

Postgraduate Certificate 3D Clothing Simulation



Postgraduate Certificate 3D Clothing Simulation

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of hours: 150 h.

Website: www.techtitute.com/information-technology/postgraduate-certificate/3d-clothing-simulation

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 20

06

Certificate

p. 28

01

Introduction

A protagonist's clothing is almost as important as their personality or their plot role. For this reason, all the clothing of the 3D characters must be carefully designed down to the smallest detail. Through the clothes you can deduce aspects of the character, so it is essential to delve into the texturing and shading of clothes. For this reason, computer scientists in 3D design 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. By taking this training, the students will be able to distinguish themselves in their department and improve their job promotion possibilities, assuming responsibilities in more important projects.





“

You will get the practical training necessary for the creation of clothing for organic digital characters for any digital animation, advertising or video game project"

Marvelous Designer is a perfect piece of software for the creation of fabrics either for real-time or for movies, but it is practically not taught or at least not deepened due to its complexity with the patterns. Therefore, this Postgraduate Certificate teaches the students to use this software to understand the characteristics of clothing: its seams, folds, zippers and how they affect all these elements with movement.

The 3D Clothing Simulation must be close to perfection, because a glitch, or an incorrect behavioral pattern, later, in the animation or rigging phase, can cause the model to look bad or unrealistic. Responding to this demand, this program hosts a complete content in which the student can gain the distinctive and definitive edge to elevate their career path 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 didactic material, which is available on the web platform from the first day of the training.

This **Postgraduate Certificate in 3D Clothing Simulation** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of case studies presented by experts in 3D modeling
- ♦ The graphic, schematic, and eminently 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.
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



Master the fundamentals of 3D model clothing and become a benchmark in bringing realism to characters"

“

This is the professional opportunity you were looking for to acquire the necessary up-to-date skills in a constantly evolving environment"

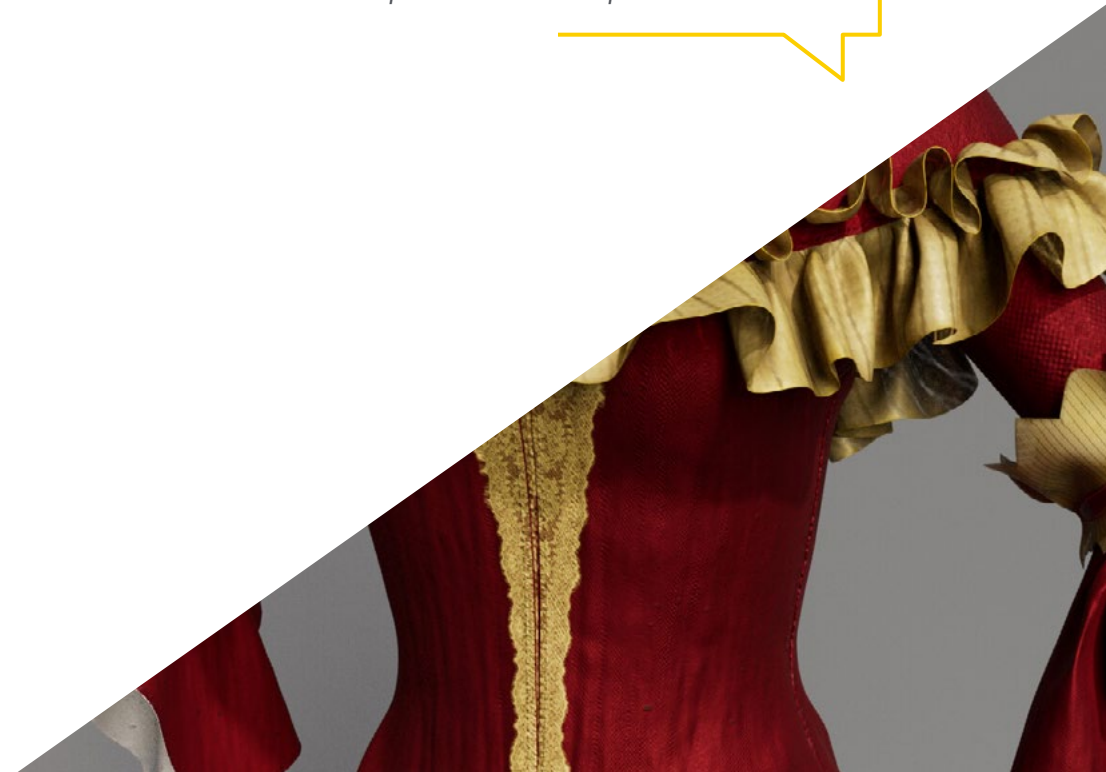
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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

This qualification will keep you up to date and prepared for any situation with the latest software on the market.

This program is based on an extensive compilation of industry experience and different opinions from professionals.



02 Objectives

The objective of this program is for students to obtain a professional improvement that will have an impact on their style and quality of work. To this end, TECH ensures that its training is of the highest possible quality, offering students advanced knowledge in simple and complex clothing patterns, garment refinements and shading of fabrics in Maya, among others.





“

Don't miss the opportunity to acquire the essential fundamentals of 3D clothing simulation"



General Objectives

- ♦ Expand knowledge of human and animal anatomy in order to develop hyper-realistic creatures
- ♦ Master the 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



At the end of this theoretical and practical course you will be able to apply for higher positions within your company"





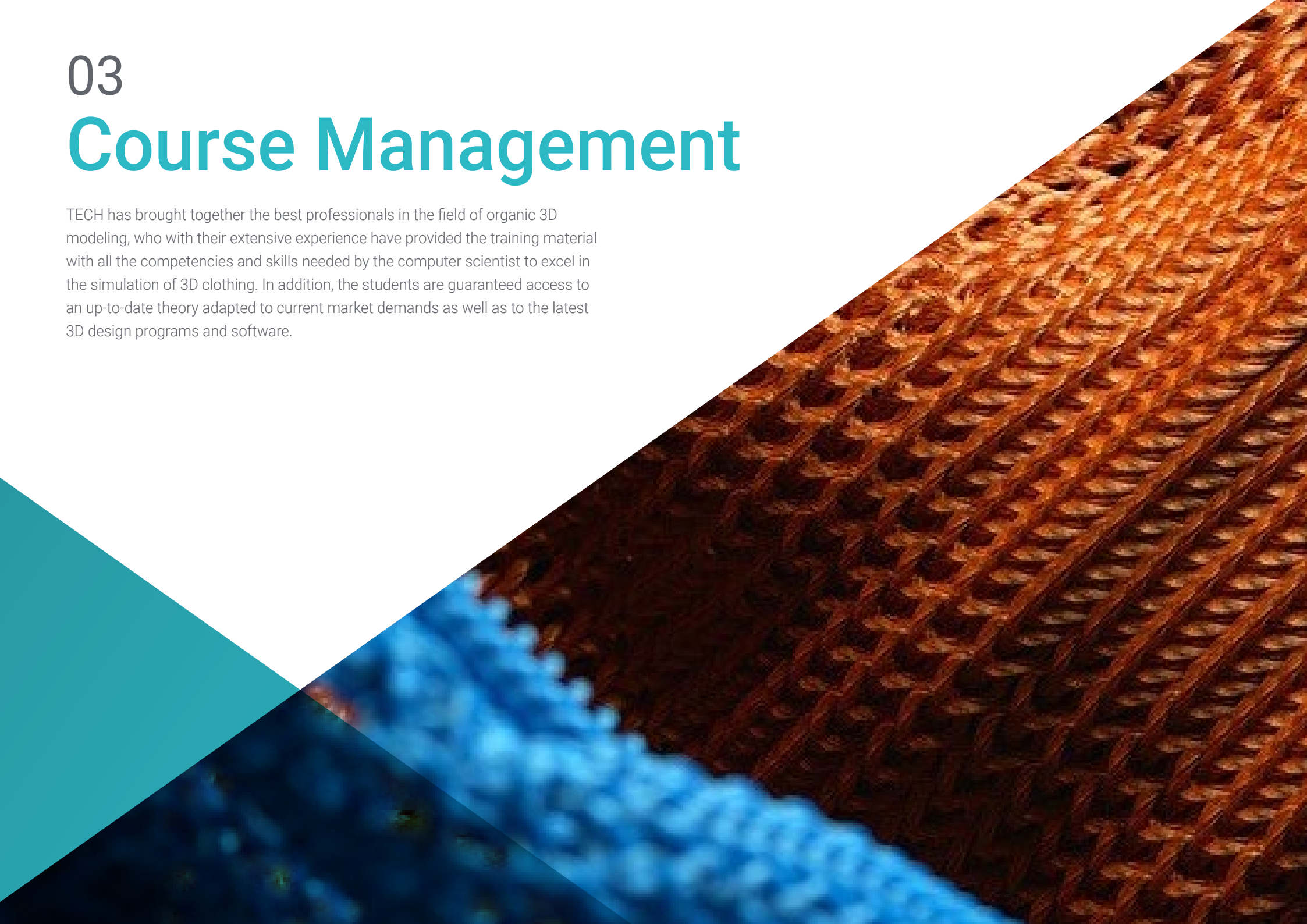
Specific Objectives

- ◆ 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

03

Course Management

TECH has brought together the best professionals in the field of organic 3D modeling, who with their extensive experience have provided the training material with all the competencies and skills needed by the computer scientist to excel in the simulation of 3D clothing. In addition, the students are guaranteed access to an up-to-date theory adapted to current market demands as well as to the latest 3D design programs and software.



“

*Industry experts will teach you how
to use the best software on the market
to create incredible 3D models"*

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 is developed based on the highest standards of current educational methodology. The computer scientists who enroll in the program will have access to material with a structure and content designed for their professional needs. Therefore, it brings together the latest innovations of programs such as Mari or ZBrush.





“

*You will learn more about Marvelous Designer,
the perfect software for the creation of fabrics
for both real-time and films"*

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

“

You will analyze the texturing and shading of clothes and fabrics in Mari to create the characters of your dreams"

05 Methodology

This training program offers 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"

At TECH we use the Case Method

Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

At TECH, you will experience a way of learning that is shaking the foundations of traditional universities around the world"



We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.



A learning method that is different and innovative.

This intensive Information Technology program at TECH Technological University prepares you to face all the challenges in this field, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Technological University you will use Harvard case studies, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

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

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

The case method has been the most widely used learning system among the world's leading Information Technology 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. Throughout the course, students 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

Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies 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 university 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.



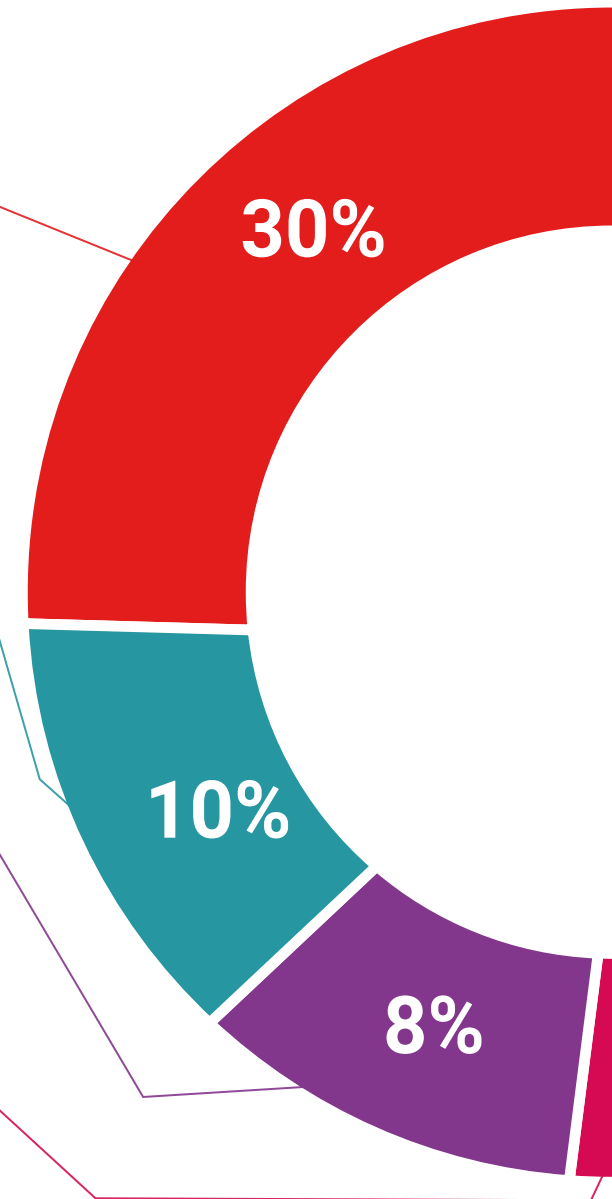
Practising Skills and Abilities

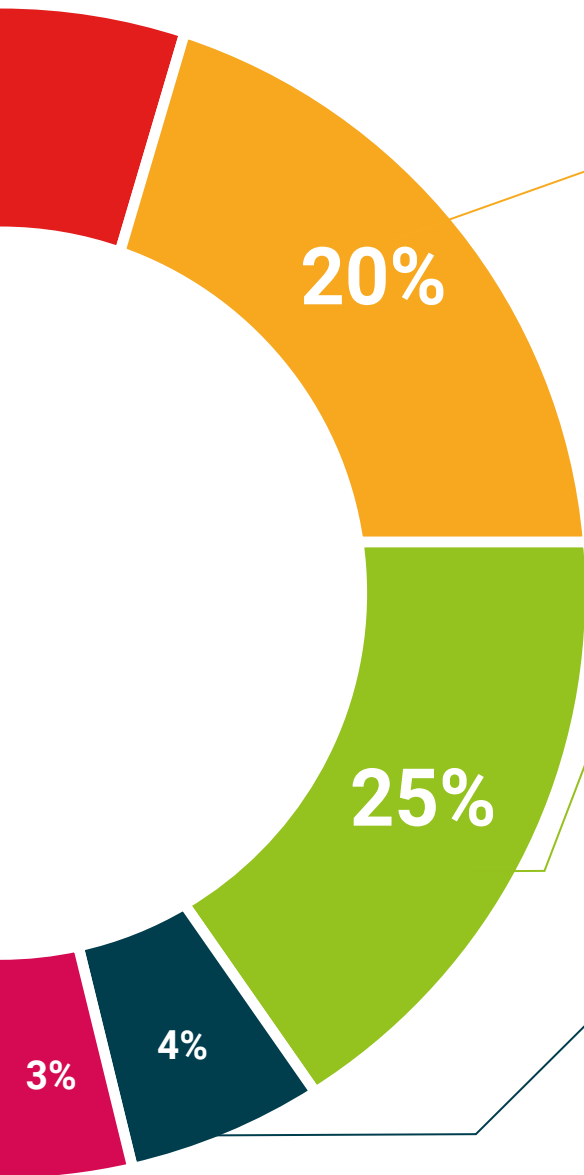
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization we live in.



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

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management 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 multimedia content presentation training Exclusive system 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 your goals.



06 Certificate

The Postgraduate Certificate in 3D Clothing Simulation guarantees, in addition to the most rigorous and up-to-date training, access to a certificate issued by TECH Technological University.



“

*Successfully complete this training program
and receive your university certificate without
travel or laborious paperwork”*

This **Postgraduate Certificate in 3D Clothing Simulation** contains the most complete and up-to-date scientific 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 certificate issued by **TECH Technological University** will reflect the qualification obtained through 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 Certificate 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
online training
development language
classroom



Postgraduate Certificate 3D Clothing Simulation

Course Modality: Online

Duration: 6 weeks

Certificate: TECH Technological University

Official N° of hours: 150 h.

Postgraduate Certificate 3D Clothing Simulation