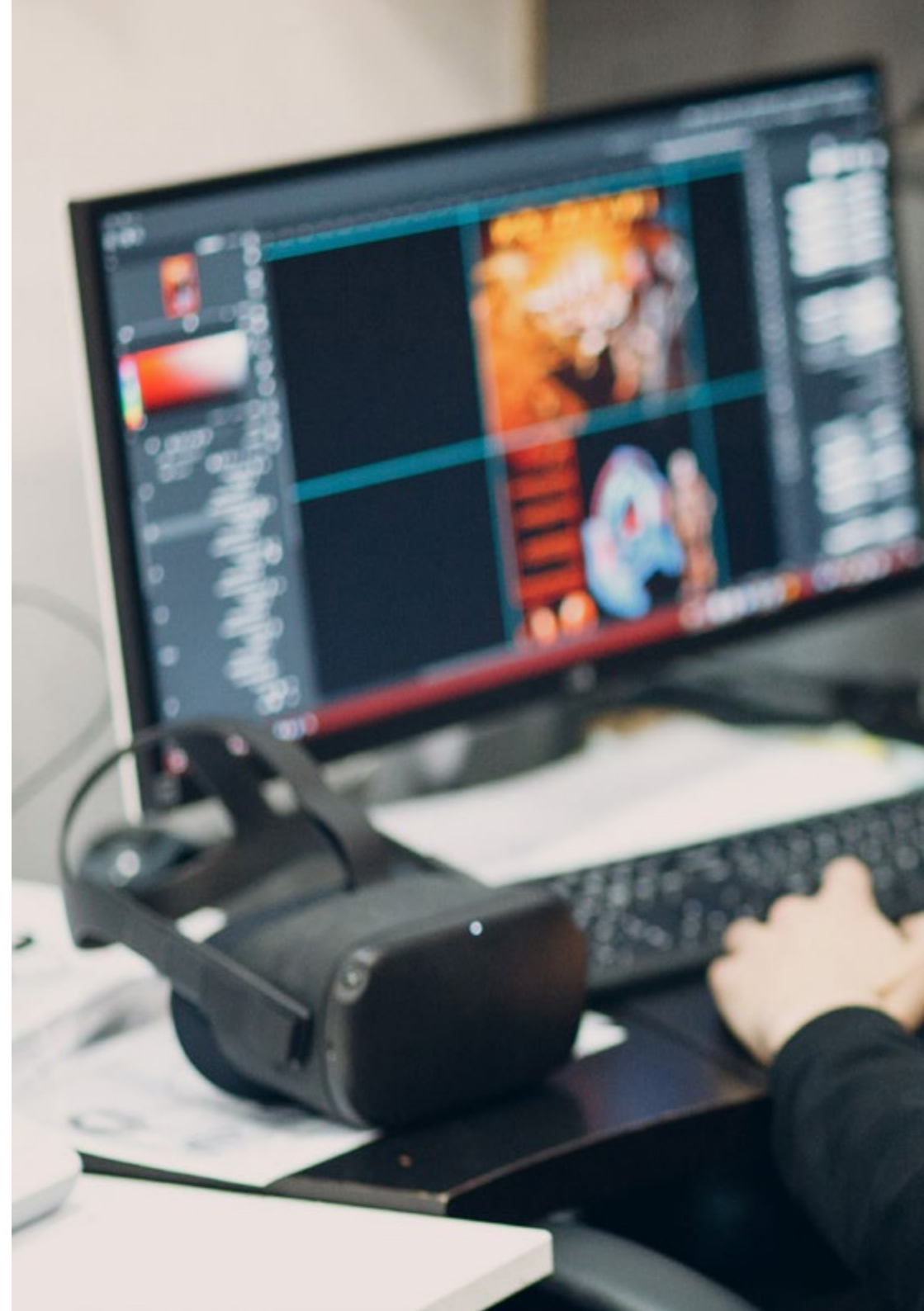
*TECH's objective is for you to achieve your professional goals, no matter how ambitious they may be. Achieve them with this Postgraduate Certificate”*



## General Objectives

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- ◆ 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





## Specific Objectives

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

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*You can access from any device with an Internet connection, from any place and at any time. TECH adapts to your own pace”*

03

# Course Management

TECH's objective is to offer an education that responds to the demands of the market and the professionals who are part of it. For this reason, this Postgraduate Certificate has a specialized teaching team with experience in the creation of graphic designs for Virtual Reality. The teacher's academic education and knowledge of the sector guarantees a high-quality training with up-to-date art content in a field with great professional projection. The students will be guided by a professional who will know how to get the best of each one of them.







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*A specialized teaching team will be able to teach you the keys to make your artistic project fit perfectly in the field of Virtual Reality video games”*

## 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





# 04

## Structure and Content

The syllabus of this Postgraduate Certificate has been prepared so that the designer and artistic creator is able to know each of the tools offered by Unity, as well as its different possibilities depending on the 3D modeling you want to do. In this program, we start with the global concept of Virtual Reality design and then delve into details such as software configuration for Oculus, Scene for VR, and rendering. The multimedia material and complementary readings will provide a complete knowledge of this graphics engine. An essential career tool for any designer looking to move up in the VR-based video game industry.



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*TECH offers you a syllabus that will allow you to advance your career in the VR video game industry”*



## Module 1. The Project and the Unity Graphics Engine

- 1.1. The 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. 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

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*A Postgraduate Certificate that will give you the necessary tips to make your artistic designs for Virtual Reality more successful”*

# 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.

“*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.

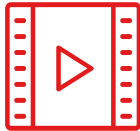
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



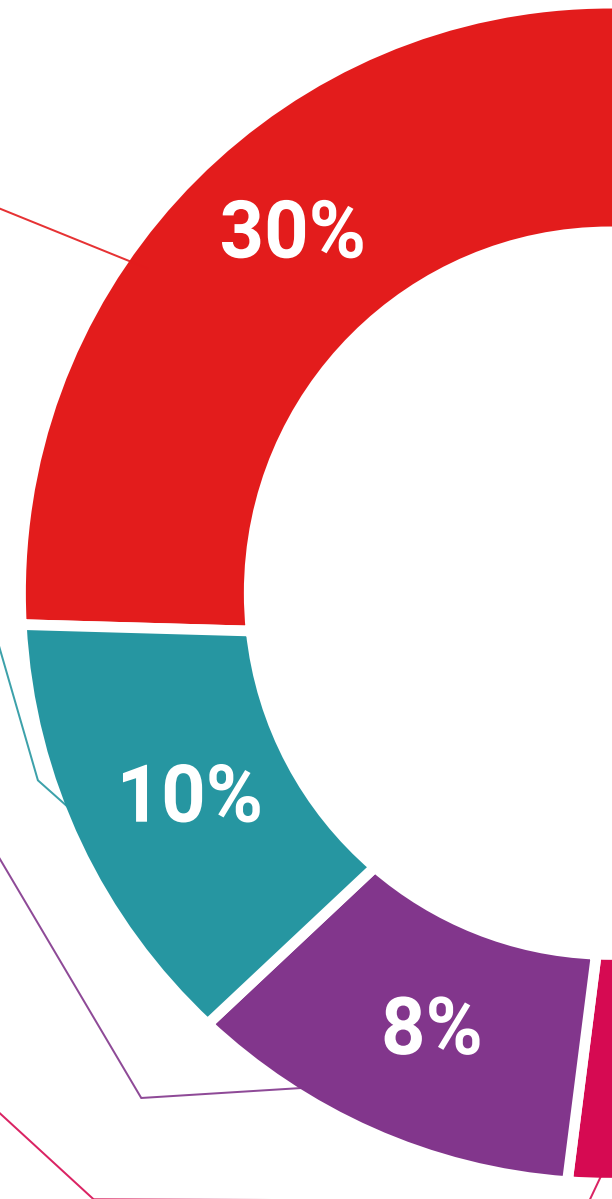
#### Practising Skills and Abilities

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.

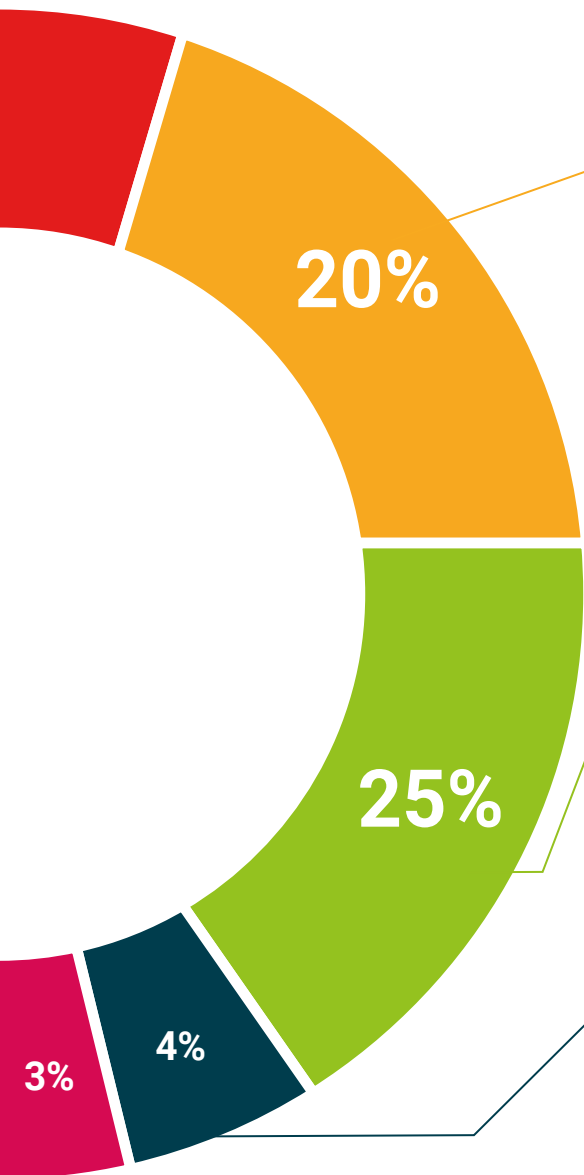


#### Additional Reading

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 Certificate in Project for Art for Virtual Reality and the Unity Graphics Engine guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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 Certificate in Art Project for Virtual Reality and the Unity Graphics Engine** 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 Certificate** diploma issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Art Project for Virtual Reality and the Unity Graphics Engine**

Official N° of hours: **150 h.**





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