

# Postgraduate Certificate

Technical Animation Systems, Skeletal  
Meshes and Ragdoll Systems





## Postgraduate Certificate Technical Animation Systems, Skeletal Meshes and Ragdoll Systems

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

Website: [www.techtitute.com/us/videogames/postgraduate-certificate/technical-animation-systems-skeletal-meshes-ragdoll-systems](http://www.techtitute.com/us/videogames/postgraduate-certificate/technical-animation-systems-skeletal-meshes-ragdoll-systems)

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# 01

# Presentation

Giving video game characters more realistic and professional animations than the predefined aspects will make the title a more immersive and interactive experience, something that creatives can achieve through the use of Ragdoll or Skeletal Meshes techniques. However, these are two strategies that require specialized knowledge for their correct implementation, something that all the graduates will be able to acquire with the course of this program. It is an online, multidisciplinary and austere academic experience that gathers, in 150 hours of the best practical and additional theoretical content, the latest information on programming, generation of mechanics and prototyping techniques for video games, thanks to which the professional in this area can improve their skills in less than 6 weeks and from the hand of real experts in the sector.



“

*Would you like to be able to create character animations as realistic as those in Grand Theft Auto or The Sims? With this course, you will learn everything you need to know to achieve this in just 6 weeks"*

The passage of time and the evolution of audiovisual and computer technology has greatly benefited multiple sectors, including the video game industry. The development of increasingly complex and realistic techniques, coupled with the creation of immersive atmospheres and expressive characters has been reflected in successful titles such as Grand Theft Auto or Fortnite, which have managed to earn millions of dollars with their releases.

This has been thanks to the use of strategies such as those of Ragdoll Systems or Skeletal Meshes, with which the protagonists of the story adopt a state like that of a ragdoll, betting on more expressive reactions and in which the character responds to different stimuli such as blows, falls or obstacles in a more natural way. However, the mastery of these techniques requires a broad and specialized knowledge of them, something that the graduate will be able to acquire with the course of this program offered by TECH.

Through 150 hours of the best theoretical, practical and additional content designed by a group of experts in the audiovisual entertainment sector, professionals will be able to work on perfecting their programming strategies, generation of mechanics and video game prototyping techniques. They will also learn about the latest developments related to Low Poly and High Poly, models, and the most effective tools and software, such as Animate or Unity.

And they will have 6 weeks to overcome the objectives that TECH poses with this degree, as well as their own, attending a training adapted to their academic needs and the current labor demand. In addition, its convenient 100% online format will allow you to take the program without any restricted schedules or face-to-face classes, which is a unique opportunity to become a true expert in this industry from wherever you want and at your own pace, without any stress.

This **Postgraduate Certificate in Technical Animation Systems, Skeletal Meshes and Ragdoll Systems** contains the most complete and up-to-date program in the market. Its most notable features are:

- ◆ The development of 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 self-assessment can be used 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



*You will learn in detail the Low Poly and High Poly models, as well as the main techniques that currently exist for their development through Unity"*

“

*You will work intensively on character design their movement and behavior to create more realistic and dynamic colliders”*

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, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Among the skills that you will acquire with this program, it is worth mentioning the mastery of importing projects from Skeletal Meshes to Unity.*

*You will have 150 hours of the best theoretical, practical and additional material in different formats, which you can download to any device with an Internet connection.*





# 02 Objectives

The Postgraduate Certificate of specialization required to master the main techniques of programming, mechanics generation and prototyping for video games, is what has made TECH consider necessary the development of a qualification through which graduates can learn in detail the ins and outs of this field. For this reason, the objective of this Diploma is to guide you and provide you with the most exhaustive and innovative information and the best educational tools to allow you to become an expert in *Ragdoll Systems*, *Animation Systems* and *Skeletal Meshes*, in only 6 weeks.







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*If one of your objectives with this program is to learn how to manage the creation and simulation of a Ragdoll, TECH guarantees that you will achieve it"*



## General Objectives

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- ◆ Develop advanced characters for 3D video games
- ◆ Use animation systems and other resources as libraries in professional projects
- ◆ Prepare projects for proper export

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*A program that will allow you to learn in detail the latest resources for the creation of characters and the manipulation of materials in the development of video games"*





## Specific Objectives

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- ◆ Work with Low-Poly and High-Poly models in professional developments under Unity 3D environment
- ◆ Implement advanced functionalities and behaviors in video game characters
- ◆ Correctly import character animations into the working environment
- ◆ Control Ragdoll systems y skeletal meshes
- ◆ Master the available resources such as Asset libraries and functionalities and import them into the project configured by students
- ◆ Discover the key points of teamwork for technical professionals involved in 3D programming and animation
- ◆ Configure the project to export it correctly and ensure that it works correctly



# 03

# Course Management

For the teaching of this program in Technical Animation Systems, Skeletal Meshes and Ragdoll Systems, TECH has selected a team of experts in the video game industry with a broad and extensive career in the management of gamers projects According to the letters of recommendation that accompanied their extensive resumes, they are professionals characterized, in addition, by their human quality and their commitment to the professional growth of their colleagues and students Therefore, this Postgraduate Certificate is presented as a unique opportunity to be trained by the best specialists.



“

*What happens if a question arises during the course of the program? Well, you will be able to solve it with the teaching team through individualized tutoring”*



## 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

### Mr. Martínez Alonso, Sergio

- ◆ Senior Unity Developer at NanoReality Games Ltd
- ◆ Lead Programmer and Game Designer at NoobO Games
- ◆ Teacher in several educational centers such as iFP, Implika or Rockbotic
- ◆ Programmer at Stage Clear Studios
- ◆ Professor at the University School of Design, Innovation and Technology
- ◆ Degree in Computer Engineering from the University of Murcia
- ◆ Master's Degree in Video Game Design and Development from the University School of Design, Innovation and Technology

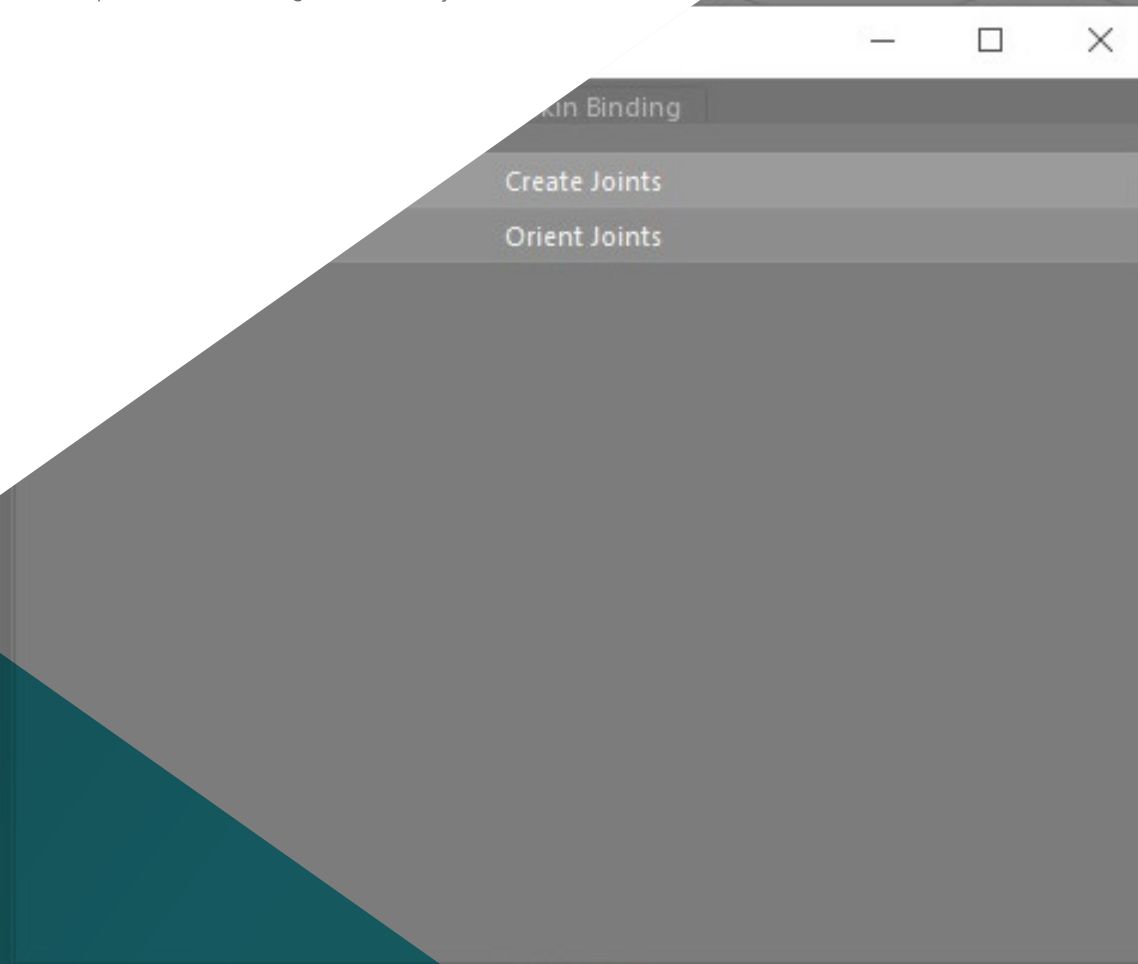


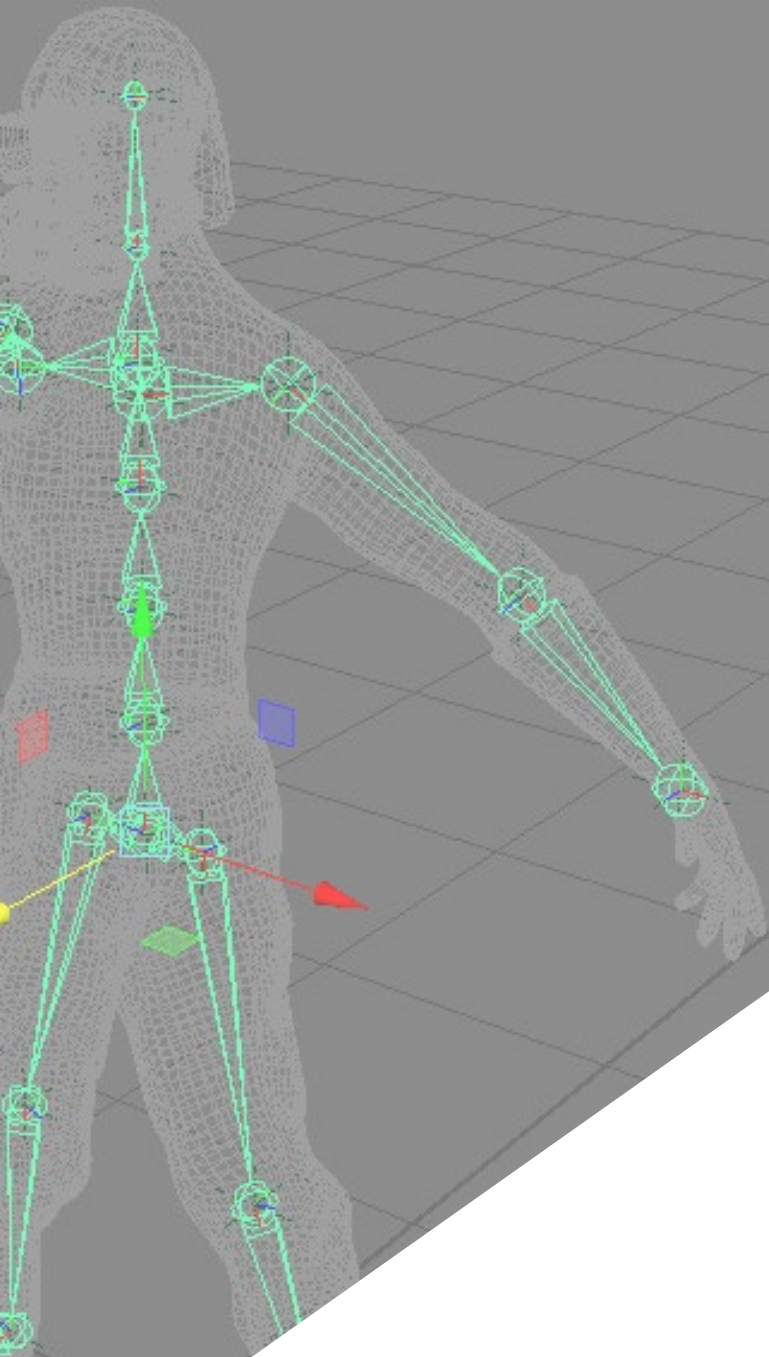


# 04

## Structure and Content

TECH Postgraduate Certificates are distinguished by three main characteristics: their up-to-date and specialized nature, the dynamism of their syllabus and the accessibility of their 100% online format. Thanks to this, it is possible to offer programs such as this highly capacitating, comfortable and intensive Postgraduate program, through which graduates can be trained in a guaranteed way to succeed in such a complex sector in a sector as complex as the video game industry.





“

*You will have at your disposal complementary readings, research articles, case studies and detailed videos to go deeper into the aspects of the syllabus that you consider most important"*



## Module 1. Programming, Mechanics Generation and Video Game Prototyping Techniques

- 1.1. Technical Process
  - 1.1.1. Low-Poly and High-Poly Unity
  - 1.1.2. Material Settings
  - 1.1.3. High-Definition Render Pipeline
- 1.2. Character Design
  - 1.2.1. Movement
  - 1.2.2. Collider Design
  - 1.2.3. Creation and Behavior
- 1.3. Importing Skeletal Meshes into Unity
  - 1.3.1. Exporting Skeletal Meshes from 3D Software
  - 1.3.2. Skeletal Meshes in Unity
  - 1.3.3. Anchor Points for Accessories
- 1.4. Importing Animations
  - 1.4.1. Animation Preparation
  - 1.4.2. Importing Animations
  - 1.4.3. Animator and Transitions
- 1.5. Animation Editor
  - 1.5.1. Blend Spaces Creation
  - 1.5.2. Creating Animation Montage
  - 1.5.3. Editing Read-Only Animations
- 1.6. Ragdoll Creation and Simulation
  - 1.6.1. Ragdoll Configuration
  - 1.6.2. Ragdoll to an Animation Graph
  - 1.6.3. Ragdoll Simulation



- 1.7. Resources for Character Creation
  - 1.7.1. Libraries
  - 1.7.2. Importing and Exporting Library Materials
  - 1.7.3. Handling of Materials
- 1.8. Work Teams
  - 1.8.1. Hierarchy and Work Roles
  - 1.8.2. Version Control Systems
  - 1.8.3. Conflict Resolution
- 1.9. Requirements for Successful Development
  - 1.9.1. Production for Success
  - 1.9.2. Optimal Development
  - 1.9.3. Essential Requirements
- 1.10. Publication Packaging
  - 1.10.1. Player Settings
  - 1.10.2. Build
  - 1.10.3. Installer Creation



*The perfect program to learn in detail the essential requirements for a successful video game development from the best experts in the gaming environment"*



# 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.

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*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*





*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

**“** *Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method 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 Certificate in Technical animation systems, skeletal meshes and Ragdoll systems 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 Technical Animation Systems, Skeletal Meshes and Ragdoll Systems** 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** issued by **TECH Technological University** via tracked delivery\*.

The diploma 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 Technical Animation Systems, Skeletal Meshes and Ragdoll Systems**

Official N° of hours: **150 h.**



\*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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
classroom

**tech** technological  
university

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