Postgraduate Diploma

3D Video Game Industry

tech technological university

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Postgraduate Diploma

3D Video Game Industry

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/videogames/postgraduate-diploma/postgraduate-diploma-3d-video-game-industry

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01

Introduction

The art of 3D in the video game industry has become an in-demand skill in the labor sector. Mastering software, Assets and integration styles to perfection can open doors for any professional to a future in which animation and gameplay through virtual reality have a lot of room For that reason, this program offered by TECH may be the best opportunity for many specialists in the area to specialize in a comprehensive and guaranteed way in this sector. It is a 100% online program developed by experts in engineering and design thanks to which the graduate will acquire a unique set of knowledge with which he or she will be able to manage any 3D video game project with guaranteed success.

Sony, Microsoft or Nintendo are increasingly demanding the presence in their staffs of professionals who are proficient in 3D techniques. Would you like to be one of them?"

The development of new technologies in the last decade, as well as IoT tools, has allowed sectors such as video games to grow exponentially. Among the techniques that have achieved the best results are those related to 3D design and modeling, which, together with virtual reality software, have made it possible to create totally immersive and increasingly realistic scenarios Examples are Elden Ring, Soultice, Overwatch or Battlefield, titles that can be found on different multi-million dollar platforms such as PlayStation, Nintendo, Microsoft or Xbox.

It is, therefore, a sector with a wide margin for growth and in which any professional versed in the area could stand out It is precisely with this objective in mind that TECH has developed this University Expert. This is an inverse, dynamic and austere program thanks to which the graduate will be able to delve into the intricacies of the 3D industry, the management of its tools, the creation of VR projects and the analysis of production and Post-Mortem in video games A unique educational opportunity to specialize in this field and acquire knowledge that will elevate your talent to the level of large companies such as Sony or Tencent.

All this through a 100% online degree developed over 6 months and which includes 450 hours of the best theoretical, practical and additional content: detailed videos, self-knowledge exercises, images, real simulations, research articles, complementary readings, etc. In addition, all the content will be available from day one and can be downloaded to any device with an internet connection, whether it is a PC, tablet or computer Thanks to this, the professional will be able to attend an academic experience that is fully capacitating and adapted to his or her needs and those of the current labor market.

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

- Practical cases presented by experts in video games 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

Know the typical problems that usually arises in 3D projects in VR and their solutions will allow you to increase the chances of success of any video game plan in which you participate”

Would you like to master the design of soundtracks, sound effects and voices in video games? With this program you will work on it through the novelties of acoustic identity applied to industry"

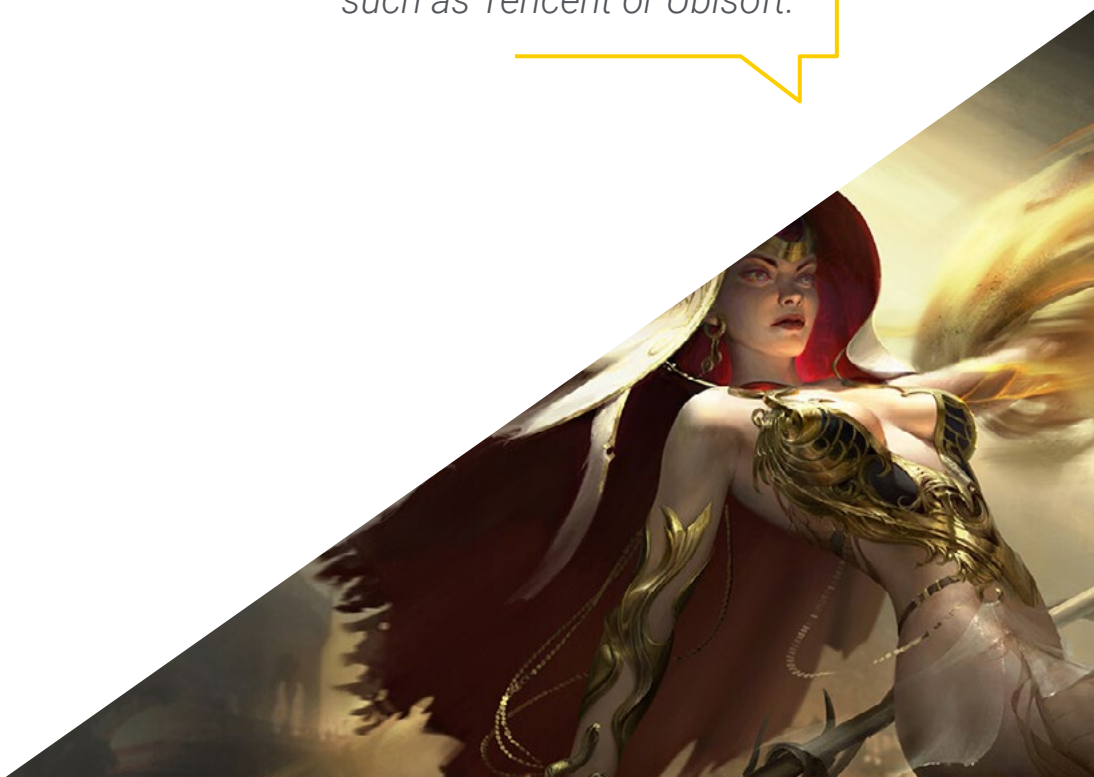
You will have additional high-quality material presented in different formats to delve deeper into aspects such as the integration of the Assets in the different levels and tests.

With this University Expert you will elevate your talent to meet the most demanding requirements of companies such as Tencent or Ubisoft.

The program's teaching staff includes professionals from 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, students will be assisted by an innovative, interactive video system created by renowned and experienced experts.



02

Objectives

The professional opportunities that can have any professional versed in the area of the 3D video game industry is the reason why TECH has decided to create this University Expert. For this reason, the graduate who accesses it will find the most austere and exhaustive information, based on the latest developments in the sector and developed on the basis of the specialized criteria of a team with extensive experience in this field In addition, you will have the best and most sophisticated academic tools to make this degree a totally dynamic, immersive and highly empowering experience.

Whatever your goals are, TECH will provide you with the most sophisticated academic tools to help you achieve them with total assurance"

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 *assets* , 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

If among your objectives is to know in detail the keys to save costs, time and effort in a 3D video game project, this in detail the keys to save costs, time and effort in a 3D videogame project, this University Expert is perfect for you"

Specific Objectives

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
- Evaluate 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
- Anticipating PR needs Production HH and prepare a calculation of basic personnel costs
- 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

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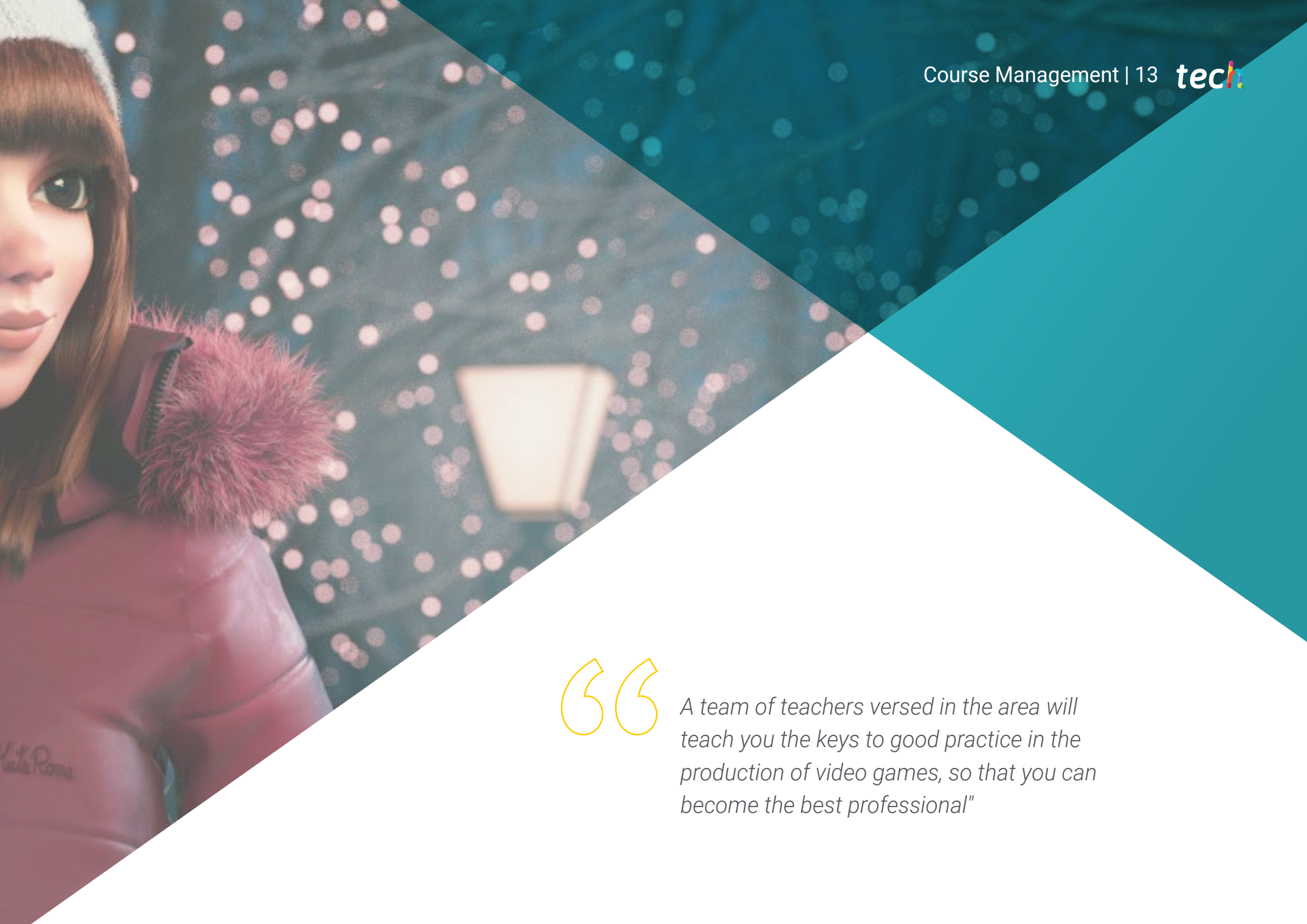
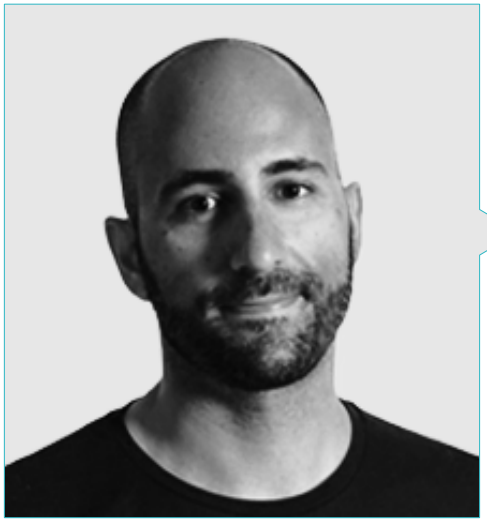
Course Management

TECH's track record allows it to define itself as a university highly committed to the academic and professional growth of all its graduates For this reason, for this program has selected a teaching team versed in the area of video game production, so that students can learn in detail the latest developments in the sector from the hands of real experts In addition to their work experience, the faculty is characterized by their human qualities, aspects that will be clearly reflected in the exhaustiveness with which the syllabus has been designed.



A team of teachers versed in the area will teach you the keys to good practice in the production of video games, so that you can become the best professional"

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

This program offered by TECH has been designed by the teaching team based on two fundamental pillars: on the one hand, the most comprehensive and innovative information related to the production of video games, and on the other hand, the demanding quality guidelines that have allowed this university to become one of the best in the international online scene. It also includes hours of additional material presented in different formats, thanks to which graduates will be able to delve in a personalized way into the aspects of the syllabus that they consider most relevant for their professional performance.

Do you know the Relearning methodology? Thanks to it, you will save hours of memorization, guaranteeing intensive and dynamic learning"

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. 2d 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. Render: 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. Esthetic 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. Creation of a Model Sheet
- 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, Daylies, Weekly Meeting, end-of-sprint meetings, ALFA, BETA and RELEASE milestone performance 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 1: Market Status Review
- 3.7.2. Preliminary Analysis 2: 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. Post-Mortem Elaboration Process in the Company
- 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

Don't miss this opportunity to become acquire a Postgraduate Diploma with TECH and this fantastic 100% online program"

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 has been the most widely used learning system among the world's leading business schools for as long as they have existed. 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 that you are presented with in the case method, an action-oriented learning method. Over the course of 4 years, you will be presented with multiple practical case studies. You will have to combine all your knowledge, and research, argue, and defend your ideas and decisions.

Relearning Methodology

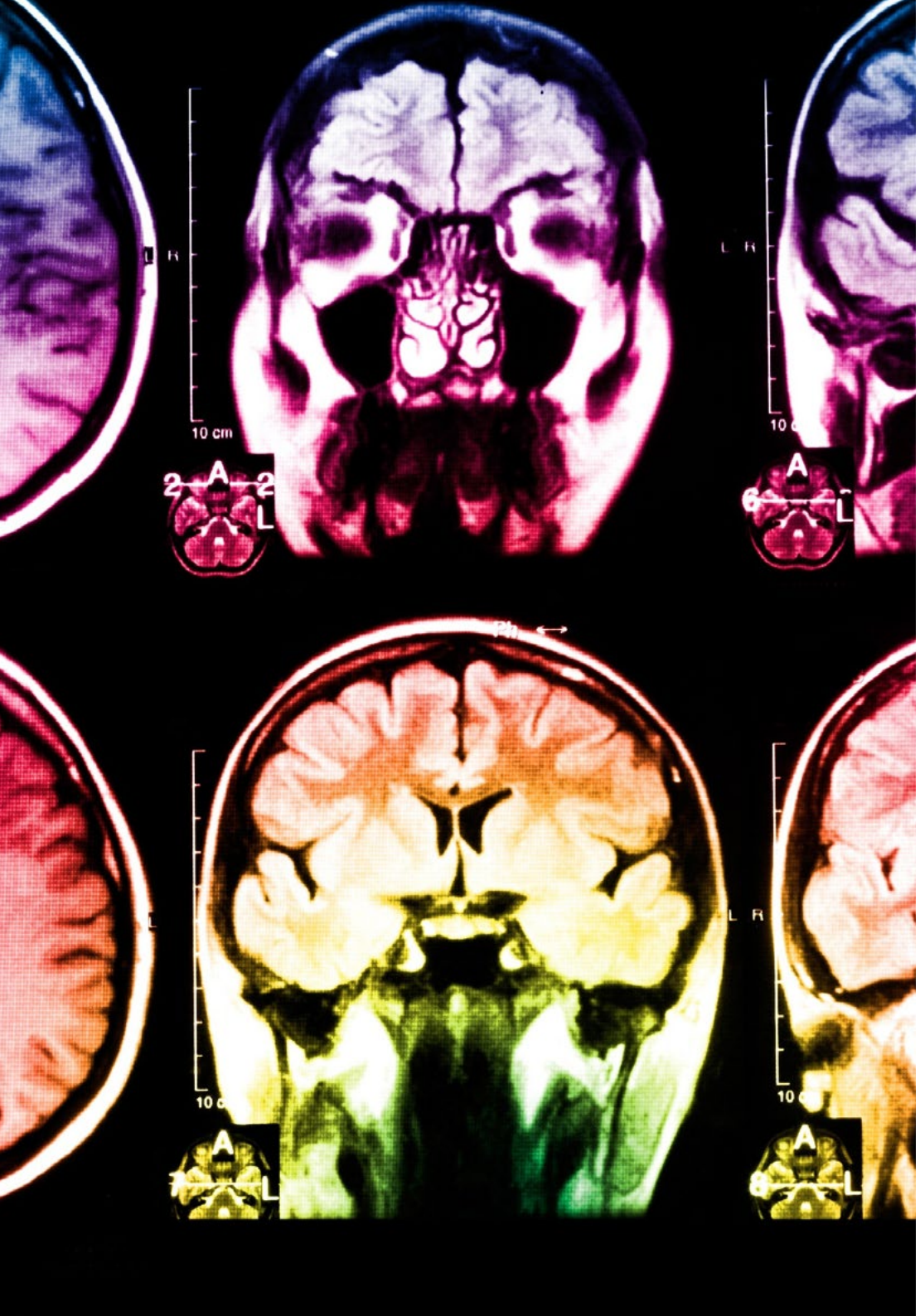
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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. This methodology has 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, and financial markets and 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.

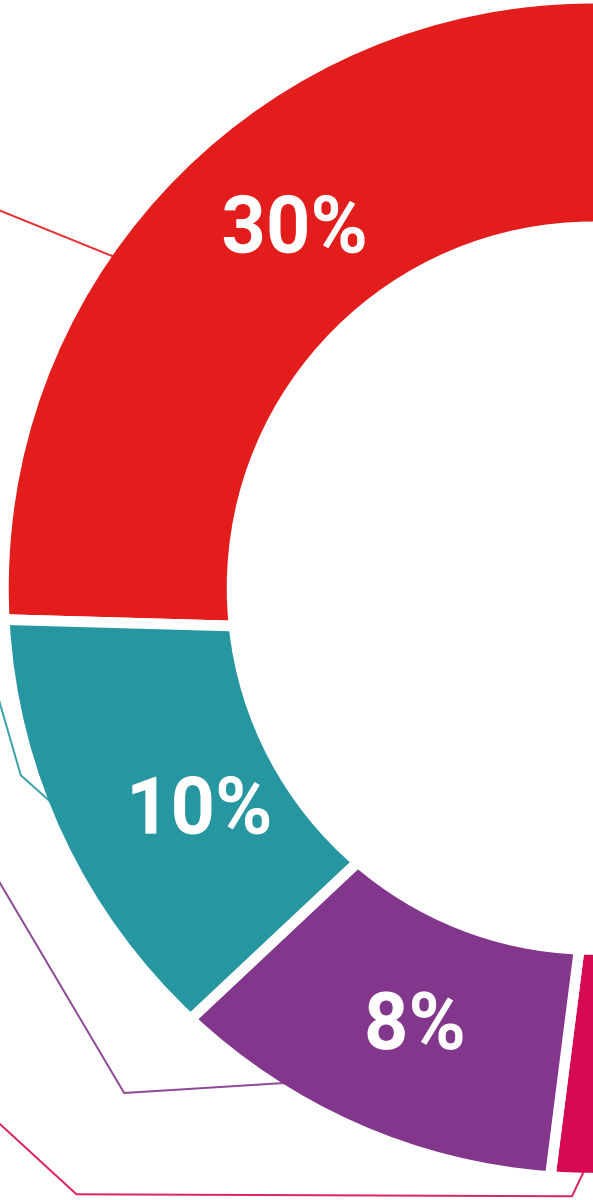
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

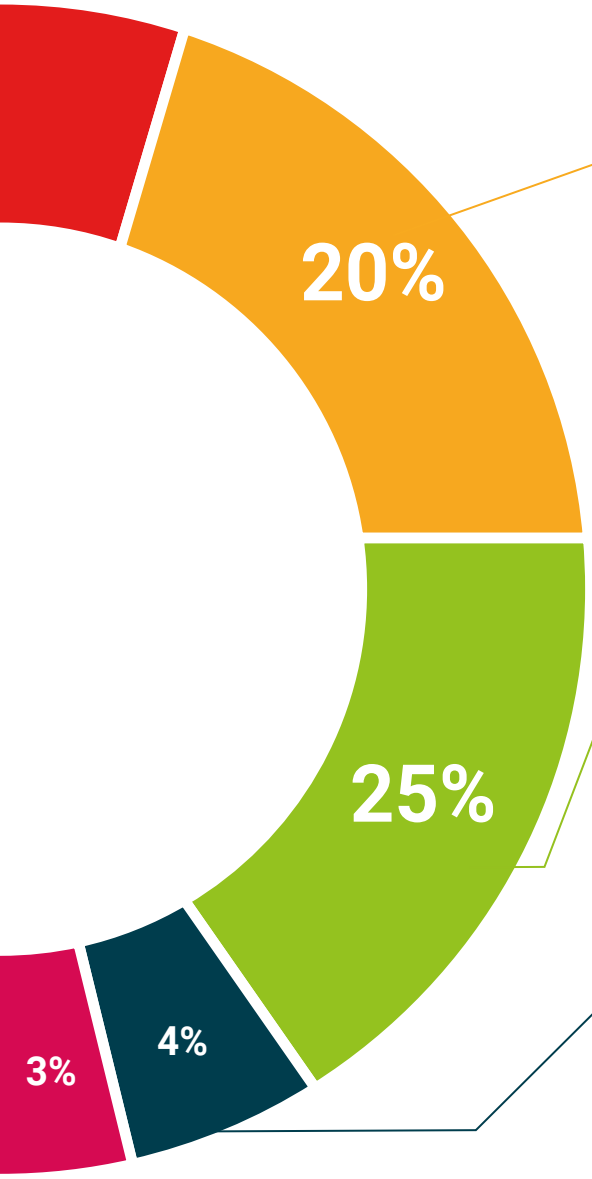
Practising Skills and Abilities

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

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.

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 career evaluation committees

Title: **Postgraduate Diploma in 3D Video Game Industry**

Official N° of hours: **450 h.**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

3D Video Game Industry

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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