

# Postgraduate Certificate 3D Clothing Simulation





## Postgraduate Certificate 3D Clothing Simulation

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

Website: [www.techtute.com/us/design/postgraduate-certificate/3d-clothing-simulation](http://www.techtute.com/us/design/postgraduate-certificate/3d-clothing-simulation)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 30*

# 01

# Introduction

All the clothing of the characters and 3D models must be taken care of to the smallest detail, as they are an intrinsic part of their own style and personality. Even parts of the story or plot of the characters can be told through the clothes, evolving with them in time. Therefore, 3D designers must have an advanced knowledge of how to create and simulate the correct behavior of clothing in order to make it as realistic as possible. Thanks to this qualification, students will be able to distinguish themselves in their design department and improve their chances of career advancement, taking responsibility for larger projects or undertaking their own.





“

*You will have the solution to all types of garments and textiles difficult to recreate in 3D thanks to the knowledge of this Postgraduate Certificate”*

The simulation of the 3D clothing must be close to perfection, because a bad behavior of the clothing later in the animation or rigging phase can cause the model to look bad or unrealistic.

Not only this, but the outfit of the characters and creatures must be carefully designed to the millimeter, as the multiple details contained in a good outfit make the final quality of the model much better and more memorable for the audience, reminiscent of Cloud's extensive clothing in Final Fantasy or the minimalist clothing of the Na'vi in Avatar.

Therefore, the 3D design professionals can excel in their department and lead larger projects with an expert knowledge of simulating clothing in three-dimensional environments. Responding to this demand, TECH has prepared a Postgraduate Certificate with complete content in which the student can obtain that distinctive and definitive advantage to relaunch their professional career by modeling high-quality clothing for their own personal and professional projects.

In addition, the program is delivered completely online, without the need to attend a physical center or adhere to a schedule. As there are no classes, it is the student who chooses when, where and how to take on the entire teaching load of the teaching material, which is available on the web platform from the first day of the program.

This **Postgraduate Certificate in 3D Clothing Simulation** 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 3D modeling
- ◆ 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
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Access to content from any fixed or portable device with an Internet connection



*Create outfits as mythical as those of Hollywood blockbusters, putting your modeling projects at the forefront of the industry”*

“ *This is the professional opportunity you've been waiting for to bring out all your creative potential, creating the best possible outfits”*

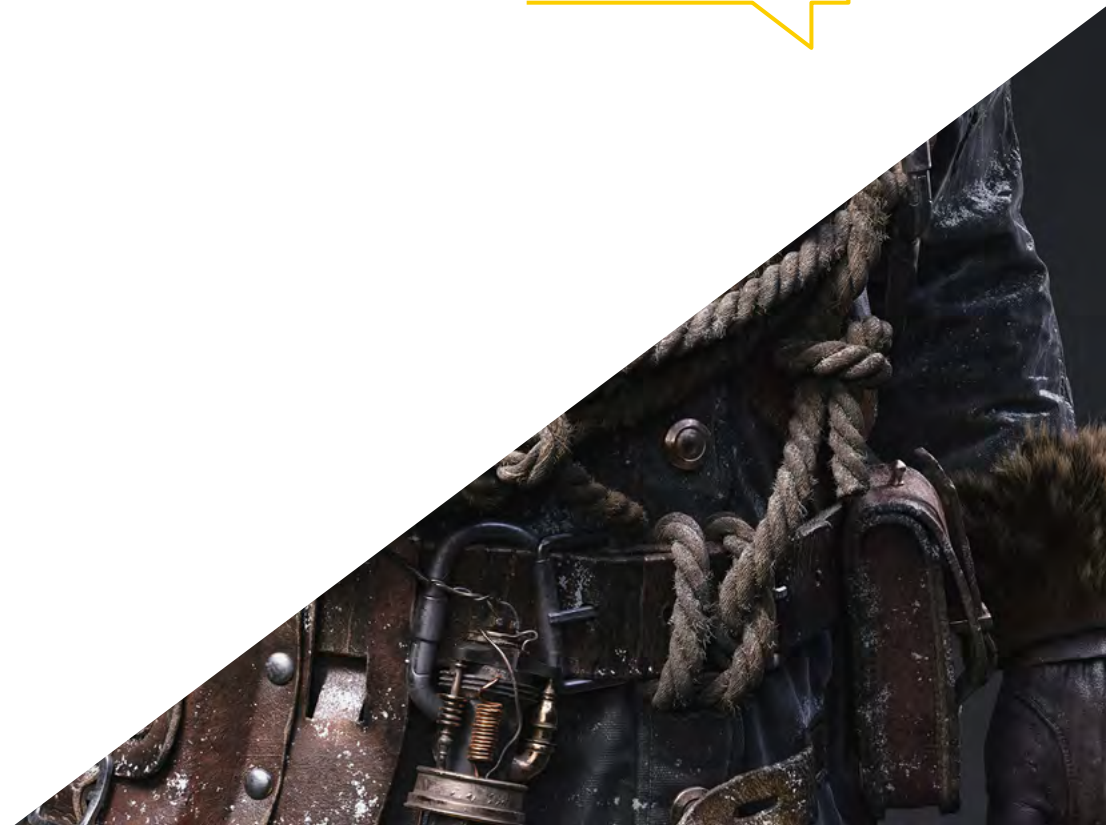
*Learn the natural behavior of clothing and lead the most important 3D modeling projects in your department.*

*From complicated alien costumes to beautiful indigenous garments, there won't be any kind of clothing you can't resist modeling and simulating in 3D.*

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





# 02 Objectives

The objective of the students of this qualification is to obtain professional improvement that will not only have an impact on their work style and quality of work, but also on a deserved promotion or a more professional performance in their personal projects. That is why TECH ensures that its qualifications are of the highest-possible quality, offering its students advanced knowledge in simple and complex clothing patterns, garment refinements and fabric shading in Maya, among others.





“

*By enrolling today in this TECH qualification, you will be one step closer to a career advancement in the world of design, becoming a complete expert in three-dimensional clothing simulation"*



## General Objectives

---

- ◆ Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- ◆ Master retopology, UVs and texturing to perfect the models created
- ◆ Create an optimal and dynamic workflow to work more efficiently with 3D modeling
- ◆ Have the skills and knowledge most in demand in the 3D industry to be able to apply for the best jobs







## Specific Objectives

---

- ◆ Study the use of Marvelous Designer
- ◆ Create fabric simulations in Marvelous Designer
- ◆ Practice different types of complex patterns in Marvelous Designer
- ◆ Delve into the professional *workflow* from Marvelous to ZBrush
- ◆ Develop the texturing and *shading* of clothes and fabrics in Mari

“

*Don't miss the opportunity to improve your work and personal life. Join TECH and learn the essential fundamentals of 3D clothing simulation"*

# 03

## Course Management

For the development of this Postgraduate Certificate TECH has selected the best possible teachers in the field, who with their extensive professional skills have provided the teaching material with all the skills and abilities needed by the student to excel in 3D clothing modeling. Additionally, the student is guaranteed access to an up-to-date theory adapted to current market demands as well as to the latest 3D modeling programs and software.





A close-up photograph of a blue denim garment, likely a pair of jeans, showing the texture of the fabric and a small rectangular label with the word 'FITSPORT' in red and white lettering. The garment is set against a dark background, and the image is partially obscured by a diagonal split that separates it from a white area containing text.

**FITSPORT**

“

*This will be your best asset to be able to apply for higher ranking positions within your own company, demonstrating that you are capable of making clothes of attention to detail and high quality”*

## International Guest Director

Joshua Singh is a leading professional with over 20 years of experience in the **video game** industry, internationally recognized for his skills in **art direction** and **visual development**. With solid training in **software** such as **Unreal, Unity, Maya, ZBrush, Substance Painter** and **Adobe Photoshop**, he has made a significant mark in the field of **game design**. In addition, his experience spans **visual development** in both **2D** and **3D**, and is distinguished by his ability to collaboratively and thoughtfully solve problems in **production environments**.

In addition, as **Art Director** at **Marvel Entertainment**, he has collaborated with and guided elite teams of artists, ensuring that the artwork meets the required quality standards. He has also served as **Lead Character Artist** at **Proletariat Inc.** where he has created a safe environment for his team and has been responsible for all character assets in **video games**.

With an outstanding track record, including **leadership roles** at companies such as **Wildlife Studios** and **Wavedash Games**, Joshua Singh has been an advocate for artistic development and a mentor to many in the industry. Not to mention his time at large and well-known companies, such as **Blizzard Entertainment** and **Riot Games**, where he has worked as a **Senior Character Artist**. And, among his most relevant projects, stands out for his participation in hugely successful **video games**, including **Marvel's Spider-Man 2, League of Legends** and **Overwatch**.

Thus, his ability to unify the vision of **Product, Engineering and Art** has been fundamental to the success of numerous projects. Beyond his work in the industry, he has shared his experience as an instructor at the prestigious **Gnomon School of VFX** and has been a presenter at renowned events such as the **Tribeca Games Festival** and the **ZBrush Summit**.



## D. Singh, Joshua

---

- Art Director at Marvel Entertainment, California, USA
- Lead Character Artist at Proletariat Inc
- Art Director at Wildlife Studios
- Art Director at Wavedash Games
- Senior Character Artist at Riot Games
- Senior Character Artist at Blizzard Entertainment
- Artist at Iron Lore Entertainment
- 3D Artist at Sensory Sweep Studios
- Senior Artist at Wahoo Studios/Ninja Bee
- General Studies from Dixie State University
- Degree in Graphic Design from Eagle Gate Technical College

“

*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## Management



### Ms. Gómez Sanz, Carla

- ♦ 3D Generalist at Blue Pixel 3D
- ♦ Concept Artist, 3D Modeler, *Shading* in Timeless Games Inc
- ♦ Collaboration with multinational consulting firm for the design of vignettes and animation for commercial proposals
- ♦ Advanced Technician in 3D Animation, video games and interactive environments at CEV School of Communication, Image and Sound
- ♦ Master's Degree and Bachelor's Degree in 3D Art, Animation and Visual Effects for video games and cinema at CEV School of Communication, Image and Sound





# 04

## Structure and Content

This Postgraduate Certificate in 3D Clothing Simulation from TECH is created based on the highest standards of current educational methodology. This assures the students that they will have access to material with a structure and content designed with their professional needs in mind, containing the latest innovations in programs such as Mari or ZBrush. Additionally, the students will also learn how to improve their own workflow, which will significantly increase the performance of their projects.



“

*Take on the challenge of modeling the clothes of mythical characters from movies and video games or create them yourself. You'll have all the tools you need to do that”*

## Module 1. Clothing Simulation

- 1.1. Importing your Model to Marvelous Designer and Program Interface
  - 1.1.1. Marvelous Designer
  - 1.1.2. Software Functionality
  - 1.1.3. Real-Time Simulations
- 1.2. Creation of Simple Patterns and Clothing Accessories
  - 1.2.1. Creations: T-Shirts, Accessories, Hats and Pockets
  - 1.2.2. Fabric
  - 1.2.3. Patterns, Zippers and Seams
- 1.3. Advanced Clothing Creation: Complex Patterns
  - 1.3.1. Pattern Complexity
  - 1.3.2. Physical Qualities of Fabrics
  - 1.3.3. Complex Accessories
- 1.4. Clothing Simulation at Marvelous
  - 1.4.1. Animated Models at Marvelous
  - 1.4.2. Fabric Optimization
  - 1.4.3. Model Preparation
- 1.5. Export of Clothing from Marvelous Designer to ZBrush
  - 1.5.1. Low Poly in Maya
  - 1.5.2. UVs in Maya
  - 1.5.3. ZBrush, Use of Reconstruct Subdiv
- 1.6. Refinement of Clothing
  - 1.6.1. Workflow
  - 1.6.2. Details in ZBrush
  - 1.6.3. Clothing Brushes in ZBrush







- 1.7. Improve the Simulation with ZBrush
  - 1.7.1. From Tris to Quads
  - 1.7.2. UVS Maintenance
  - 1.7.3. Final Carving
- 1.8. High Detail Clothing Texturing in Mari
  - 1.8.1. Tileable Textures and Fabric Materials
  - 1.8.2. Baking
  - 1.8.3. Texturing in Mari
- 1.9. Maya Fabric Shading
  - 1.9.1. Shading
  - 1.9.2. Textures Created in Mari
  - 1.9.3. Realism with Arnold Shaders
- 1.10. Render
  - 1.10.1. Clothing Rendering
  - 1.10.2. Illumination in Clothing
  - 1.10.3. Texture Intensity



*Make your garments inspiring for designers around the world thanks to the refined talent and innovative techniques learned in this Postgraduate Certificate”*

# 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.*





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

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.

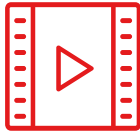
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



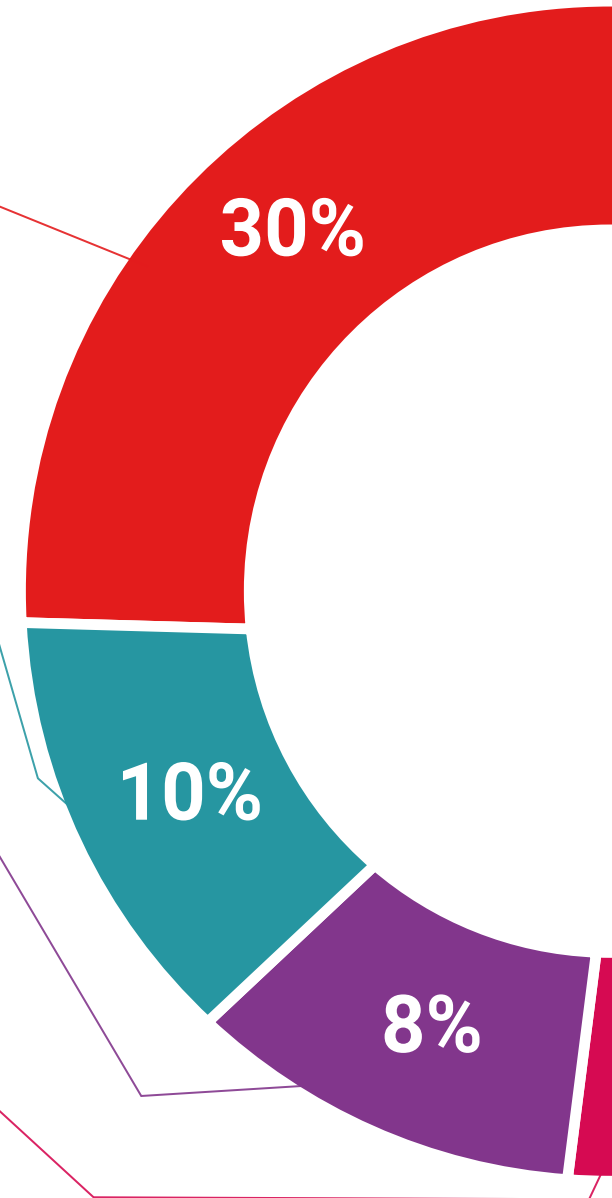
### Practising Skills and Abilities

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 3D Clothing Simulation guarantees students, in addition to the most rigorous and up-to-date education, access to a certificate 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 Certificate in 3D Clothing Simulation** 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 3D Clothing Simulation**

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 quality  
development language  
virtual classroom



## Postgraduate Certificate 3D Clothing Simulation

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

# Postgraduate Certificate 3D Clothing Simulation

