

# Postgraduate Diploma 3D Video Game Industry





## Postgraduate Diploma 3D Video Game Industry

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

Website: [www.techtitute.com/us/design/postgraduate-diploma/postgraduate-diploma-3d-video-game-industry](http://www.techtitute.com/us/design/postgraduate-diploma/postgraduate-diploma-3d-video-game-industry)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 30*

# 01

# Introduction

Video game companies are increasingly demanding the presence of design professionals versed in 3D on their staffs to work on the creation of technical titles that combine the novelties of both sectors. For this reason, having a program certification on your résumé can be a unique opportunity to stand out in a booming industry. In a booming industry, TECH has launched this program, in order to provide them with the knowledge that will elevate their talent to the top of the industry. An online, dynamic and multidisciplinary degree with which you can acquire a thorough knowledge of the production of 3D projects, while perfecting your skills in the management of its main tools and software.





“

*If you are looking for a degree that will allow you to stand out in the 3D video game industry, this is the perfect option for you. perfect choice. Don't let it pass you by”*



The video game industry seems to be going from strength to strength as it evolves every year. As a result, millions of professionals around the world can work in the different areas it encompasses, making it a career with multiple options. However, in order to do this successfully, it is necessary to know in detail the characteristics of the current context, so that it is possible to create projects adapted not only to the specifications of the companies, but also to the demands of society.

Precisely this is the basis for the Postgraduate Diploma that TECH has developed. This is a dynamic and austere program that gathers the latest information related to the 3D videogame sector, from the ins and outs of the industry to recommendations for creating successful titles with a guaranteed reception. Furthermore, it delves into the typical problems and their solutions, providing the graduate with the keys to solve complex situations when directing or managing a project of this type.

Its convenient 100% online format makes this program's course accessible and convenient, allowing professionals to expand their knowledge and improve their skills and comfort, allowing professionals to expand their knowledge and improve their skills from wherever they want and with a schedule adapted to their absolute availability. You will have 6 months to enjoy the 450 hours of material (theoretical, practical and additional) included in this degree and you will have the support of a teaching team specialized in the area of design to ensure that you get the most out of this academic experience.

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

- ◆ Practical cases presented by experts in VIDEOJUEGOS 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 the self-assessment process can be carried out 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.



*A program that includes 450 hours of the best theoretical, practical and additional content based on the latest developments in design and their application in the video game industry”*

“

*You will be able to add to your professional skills the mastery of SCRUM and Agile, both of which are highly valued by the video game industry”*

The program's teaching staff includes professionals from sector who contribute their work experience to this 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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*You will master the 3D Max tools to generate different projects from zero to export.*

*You will have access to the Virtual Campus 24 hours a day throughout the week, so you can organize yourself as you wish.*



# 02

# Objectives

The increasing demand for design professionals who can perfectly handle the creation of video game projects is the reason why TECH has considered necessary the development of a specialized degree in this area. Therefore, its objective is to serve as a guide in their updating, providing them with the most updated information and the most sophisticated academic tools currently available.







“

*You will be able to reach your most demanding academic goals thanks to a program designed exclusively for you to achieve them in less than 6 months”*



## General Objectives

- ◆ Provide specialized knowledge about the 3D industry
- ◆ Use 3D Max software to generate different contents
- ◆ Propose a series of best practices and organized and professional work
- ◆ Generate specialized knowledge in Virtual Reality
- ◆ Determine the Assets and characters and virtual reality integration
- ◆ Analyze the importance of audio in video games
- ◆ Develop the SCRUM and Agile Methodology applied to video games to manage projects
- ◆ Establish a system for calculating effort, in the form of estimates, based on hours
- ◆ Generate material to present projects to investors



*Would you like to perfect your skills in the definition of the aesthetic line for the generation of the artistic style of a video game? With this program you will achieve it"*





## Specific Objectives

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### Module 1. The 3D Industry

- ◆ Examine the current state of the 3D industry, as well as its evolution over the last few years
- ◆ Generate specialized knowledge about the software commonly used within the industry to generate professional 3D content
- ◆ Determine the steps to develop this type of content through a *pipeline* adapted to the video game industry
- ◆ Analyze the most advanced 3D styles, as well as their differences, advantages and disadvantages for subsequent generation
- ◆ Integrate content developed in both the digital world (video games, VR, etc.) and the real world (AR, MR/XR)
- ◆ Establish the key points that differentiate a 3D project in the video game industry, cinema, TV series or the world of advertising
- ◆ Generate professional quality 3D assets using 3D Max and learn how to use the tool
- ◆ Maintain an organized workspace and maximize the efficiency of time spent generating 3D content

### Module 2. 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 3. Video Game Production and Financing

- ◆ Determine the differences between production methodologies prior to SCRUM and their evolution to the present day
- ◆ Apply *Agile* thinking to any development without losing project management
- ◆ Develop a sustainable framework for the entire team
- ◆ Anticipate production HR needs and develop a basic personnel cost estimate
- ◆ Conduct prior analysis to obtain key information for communication about the most important values of our project
- ◆ Support the project's sales and financing arguments with numbers that demonstrate the project's potential solvency
- ◆ Determine the necessary steps to approach *Publishers* and investors

# 03

## Course Management

For both the direction and the teaching of this program, TECH has taken into consideration not only the curriculum of its candidates, but also the human and professional quality they have demonstrated in the demanding selection processes. As a result, it has been possible to form a solid and dynamic team, versed in the area of design and with a wide and extensive work experience in the development of video games.







“

*Our faculty has selected hours of high quality additional material so that you can delve into the syllabus in a personalized way and based on your academic requirements”*

## 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

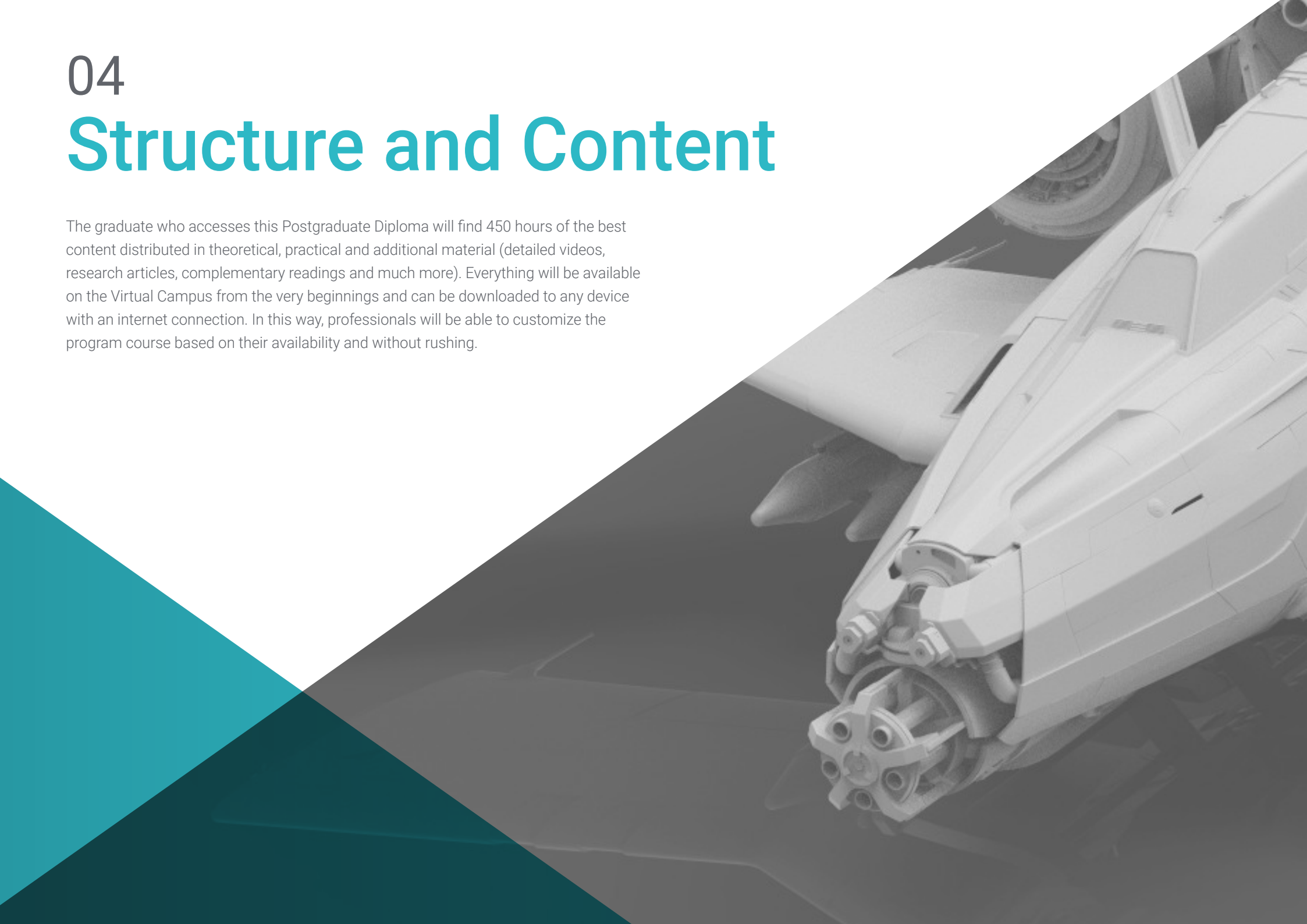
- ♦ Specialist in Rigging and 3D Animation for videogames
- ♦ 3D Graphic Artist at Dog Lab Studios
- ♦ Producer at Imagine Games leading the video game development team.
- ♦ Graphic artist at Wildbit Studios with 2D and 3D works.
- ♦ Teaching experience in ESNE and in the CFGS in 3D Animation: games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



# 04

## Structure and Content

The graduate who accesses this Postgraduate Diploma will find 450 hours of the best content distributed in theoretical, practical and additional material (detailed videos, research articles, complementary readings and much more). Everything will be available on the Virtual Campus from the very beginnings and can be downloaded to any device with an internet connection. In this way, professionals will be able to customize the program course based on their availability and without rushing.





“

*Due to the methodology used in the development of the content of this program, you will not need to invest extra hours in memorizing. Shall we show you?”*

## Module 1. The 3D Industry

- 1.1. 3D Animation and Video Game Industry
  - 1.1.1. 3D Animation
  - 1.1.2. 3D Animation and Video Game Industry
  - 1.1.3. 3D Animation Future
- 1.2. 3D in Video Games
  - 1.2.1. Video Games Limitations
  - 1.2.2. 3D Video Game Development Difficulties
  - 1.2.3. Solutions to Video Game Development Difficulties
- 1.3. 3D Software for Video Games
  - 1.3.1. Maya. Pros and Cons
  - 1.3.2. 3DS Max. Pros and Cons
  - 1.3.3. *Blender*. Pros and Cons
- 1.4. Pipeline in 3D Asset Generation for Video Games
  - 1.4.1. Idea and Assembly from a *Modelsheet*
  - 1.4.2. Modeling with Low Geometry and High Detailing
  - 1.4.3. Projection of Textured Details
- 1.5. Key Artistic 3D Styles for Video Games
  - 1.5.1. Cartoon Style
  - 1.5.2. Realistic Style
  - 1.5.3. *Cel Shading*
  - 1.5.4. *Motion Capture*
- 1.6. 3D Integration
  - 1.6.1. 3D Digital World Integration
  - 1.6.2. 3D Digital World Integration
  - 1.6.3. Real-World Integration (AR, MR/XR)
- 1.7. Key 3D Factors for Different Industries
  - 1.7.1. 3D in Film and Series
  - 1.7.2. 3D in Video Games
  - 1.7.3. 3D in Marketing
- 1.8. *Rendering*: Real-time rendering and pre-rendering
  - 1.8.1. Lighting
  - 1.8.2. Shadow Definition
  - 1.8.3. Quality vs Speed





- 1.9. 3D Asset Generation in 3D Max
  - 1.9.1. 3D Max Software
  - 1.9.2. Interface, Menus, Toolbars
  - 1.9.3. Controls
  - 1.9.4. Scene
  - 1.9.5. Viewports
  - 1.9.6. Basic Shapes
  - 1.9.7. Object Generation, Modification and Transformation
  - 1.9.8. 3D Scene Creation
  - 1.9.9. 3D Professional Asset Modeling for Video Games
  - 1.9.10. Material Editors
    - 1.9.10.1. Creating and Editing Materials
    - 1.9.10.2. Applying Light to Materials
    - 1.9.10.3. UVW Map Modifier. Mapping Coordinates
    - 1.9.10.4. Texture Creation
- 1.10. Workspace Organization and Best Practices
  - 1.10.1. Creation of a Project
  - 1.10.2. Folder Structure
  - 1.10.3. Custom Functionality

## Module 2. Art and 3D in the Video Game Industry

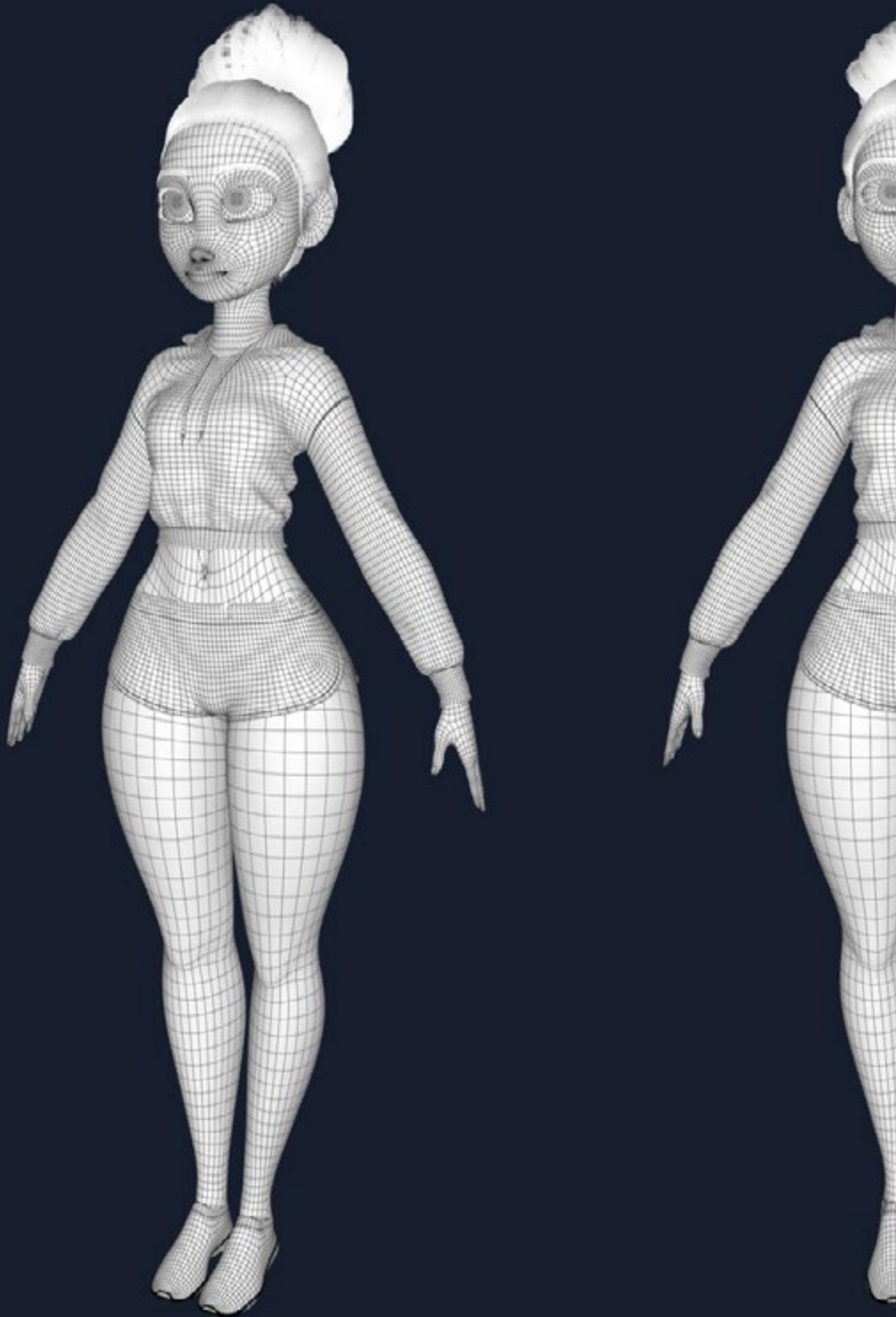
- 2.1. 3D VR Projects
  - 2.1.1. 3D Mesh Creation Software
  - 2.1.2. Image Editing Software
  - 2.1.3. Virtual Reality
- 2.2. Typical Problems, Solutions and Project Needs
  - 2.2.1. Project Needs
  - 2.2.2. Possible Problems
  - 2.2.3. Solutions
- 2.3. Aesthetic Line Study for the Artistic Style Generation in Video Games: From Game Design to 3D Art Generation
  - 2.3.1. Video Game Target Choice. Who Do We Want to Reach?
  - 2.3.2. Developer's Artistic Possibilities
  - 2.3.3. Final Definition of the Aesthetic Line

- 2.4. Aesthetic Benchmarking and Competitor Analysis
  - 2.4.1. Pinterest and Similar Sites
  - 2.4.2. *Modelsheet* Creation
  - 2.4.3. Competitor Search
- 2.5. Bible Creation and *Briefing*
  - 2.5.1. Bible Creation
  - 2.5.2. Bible Development
  - 2.5.3. *Briefing* Development
- 2.6. Scenarios and Assets
  - 2.6.1. Production Asset Planning at Production Levels
  - 2.6.2. Scenario Design
  - 2.6.3. Asset Design
- 2.7. Asset Integration in Levels and Tests
  - 2.7.1. Integration Process at All Levels
  - 2.7.2. Texture
  - 2.7.3. Final Touches
- 2.8. Characters
  - 2.8.1. Character Production Planning
  - 2.8.2. Character Design
  - 2.8.3. Character Asset Design
- 2.9. Character Integration in Scenarios and Tests
  - 2.9.1. Character Integration Process in Levels
  - 2.9.2. Project Needs
  - 2.9.3. Animations
- 2.10. 3D Video Game Audio
  - 2.10.1. Project Dossier Interpretation for Sound Identity Generation of Video Games
  - 2.10.2. Composition and Production Processes
  - 2.10.3. Soundtrack Design
  - 2.10.4. Sound Effect Design
  - 2.10.5. Voice Design

### Module 3. Video Game Production and Financing

- 3.1. Video Game Production
  - 3.1.1. Cascading Methodologies
  - 3.1.2. Case Studies on Lack of Project Management and Work Plan
  - 3.1.3. Consequences of the Lack of a Production Department in the Video Game Industry
- 3.2. Development Teams
  - 3.2.1. Key Departments in Project Development
  - 3.2.2. Key Profiles in Micro-Management: *Lead* and Senior
  - 3.2.3. Problems of Lack of Experience in Junior Profiles
  - 3.2.4. Establishment of Training Plan for Low-Experience Profiles
- 3.3. Agile Methodologies in Video Game Development
  - 3.3.1. SCRUM
  - 3.3.2. *AGILE*
  - 3.3.3. Hybrid Methodologies
- 3.4. Effort, Time and Cost Estimates
  - 3.4.1. Video Game Development Costs: Main Expense Concepts
  - 3.4.2. Task Scheduling: Critical Points, Keys and Aspects to Consider
  - 3.4.3. Estimates based on effort points vs Calculation in hours
- 3.5. Prototype Planning Prioritization
  - 3.5.1. General Project Objective Establishment
  - 3.5.2. Prioritization of Key Functionalities and Contents: Order and Needs by Department
  - 3.5.3. Grouping of Functionalities and Contents in Production to Constitute Deliverables (Functional Prototypes)
- 3.6. Best Practices in Video Game Production
  - 3.6.1. Meetings, *Dailies*, *Weekly Meetings*, End of *Sprint* Meetings, and ALPHA, BETA and RELEASE Milestone Review Meetings
  - 3.6.2. *Sprint* Speed Measurement
  - 3.6.3. Lack of Motivation and Low Productivity Detection and Anticipation of Potential Production Problems





- 3.7. Production Analysis
  - 3.7.1. Preliminary Analysis I: Market Status Review
  - 3.7.2. Preliminary Analysis II: Establishment of Main Project References (Direct Competitors)
  - 3.7.3. Previous Analyses Conclusions
- 3.8. Development Cost Calculation
  - 3.8.1. Human resources
  - 3.8.2. Technology and Licensing
  - 3.8.3. External Development Expenses
- 3.9. Investment Search
  - 3.9.1. Types of Investors
  - 3.9.2. Executive Summary
  - 3.9.3. *Pitch Deck*
  - 3.9.4. *Publishers*
  - 3.9.5. Self-Financing
- 3.10. Project *Post Mortem* Elaboration
  - 3.10.1. Corporate *Post-Mortem* Elaboration Process
  - 3.10.2. Positive Aspect Analysis of the Project
  - 3.10.3. Negative Aspect Analysis of the Project
  - 3.10.4. Improvement Proposal on the Project's Negative Points and Conclusions



*Take a decisive step in your career as a creative and opt for a degree that will undoubtedly mark a before and after in your career"*

# 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.



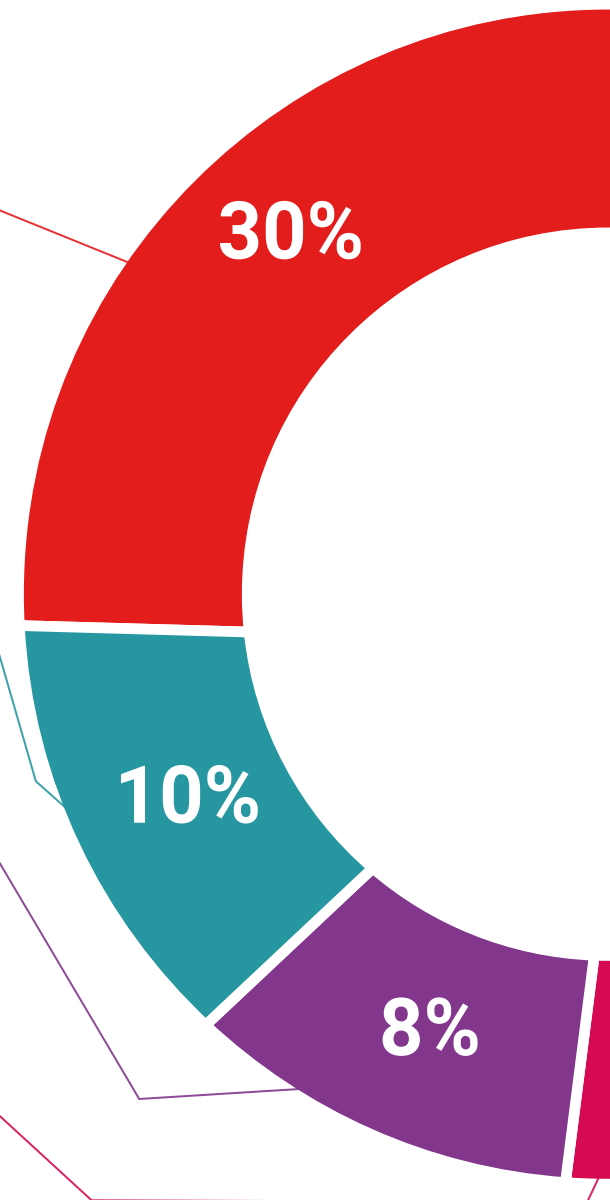
### Practising Skills and Abilities

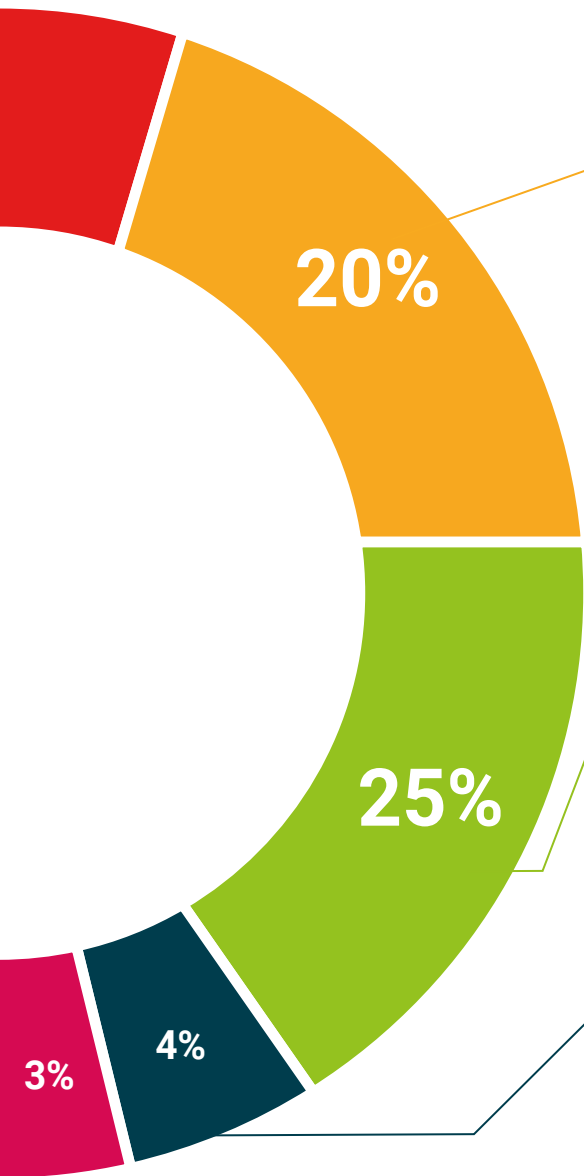
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 3D Video Game Industry 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 3D Video Game Industry** 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 diploma 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 from career evaluation committees.

Title: **Postgraduate Diploma in Industry Games 3D**

Official N° of Hours: **450 h.**



future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

online training

development language

virtual classroom

**tech** technological  
university

## Postgraduate Diploma 3D Video Game Industry

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
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# Postgraduate Diploma 3D Video Game Industry