Postgraduate Diploma

Digital Sculpture of Humanoids, Hair, Clothes and Animals

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Postgraduate Diploma

Digital Sculpture of Humanoids, Hair, Clothes and Animals

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

Website: www.techtitute.com/pk/technology-information/postgraduate-diploma/postgraduate-diploma-digital-sculpture-humanoids-hair-clothes-animals

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01

Introduction

Digital sculpting is a complex activity in which many factors are involved to achieve appropriate and realistic finishes, from working the surfaces of objects and elements, to the creation of surfaces and terrains or the elaboration of the finest details of *humanoids,* hair, clothing and animals. Digital sculpture is increasingly implemented in society and in technological environments that require plans, models or three-dimensional models, since, in a very economical way, very similar results to reality are achieved. As a result, technical experts in this area are also increasingly in demand. This training is designed to specialize professionals in the elaboration of precise details of characters, animals and creatures, without having to neglect other personal or professional projects, since its online modality favors an autonomous learning system.

This online program in Digital Sculpting of Humanoids, Hair, Clothes and Animals favors the student's autonomous learning, being able to adapt it to other professional and personal circumstances"

This Postgraduate Diploma in Digital Sculpting of Humanoids, Hair, Clothing and Animals aims to provide the student with knowledge of human and animal anatomy to apply it to the subsequent process of modeling, texturing, lighting and rendering accurately, as well as to meet the demands in the creation of hair and clothing for video games, film, 3D printing, augmented and virtual reality.

To do so, the curriculum takes a journey starting with a deep dive into the *Substance Painter* tool. This section also deals with texturing for digital sculpture, starting with the use of PBR texture maps and materials, the use of texturing modifiers and the application of software map generators. We also delve into the *Baking* textures, handle the texturing to generate improvements in our modeling and use the import and export systems between programs.

On the other hand, another section delves into the process of creating machines, starting with: creating, characterizing and modeling robots, vehicles and *cyborgs* and, in the same way, evolving these figures. In addition, it focuses on handling internal modeling masks, adapting modeling to different aesthetics, creating a lighting studio in Arnold, handling rendering in photorealistic and non-photorealistic aesthetics, and launching *Wireframe*rendering.

This training also devotes a section to the *Humanoid* concept for which emphasis is placed on the mastery and application of anatomy to human sculpture, as well as to know the correct topology of the models to be used in 3D animation, video games and 3D printing and to characterize and stylize humanized characters. On the other hand, the content also covers the elaboration of manual retopologies with 3Ds Max, Blender and ZBrush; the creation of groups of people and multiple objects and the use of predefined and human base meshes.

All this material will be condensed in a completely online educational program, which favors the autonomy of the student's learning and their ability to adapt their reality and current needs to the learning process, deciding the best time and place to study. In addition, a high-level teaching staff will use numerous multimedia didactic resources such as practical exercises, video techniques, interactive summaries and master classes to facilitate the entire process.

The **Postgraduate Diploma in Digital Sculpture of Humanoids, Hair, Clothes and Animals** contains the most complete and up-to-date educational program on the market The most important features include:

- The development of case studies presented by experts in 3D Modeling and Digital Sculpture
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and 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

A comprehensive curriculum that will take a complete tour of the concepts and knowledge required to become an expert in digital sculpture"

If you want to learn how to use the most advanced digital sculpting tools in the industry and apply them to the design of humanoids, hair, clothing and animals, this is the training you are looking for"

By taking this Postgraduate Diploma, you will not need to prepare a final project, since the degree is directly accredited.

This study plan offers the greatest flexibility and convenience in learning as it is taught entirely online.

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.

02

Objectives

This educational program aims to provide the student with knowledge of human and animal anatomy for its subsequent application in modeling, texturing, lighting and rendering processes in a precise way. To this end, we will work on texturing for digital sculpture with cutting-edge tools such as *Substance Painter* in the creation, characterization and modeling of robots, vehicles and *cyborgs* and, finally, in the development and conceptualization of *Humanoid*. With this professional training, the student will be able to master the techniques, tools and processes involved in the creation of modeling projects in virtual environments, from characters, objects and their details.

Achieve mastery of the techniques, tools and processes involved in the creation of digital modeling projects"

General Objectives

- Understand the need for a good topology at all levels of development and production
- Knowledge of human and animal anatomy to apply it to modeling, texturing, lighting and rendering processes in an accurate way
- Meet the demands in hair and clothing creation for video games, film, 3D printing, augmented and virtual reality
- Handle modeling, texturing and lighting systems in virtual reality systems
- Know the current systems of the film and video game industry to deliver great results

Specific Objectives

Module 1. Texturing for Digital Sculpture

- Using PBR texture and material maps
- Use texturing modifiers
- Apply map generating *software*
- Create *baked* textures
- Manage texturing to generate improvements in our modeling
- Optimum use of the import and export systems between programs
- Advanced operation of *Substance Painter*

Module 2. Machine Creation

- Create, characterize and model robots, vehicles and *cyborgs*
- Handling internal modeling masks
- Evolve robots, vehicles and *cyborgs* through the passage of time and their decay, by sculpting shapes and using Substance Painter
- Adapt to biomimicry, science fiction or *cartoon* aesthetics
- Create a lighting studio in Arnold
- Handle rendering in photorealistic and non-photorealistic aesthetics
- Launch *wireframe* rendering

Module 3. *Humanoid*

- Handle and apply anatomy to human sculpture
- Know the correct topology of models to be used in 3D animation, video games and 3D printing
- Characterize and stylize humanized characters
- Making manual retopologies with 3ds Max, Blender and ZBrush
- Create groups of people and multiple objects
- Use predefined and human base grids

Learn how to handle and apply anatomy to human sculpture and how to perform manual retopologies with 3DS Max, Blender and ZBrush"

03

Course Management

The faculty of each TECH degree program is made up of true experts and professionals in the field, who have dedicated a large part of their careers to research and development in the digital sculpture environment. Therefore, they not only teach students in the theoretical and practical fields, but also transmit their expertise and encourage the critical spirit of the students. This Postgraduate Diploma not only has an innovative and effective teaching methodology, but also a highly qualified faculty to provide the answers students need about this complex and exciting career.

Learn from the expertise of a teaching staff made up of true professionals in digital sculpture"

Management

Mr. Sequeros Rodríguez, Salvador

- *Freelance* 2D/3D modeler and generalist
- *Concept art* and 3D modeling for Slicecore, Inc. Chicago
- Videomapping and modeling Rodrigo Tamariz, Valladolid
- Professor of Higher-Level Training Cycle 3D Animation Superior School of Image and Sound ESISV, Valladolid
- Professor of Higher-Level Training Cycle GFGS 3D Animation European Institute Design IED, Madrid
- 3D modeling for the falleros Vicente Martinez and Loren Fandos Castellón)
- Master's Degree in Computer Graphics, Games and Virtual Reality URJC University Madrid.
- Bachelor of Fine Arts at the University of Salamanca (specializing in Design and Sculpture)

04

Structure and Content

This Postgraduate Diploma in Digital Sculpting of Humanoids, Hair, Clothes and Animals, is divided into 3 subsections that cover the 3 main lines that must be covered to achieve a successful design. Initially, we worked on texturing for digital sculpture in the creation of machines and the conceptualization of *humanoids.* All this, condensed in a completely online curriculum that, in just 6 months, will make the student a true professional in the field of creation and editing of *Humanoids*, Hair, Clothes and Animals.

Acquire in only 6 months the necessary knowledge to become an expert in creating and editing Humanoids, Hair, Clothes and Animals"

Module 1. Texturing for Digital Sculpture

1.1. Texturing
- 1.1.1. Texture Modifiers
- 1.1.2. Compact Systems
- 1.1.3. Slate Node Hierarchy

1.2. Materials
- 1.2.1. ID
- 1.2.2. Photorealistic PBR
- 1.2.3. No Photorealistic Cartoon

1.3. PBR Textures
- 1.3.1. Procedural Textures
- 1.3.2. Color, Albedo and DiffuseMaps
- 1.3.3. Opacity and Specular

1.4. Mesh Improvements
- 1.4.1. Map of Normal
- 1.4.2. Displacement Map
- 1.4.3. Vector Maps

1.5. Texture Managers
- 1.5.1. Photoshop
- 1.5.2. Materialize and Online Systems
- 1.5.3. Texture Scanning

1.6. UVW and Baking
- 1.6.1. Hard SurfaceTextureBaking
- 1.6.2. Baking Organic Textures
- 1.6.3. Banking Unions

1.7. Exports and Imports
- 1.7.1. Texture Formats
- 1.7.2. FBX, OBJ and STL
- 1.7.3. Subdivision Vs. DynaMesh

1.8. Mesh Painting
- 1.8.1. Viewport Canvas
- 1.8.2. Polypaint
- 1.8.3. Spotlight

1.9. Substance Painter
- 1.9.1. Zbrush with Substance Painter
- 1.9.2. Low Poly with High Poly Texture Maps
- 1.9.3. Material Treatments

1.10. Advanced Substance Painter
- 1.10.1. Realistic Effects
- 1.10.2. Improve the Baked
- 1.10.3. SSS Materials, Human Skin

Module 2. Machine Creation

2.1. Robots
- 2.1.1. Functionality
- 2.1.2. Character
- 2.1.3. Motor Skills in its Structure

2.2. Robot Despiece
- 2.2.1. IMM and Chisel Brushes
- 2.2.2. Insert Mesh and Nanomesh
- 2.2.3. Zmodeler in ZBrush

2.3. Cybord
- 2.3.1. Sectioned by Masks
- 2.3.2. TrimAdaptive and Dynamic
- 2.3.3. Mechanization

2.4. Ships and Aircraft
- 2.4.1. Aerodynamics and Smoothing
- 2.4.2. Surface Texture
- 2.4.3. Cleaning of Polygonal Mesh and Details

2.5. Land Vehicles
- 2.5.1. Vehicle Topology
- 2.5.2. Modeling for Animation
- 2.5.3. Caterpillars

2.6. Passage of Time
- 2.6.1. Credible Models
- 2.6.2. Materials Over Time
- 2.6.3. Oxidations

2.7. Accidents
- 2.7.1. Crashes
- 2.7.2. Object Fragmentations
- 2.7.3. Destruction Brushes

2.8. Adaptations and Evolution
- 2.8.1. Biomimicry
- 2.8.2. Sci-fi Dystopia, Uchronias and Utopias
- 2.8.3. Cartoon

2.9. Realistic Render Hardsurface
- 2.9.1. Studio Scene
- 2.9.2. Lights
- 2.9.3. Physical Camera

2.10. NPR Render Hardsurface
- 2.10.1. Wireframe
- 2.10.2. Cartoon Shader
- 2.10.3. Illustration

Module 3. *Humanoid*

3.1. Human Anatomy for Modeling
- 3.1.1. Canon of Proportions
- 3.1.2. Evolution and Functionality
- 3.1.3. Superficial Muscles and Mobility

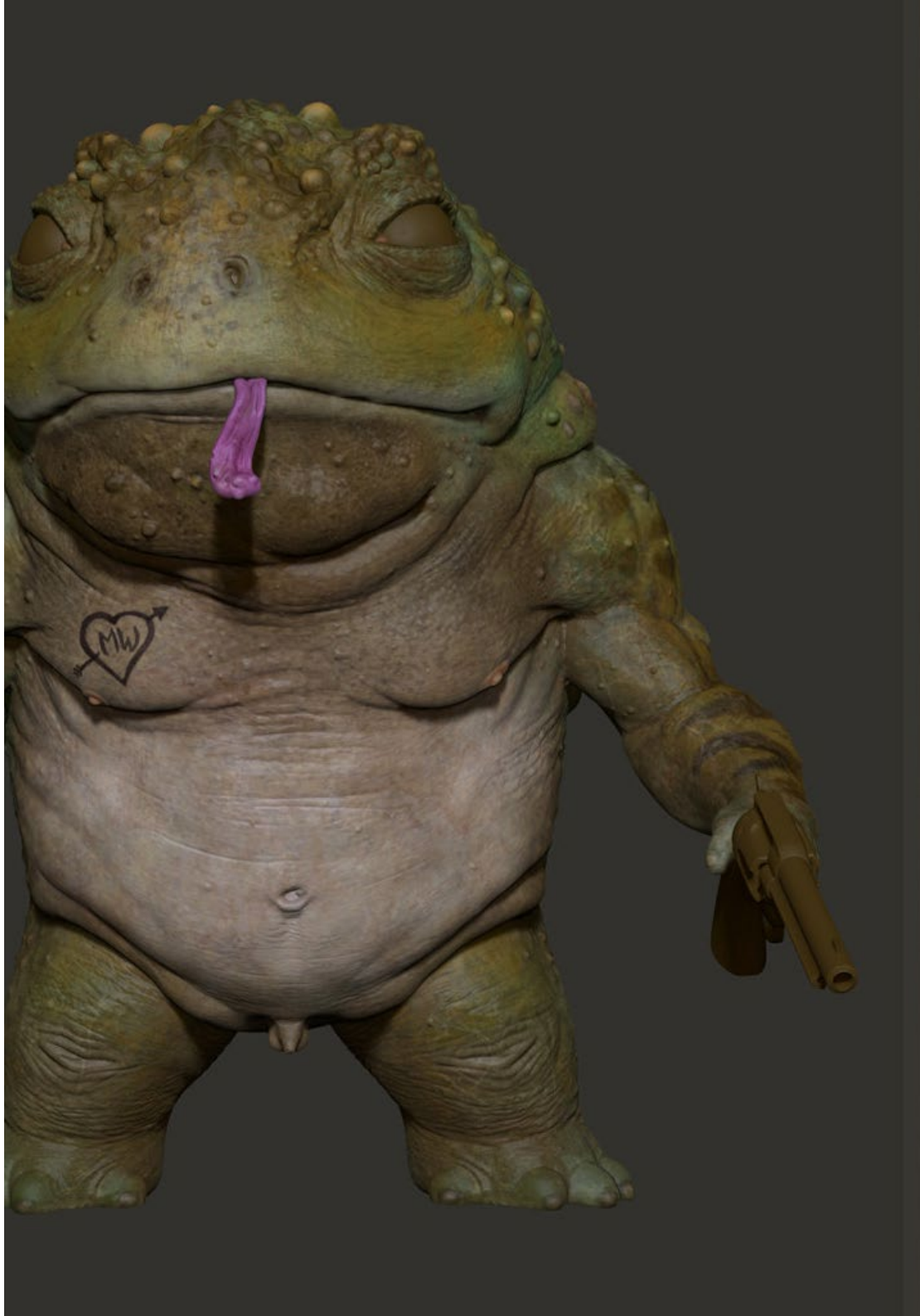
3.2. Lower Body Topology
- 3.2.1. Torso
- 3.2.2. Legs
- 3.2.3. Feet

3.3. Upper Body Topology
- 3.3.1. Arms and Hands
- 3.3.2. Neck
- 3.3.3. Head and Face and Inside Mouth

3.4. Characterized and Stylized Characters
- 3.4.1. Details with Organic Modeling
- 3.4.2. Anatomy Characterization
- 3.4.3. Styling

3.5. Expressions
- 3.5.1. Facial Animations and Layer
- 3.5.2. Morpher
- 3.5.3. Texture Animation

3.6. Pose
- 3.6.1. Character Psychology and Relaxation
- 3.6.2. Rig with Zspheres
- 3.6.3. Posed with Motion Capture



3.7. Characterizations
- 3.7.1. Tattoos
- 3.7.2. Scars
- 3.7.3. Wrinkles, Freckles and Marks

3.8. Manual Retopology
- 3.8.1. in 3ds Max
- 3.8.2. Blender
- 3.8.3. Zbrush and Projections

3.9. Predefined
- 3.9.1. Fuse
- 3.9.2. Vroid
- 3.9.3. MetaHuman

3.10. Crowds and Repetitive Spaces
- 3.10.1. Scatter
- 3.10.2. Proxys
- 3.10.3. Object Groups

In 3 main subsections, all the necessary content to design characters, humanoids and animals is covered"

05

Methodology

This training program provides you with 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.

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

A learning method that is different and innovative.

This intensive program in Computer Science at TECH Technological University prepares you to face all the challenges in this area, 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 case method has been the most widely used learning system among the world's leading Computer 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

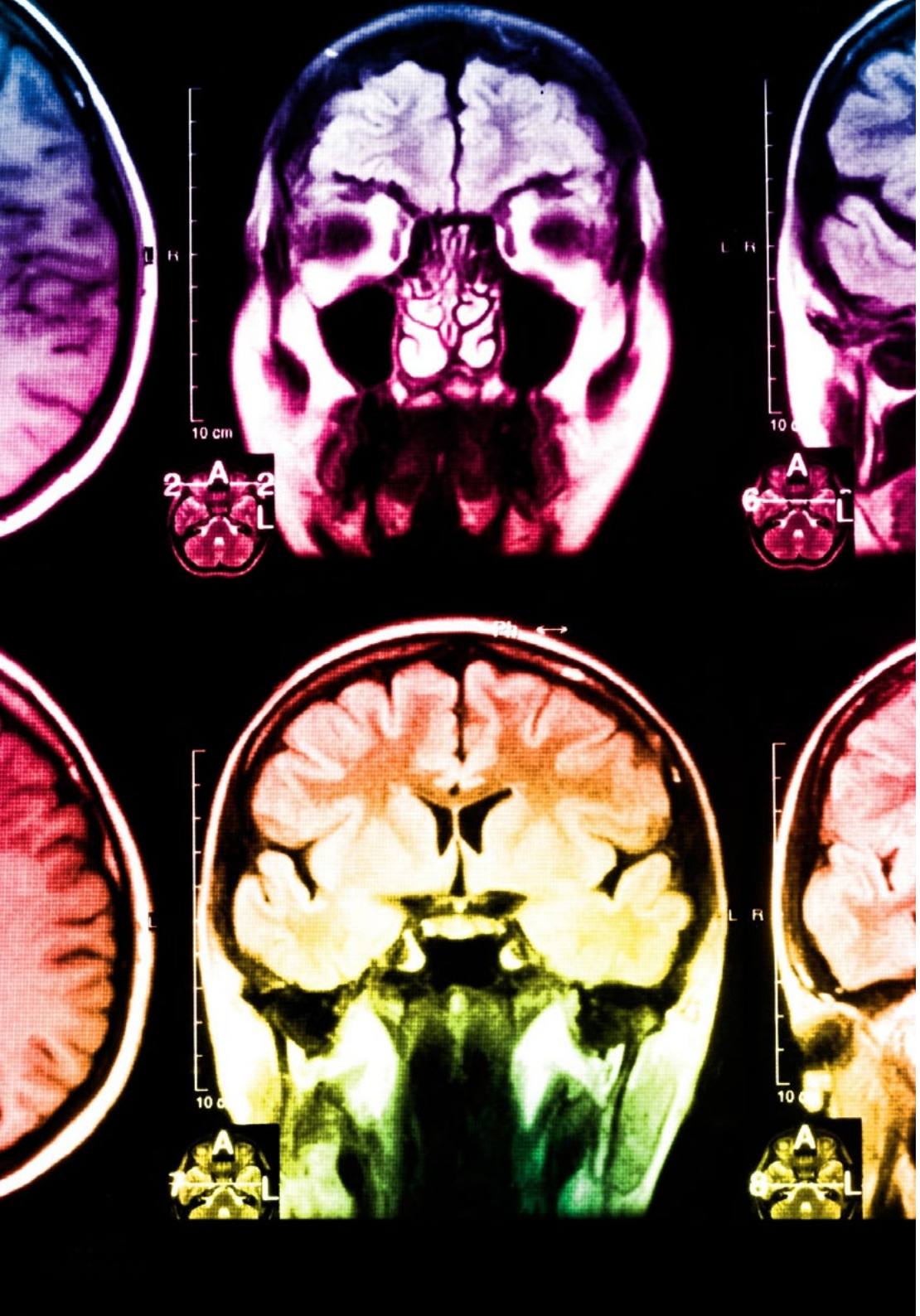
Our university is the first in the world to combine Harvard University *case studies* with a 100%-online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard *case studies* with the best 100% online teaching method: Relearning.

In 2019 we obtained the best learning results of all Spanish-language 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 Re-learning.

Our university is the only Spanish-speaking university qualified 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 Spanish 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.

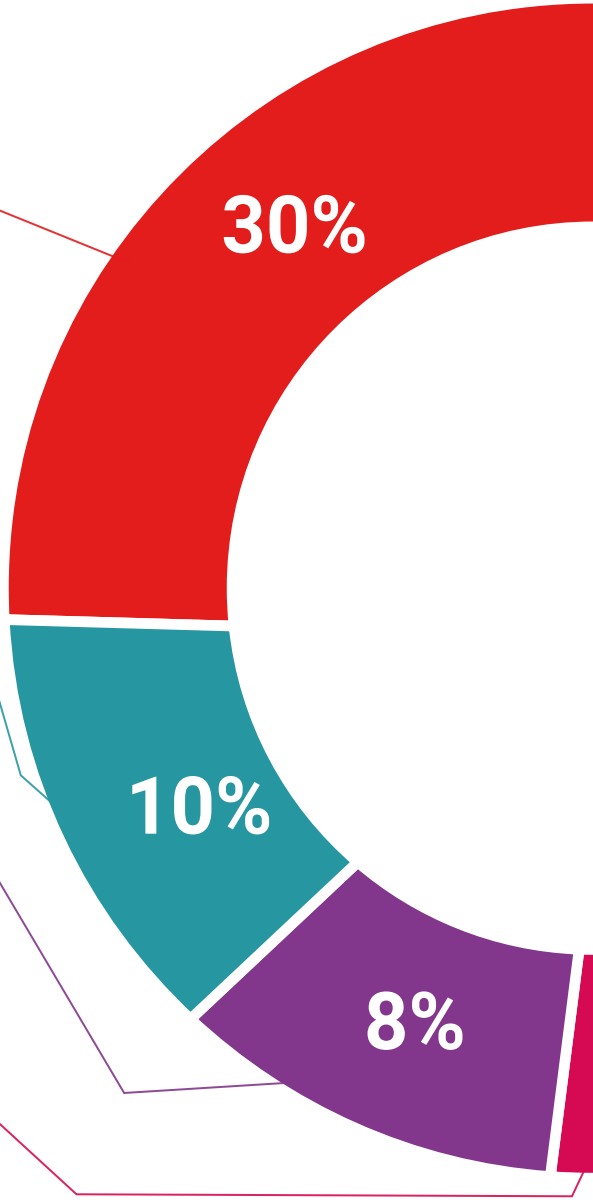
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

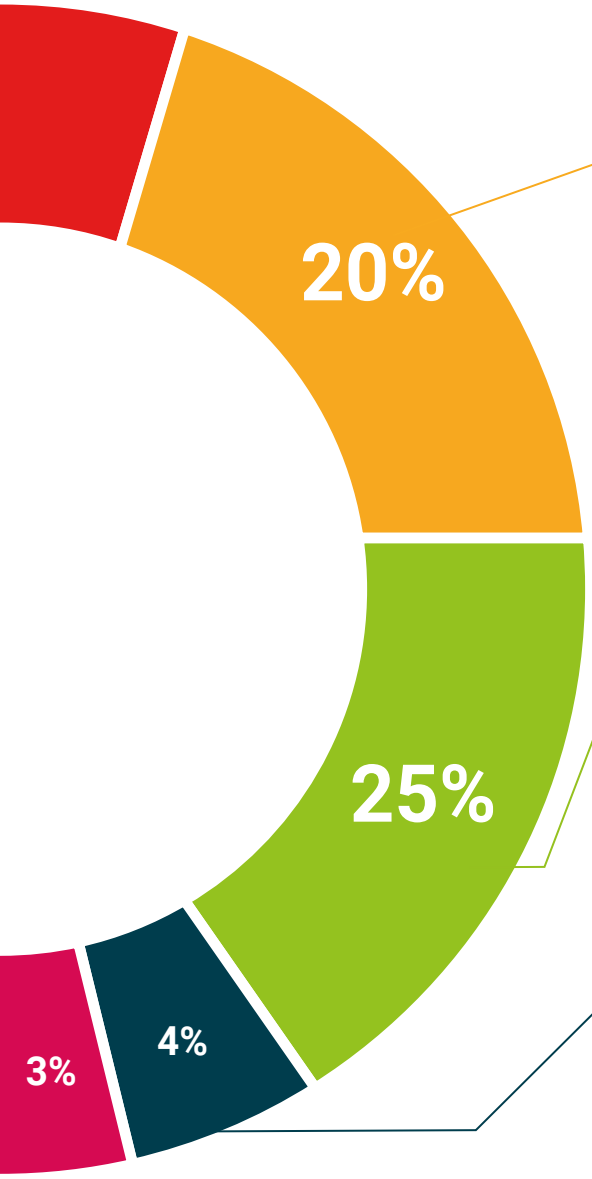
Practising Skills and Abilities

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 Latin America.

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 & Re-testing

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 Diploma in Digital Sculpture of Humanoids, Hair, Clothes and Animals guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma qualification issued by TECH Technological University.

Successfully complete this training program and receive your diploma without travel or laborious paperwork"

The **Postgraduate Diploma in Digital Sculpture of Humanoids, Hair, Clothes and Animals** 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 certificate 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 Digital Sculpture of Humanoids, Hair, Clothes and Animals**

Official Nº of hours: **450 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Digital Sculpture of Humanoids, Hair, Clothes and Animals

This is a qualification awarded by this University, equivalent to 500 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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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