Postgraduate Diploma

Creation of Organic Landscapes and Environments through Digital Sculpture

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Postgraduate Diploma

Creation of Organic Landscapes and Environments through Digital Sculpture

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

Website: www.techtitute.com/pk/design/postgraduate-diploma/postgraduate-diploma-creation-organic-landscapes-environments-through-digital-sculpture

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01

Introduction

At present, 3D modeling is one of the computer graphics techniques that has had the most impact in recent years thanks to the implementation of three-dimensional scanning, video game engines or milling. This is driving broad career opportunities in the automotive, fashion, architecture, medical, film, gaming, jewelry and countless media industries. The ability to master and then integrate the most widely used sculpting techniques in current modeling provides an excellent professional background for those looking to develop into experts in the field. This 6-month, fully online educational program provides all the knowledge you need to create organic terrains and environments through digital sculpture, allowing you to boost your creativity and your ability to produce the most amazing hyperrealism.

You will handle three major programs in the industry, namely ZBrush, Lumion and 3D Max, and your knowledge of these will be fully applicable to other software using the CGI language"

In order to enter the current creative scene with the sheer number of tools available, knowing how to choose the most appropriate of these for each project is ideal if you want to make the most of your skills and reach your goals. Professionalization is on the rise in highly demanded work environments. In this Postgraduate Diploma in Creation of Landscapes and Organic Environments through Digital Sculpture, students will grasp the different concepts related to artistic work, photorealistic detail and reliability as they apply to digital sculpture.

Likewise, they will use masks and learn how projects are created using organic modeling in *Zbrush*to produce quality detail, which they can then integrate into a pioneering program such as *Lumion*. They will learn the uses of texturing and modeling, as well as how PBR texture maps and materials are generated, which will allow them to carry out viable projects for the video game, film and 3D printing industries. Not to mention, innovative systems such as VR sculpting, model generation through photographs or modeling within Unreal and Unity.

The content of this academic program includes structural techniques such as *Edit Poly* or *Spline* modeling using 3D Max, which stand out for their reliability and economy in terms of the resources they bring to film, architecture, interior design, 3D design and *lettering*. This is all integrated to the more creative and free aspect of modeling through organic modeling.

All this through TECH Technological University's innovative, 100% online teaching methodology that allows students to adapt their reality and current needs to the learning process and in which they decide the best time and place to study. Accompanied by a highly experienced teaching staff that uses numerous multimedia resources such as practical exercises, video techniques, interactive summaries and lectures to facilitate the process.

This **Postgraduate Diploma in Creation of Organic Landscapes and Environments through Digital Sculpture** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- Practical cases presented by experts in 3D modeling and digital sculpture
- The graphic, schematic, and practical contents with which they are created, provide scientific and 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
- Content that is accessible from any fixed or portable device with an Internet connection

With this program, you will be able to master the different organic modelling techniques and fractal systems to create elements of nature, as well as different terrains"

For those who need to work and study at the same time, this online education system is the most appropriate methodology; begin your journey with TECH and reach the highest level of professionalization"

If you work with creative environments to develop video games, this program will give you the tools to do so as a true professional"

Learn how to use Blender software in an advanced way with this Postgraduate Diploma, and create organic environments through digital sculpture"

The program's teaching staff includes professionals from 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 immersion 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 main objective of this professional program is to enable students to master the techniques, tools and processes involved when creating projects that include augmented reality, organic environments and terrains through digital sculpture. The course aims to provide students with all the skills and abilities they need to successfully perform as modelers in the film, infoarchitecture or video game industries, as well as in those sectors that use virtual reality for their processes, upon completion of the 3 study modules.

This Postgraduate Diploma is aimed at those who wish to stand out as professionals in 3D design, infoarchitecture, Art Design, or as Technical Artists, 3D generalists, modelers, texturizers, illuminators or concept art specialists"

General Objectives

- Learn how the *workflow* of 3D animation, 3D video games and 3D printing is applied in industry according to the latest trends in the market
- Learn the management of the necessary techniques and programs to apply in the accurate modeling, texturing, lighting and rendering processes
- Meet the demands in the creation of terrains and organic environments for video games, cinema, 3D printing, infoarchitecture, augmented and virtual reality
- Produce specialized, *Hard Surface* and infoarchitecture finishes
- Know the current demands of the movie, video game and infoarchitecture industries in order to offer the best results

With the knowledge acquired throughout this program, you will be able to create interactive projects using the techniques of rapid rigging and creation of moving spaces to include virtual reality and integrate the work into current visualization systems"

Specific Objectives

Module 1. Texturing for Digital Sculpture

- Use PBR texture and material maps
- Use texturing modifiers
- Apply map-generating software
- Create *baked* texture
- Handle texturing to generate improvements in modeling
- Complex use of import/export systems between programs
- Advanced operation of Substance Painter

Module 2. Creation of Organic Terrains and Environments

- Know the different techniques of organic modeling and fractal systems for generating the elements of nature and terrain, as well as the implementation of our own models and 3D scans
- In-depth knowledge of the vegetation creation system and how to control it professionally in Unity and Unreal Engine
- Create scenes with immersive VR experiences

Module 3. Blender

- Learn to use Blender software at an advanced level
- Render using its Eevee and Cycles engines
- Explore work processes within CGI
- Transfer knowledge from *ZBrush* and 3D Max to Blender
- Transfer creation processes from Blender to Maya and Cinema 4D

03

Course Management

To ensure that the learning process is followed properly, TECH Technological University has selected a specialized teaching staff that will show students the keys to the Creation of Landscapes and Organic Environments through Digital Sculpture, so that they can integrate them into their work practice. As such, this Postgraduate Diploma offers not only an innovative and effective teaching methodology, but also a highly qualified faculty that can provide students with the answers they need in this complex and exciting discipline.

A team of experts who provide exclusive knowledge in a safe, dynamic and up-to-date environment to train and update new professionals"

Management

Mr. Sequeros Rodríguez, Salvador

- Freelance 2D/3D modeler and generalist
- Concept Art and 3D Models for Slicecore. Chicago
- Videomapping and modeling, Rodrigo Tamariz. Valladolid
- Professor of Higher Level Training Cycle in 3D Animation. Higher Education School of Image and Sound ESISV. Valladolid
- Professor of Higher Level Training Cycle GFGS in 3D Animation. European Institute of 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
- Degree in Fine Arts at the University of Salamanca (specializing in Design and Sculpture).

04

Structure and Content

The contents of this Postgraduate Diploma in Creation of Landscapes and Organic Environments through Digital Sculpture have been divided into 3 specialized modules, which detail the tools and skills related to the creation of *Hard Surfaces* and rigid surfaces, the creation of terrains and organic environments, as well as the multiplatform software, *Blender*, knowledge and skills that the professional can acquire effectively thanks to TECH's fully online study methodology, which is taught in a safe environment, lasting six months and adjusted to the needs and routines of the student.

Master the various sculpture techniques to establish yourself as a creative expert of organic environments"

Module 1. Creation of *Hard Surface* and Other Solid Surfaces

1.1. Sculpture Techniques and Applications
- 1.1.1. *Edit Poly*
- 1.1.2. *Splines*
- 1.1.3. Organic Model

1.2. *Edit Poly* Monitoring
- 1.2.1. *Loops* and Extrusions
- 1.2.2. Containment Geometry for Smoothing
- 1.2.3. Modifiers and *Ribbon*

1.3. Mesh Optimizations
- 1.3.1. *Quads*, Tris and *Ngons*. When to Use
- 1.3.2. Booleans
- 1.3.3. *Low Poly* Vs. *High Poly*

1.4. *Splines*
- 1.4.1. *Splines* Modifiers
- 1.4.2. Working Plots and Vectors
- 1.4.3. *Splines* as Helpers in Scenes

1.5. Organic Structure
- 1.5.1. *ZBrush* Interface
- 1.5.2. Modeling Techniques in *ZBrush*
- 1.5.3. *Alphas* and Brushes

1.6. *Model Sheet*
- 1.6.1. Reference Systems
- 1.6.2. Configuration of Modeling Templates
- 1.6.3. Measurements

1.7. Modeling for Infoarchitecture
- 1.7.1. Façade Modeling
- 1.7.2. Follow-up of Plans
- 1.7.3. Interior Modeling

1.8. Scenography
- 1.8.1. Creation of Attrezzo
- 1.8.2. Furniture
- 1.8.3. Detailing in *ZBrush* Organic Modeling

1.9. Masks
- 1.9.1. Masking for Modeling and Painting
- 1.9.2. Geometry Masks and IDS for Modeling
- 1.9.3. Mesh Occultations, *Polygroups* and Cuts

1.10. 3D Design and *Lettering*
- 1.10.1. Use of *Shadow Box*
- 1.10.2. Model Topology
- 1.10.3. *ZRemesher* Automatic Retopology

Module 2. Creation of Organic Terrains and Environments

2.1. Organic Modeling in Nature
- 2.1.1. Brush Adaptations
- 2.1.2. Creation of Rocks and Cliffs
- 2.1.3. Integration with 3D *Substance Painter*

2.2. Terrain
- 2.2.1. Terrain Displacement Maps
- 2.2.2. Creation of Rocks and Cliffs
- 2.2.3. Scanning Software Libraries

2.3. Vegetation
- 2.3.1. *SpeedTree*
- 2.3.2. *Low Poly* Vegetation
- 2.3.3. Fractals

2.4. *Unity Terrain*
- 2.4.1. Organic Model of Terrain
- 2.4.2. Terrain Painting
- 2.4.3. Creation of Vegetation

2.5. *Unreal Terrain*
- 2.5.1. *Height Map*
- 2.5.2. Texturing
- 2.5.3. *Unreal's Foliage System*

2.6. Physics and Realism
- 2.6.1. Physical
- 2.6.2. Wind
- 2.6.3. Fluids

2.7. Virtual Walks
- 2.7.1. Virtual Cameras
- 2.7.2. Third Person
- 2.7.3. First Person FPS

2.8. Cinematography
- 2.8.1. *Cinemachine*
- 2.8.2. *Sequencer*
- 2.8.3. Recording and Executables

2.9. Visualization of the Model in Virtual Reality
- 2.9.1. Modeling and Texturing Tips
- 2.9.2. Exploitation of the Interaxial Space
- 2.9.3. Project Preparation

2.10. VR Scene Creation
- 2.10.1. Location of the Cameras
- 2.10.2. Land and Infoarchitecture
- 2.10.3. Parameters of Use

Module 3. Blender

3.1. Free Software
- 3.1.1. LTS Version and Community
- 3.1.2. Pros and Differences
- 3.1.3. Interface and Philosophy

3.2. Integration with 2D
- 3.2.1. Adaptation of the Program
- 3.2.2. *Crease Pencil*
- 3.2.3. 2D Combination in 3D

3.3. Modeling Techniques
- 3.3.1. Adaptation of the Program
- 3.3.2. Modeling Methodologies
- 3.3.3. *Geometry Nodes*

3.4. Texturing Techniques
- 3.4.1. *Nodes Shading*
- 3.4.2. Textures and Materials
- 3.4.3. Tips for Use

3.5. Lighting
- 3.5.1. Tips for Light Spaces
- 3.5.2. *Cycles*
- 3.5.3. Eevee

3.6. *Workflow* in CGI
- 3.6.1. Necessary Uses
- 3.6.2. Exportations and Importations
- 3.6.3. Final Art

3.7. Adaptations from 3D Max to Blender
- 3.7.1. Modeling
- 3.7.2. Texturing and *shading*
- 3.7.3. Lighting

3.8. *ZBrush* to Blender Knowledge
- 3.8.1. 3D Sculpting
- 3.8.2. Brushes and Advanced Techniques
- 3.8.3. Organic Work

3.9. From Blender to Maya
- 3.9.1. Important Steps
- 3.9.2. Settings and Integrations
- 3.9.3. Exploitation of Functionalities

3.10. From Blender to 4D Cinema
- 3.10.1. Tips for 3D Design
- 3.10.2. Use of the Model for *Video Mapping*
- 3.10.3. Modeling with Particles and Effects

Moving beyond giving shape to characters and environments, students learn to bring these to life within the functions they fulfill in a defined space"

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 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

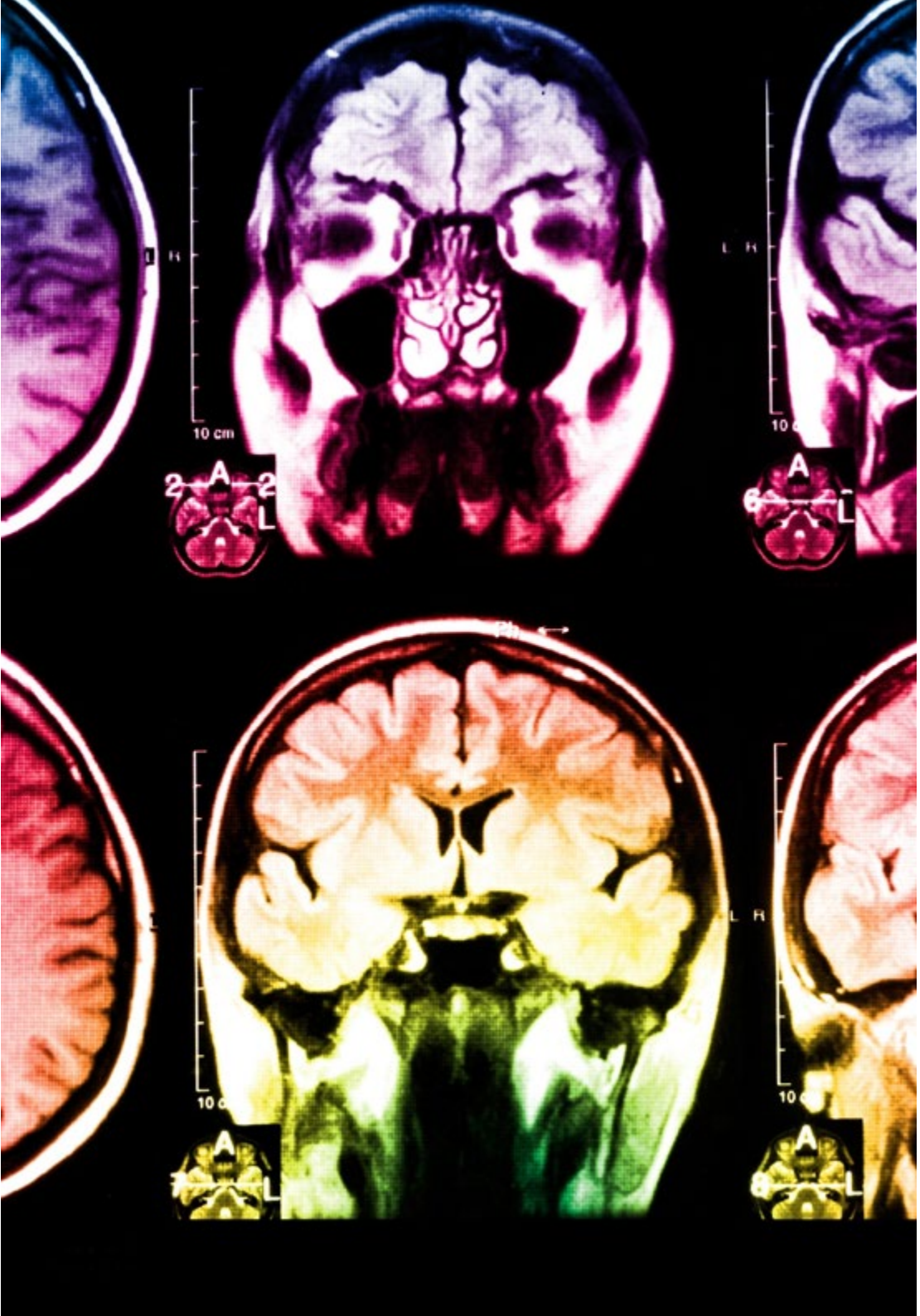
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

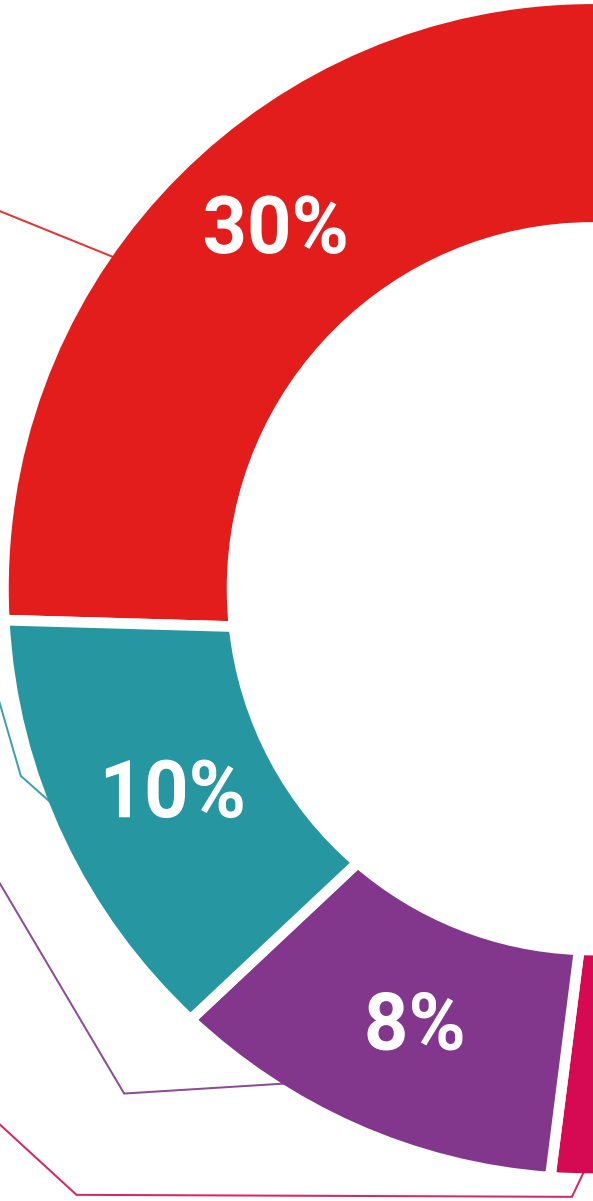
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

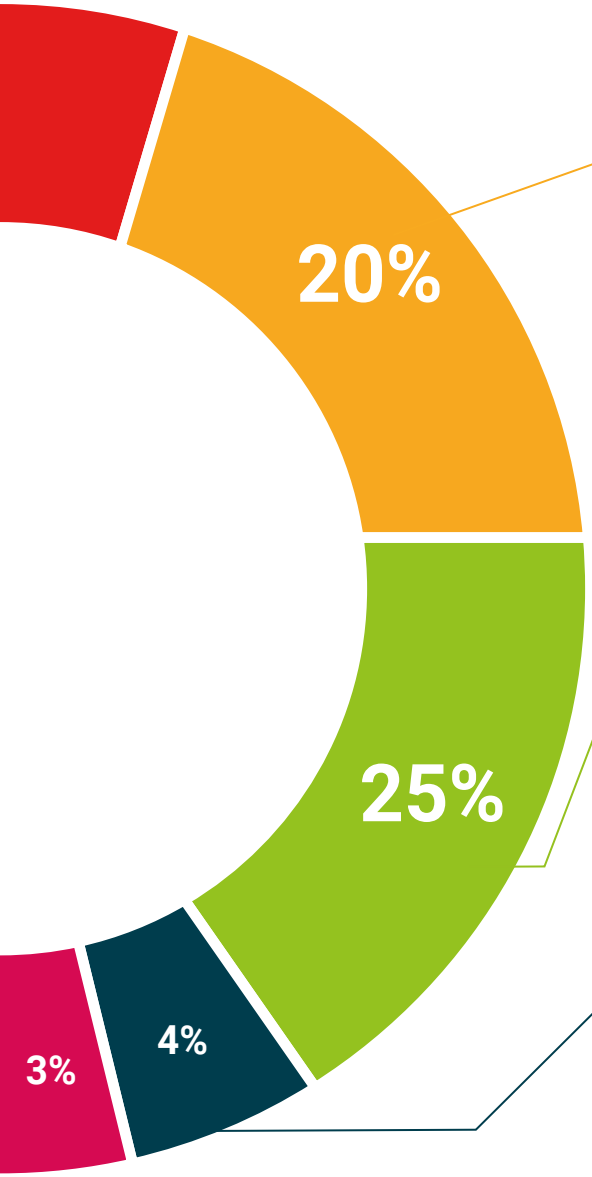
Practising Skills and Abilities

They will carry out activities to develop specific 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 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

The Postgraduate Diploma in Creation of Organic Landscapes and Environments through Digital Sculpture guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

Certificate

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

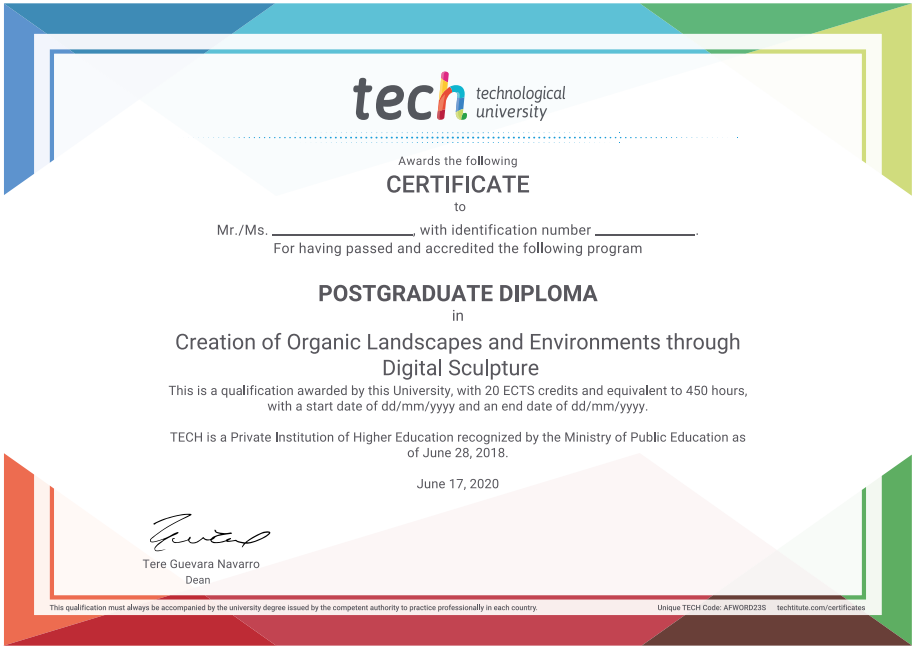
This **Postgraduate Certificate in Creation of Organic Landscapes and Environments through Digital Sculpture** includes the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate**, issued by **TECH Technological University** via tracked delivery*.

The certificate 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 Creation of Organic Landscapes and Environments through Digital Sculpture**

Official Nº of Hours: **450 h.**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Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Creation of Organic Landscapes and Environments through Digital Sculpture

This is a qualification awarded by this University, with 20 ECTS credits and 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

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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