Postgraduate Certificate
3D Hard Surface Modeling

tech technological university

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Postgraduate Certificate

3D Hard Surface Modeling

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

Website: www.techtitute.com/us/information-technology/postgraduate-certificate/3d-hard-surface-modeling

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Introduction

Hard Surface modeling is a skill that is increasingly in demand among professionals in various industries who, in turn, rely more and more on 3D designs. The aim is to provide real finished results in layout, industrial production or infoarchitecture. This educational plan, designed by experts and professionals in the field, offers knowledge on topology control, function communication, speed and efficiency, as well as delving into the development of structures and applications. All this in an online educational program focused on the development of the most realistic graphic finishes, based on a Relearning and learning by doing methodology so that students can deepen their knowledge of the content at their own time and speed.

Become the best creator in 3D Hard Surface Modeling for the video game industry through this educational plan"

This Postgraduate Certificate in 3D Hard Surface Modeling delves into the specific design tools that allow the study and application of form and composition analysis, to the generation of realistic models of any project or object required. The syllabus covers the concepts on which 3D Hard Surface Modeling is based, such as topology conceptualization, function communication, speed and efficiency, as well as delving into development, structure and applications, focusing on the development of the most realistic graphic finishes.

This program will delve into the different types of modeling within this technique, such as Nurbs technical modeling, polygonal modeling and Sculpt modeling, as well as their characteristic aspects in order to provide full control over the different modeling techniques. The program of study also lays the foundations of geometry, topology and retopology, and the understanding of 3d Hard Surface modeling, applied to the elaboration of virtual or real models of hard surfaces.

It is a complete study program developed by TECH Technological University fully online, designed so that students can implement their knowledge in three-dimensional Hard Surface modeling. This program provides access to all the multimedia content and teaching resources on the virtual platform, which can be accessed at any time and place, facilitating the adaptation of educational recycling to other professional or personal projects.

This **Postgraduate Certificate in 3D Hard Surface Modeling** 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 Hard Surface Modeling
- 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

A complete study program developed by TECH in online mode, designed so that you can implement your knowledge in three-dimensional Hard Surface modeling"

3D Hard Surface modeling is a modality that is increasingly requested by professionals in many sectors"

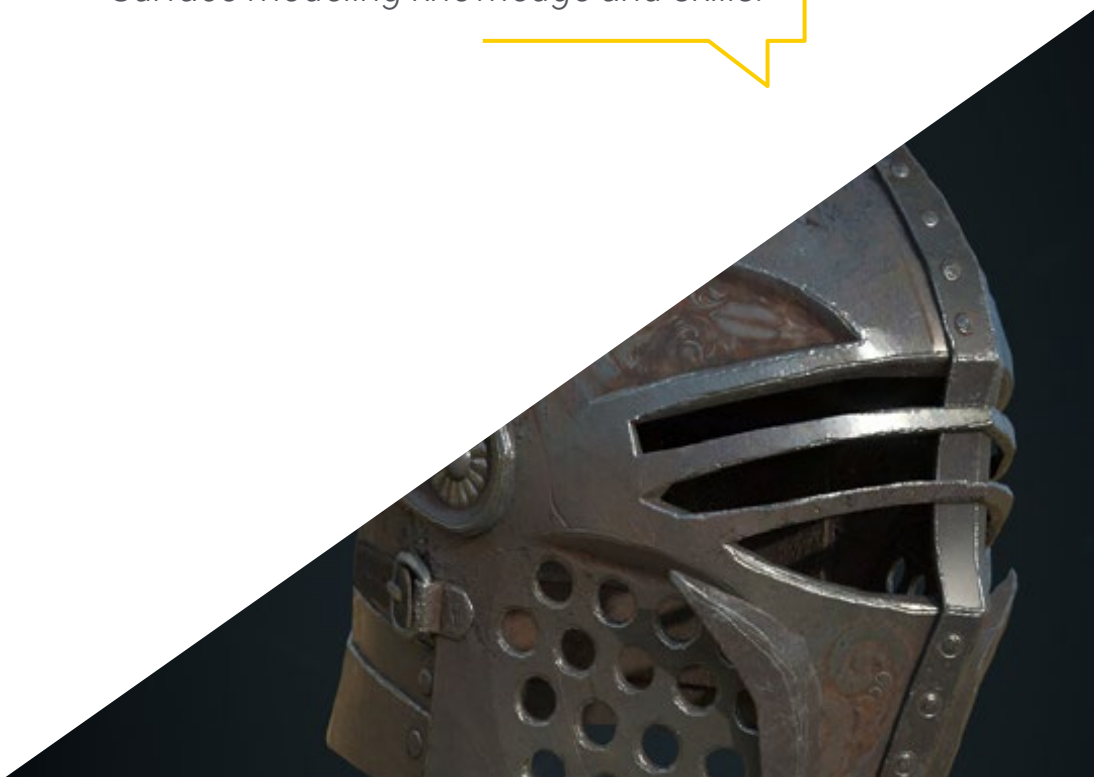
Get proficient in 3D hard surface modeling with this online educational program.

Give your portfolio a plus in 3D Hard Surface modeling knowledge and skills.

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.



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Objectives

With this program in 3D Hard Surface modeling designed by TECH Technological University, the graduate student will have the necessary knowledge to master the most advanced three-dimensional Hard Surface modeling software. Students will have the most current and practical content, with which they will be able to develop several models to learn how to edit and transform geometries, as well as organize scenes, through the implementation of different models. In addition, they will acquire the professional criteria to discern among the tools which is the most useful and appropriate for each specific case.

Develop your own professional judgment to choose the most appropriate 3D Hard Surface modeling tool for each case that arises"

General Objectives

- Learn in depth the different types of Hard surface modeling, the different concepts and features to apply them in the 3D modeling industry
- Delve into the theory of shape creation in order to develop shape masters
- Learn in detail the basics of 3D modeling in its different forms
- Generate designs for different industries and their application
- Be a technical expert and/or artist in 3D modeling for Hard surface
- Know all the tools involved in the 3D modeling profession
- Acquire skills for the development of textures and FX of 3D models

Specific Objectives

- Understand in depth how to control the topology
- Develop function communication
- Have knowledge of the emergence of Hard Surface
- Have a detailed understanding of the different industries of its application
- Have a comprehensive understanding of the different types of modeling
- Possess valid information on the fields that make up modeling

With this online plan you will have no problem facing new professional challenges related to 3D modeling of hard surfaces"

03

Course Management

This program has been designed thanks to the expertise of a select teaching staff, made up of true experts and professionals in the field of three-dimensional modeling. They are professionals of the highest level and are interested in providing the most current and cutting-edge content in the 3D model development sector. Students will be able to learn how to create different surfaces regardless of the field in which they specialize, completing their studies in a sector that is in great demand internationally.

The management and teaching staff of this Postgraduate Certificate designed by TECH is made up of prestigious professionals and experts in their field"

Management

Mr. Salvo Bustos, Gabriel Agustín

- 3D Artist at 3D VISUALIZATION SERVICE INC.
- 3D Production for Boston Whaler
- 3D Modeler at Shay Bonder Multimedia TV Production Company
- Audiovisual Producer at Digital Film
- Product Designer for Escencia de los Artesanos by Eliana M
- Industrial Designer Specializing in Products. National University of Cuyo
- Exhibitor at the Regional Visual Arts Salon Vendimia
- Digital Composition Seminar. National University of Cuyo
- National Congress of design and production. C.P.R.O.D.I

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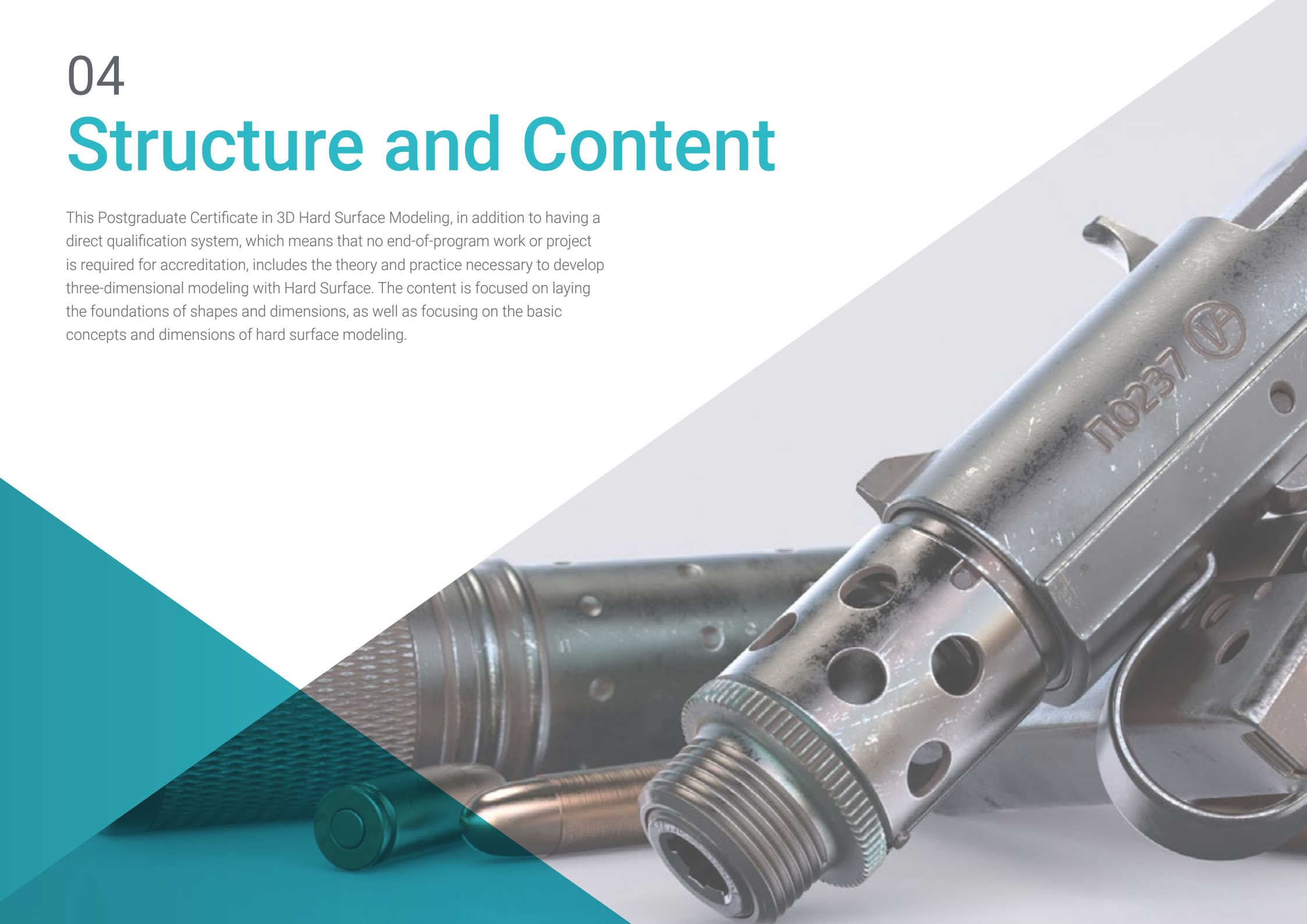
Structure and Content

This Postgraduate Certificate in 3D Hard Surface Modeling, in addition to having a direct qualification system, which means that no end-of-program work or project is required for accreditation, includes the theory and practice necessary to develop three-dimensional modeling with Hard Surface. The content is focused on laying the foundations of shapes and dimensions, as well as focusing on the basic concepts and dimensions of hard surface modeling.



With this direct qualification, you will be able to develop your best skills as a Hard Surface modeler without having to submit a final project or paper"

Module 1. Hard Surface Modeling

1.1. Hard Surface Modeling
- 1.1.1. Topology Control
- 1.1.2. Function Communication
- 1.1.3. Speed and Efficiency

1.2. Hard Surface I
- 1.2.1. Hard Surface
- 1.2.2. Development
- 1.2.3. Structure

1.3. Hard Surface II
- 1.3.1. Applications
- 1.3.2. Physical Industry
- 1.3.3. Virtual Industry

1.4. Types of Modeling
- 1.4.1. Technical Modeling / Nurbs
- 1.4.2. Polygonal Modeling
- 1.4.3. Sculpt Modeling

1.5. Deep Hard Surface Modeling
- 1.5.1. Profiles
- 1.5.2. Topology and Edge Flow
- 1.5.3. Mesh Resolution

1.6. Nurbs Modeling
- 1.6.1. Dots, Lines, Polylines, Curves
- 1.6.2. Surfaces
- 1.6.3. 3D Geometry

1.7. Fundamentals of Polygonal Modeling
- 1.7.1. Edit Poly
- 1.7.2. Vertices, Edges, Polygons
- 1.7.3. Surgery

1.8. Fundamentals of Sculpt Modeling
- 1.8.1. Basic Geometry
- 1.8.2. Subdivisions
- 1.8.3. Deformities

1.9. Topology and Retopology
- 1.9.1. High Poly and Low poly
- 1.9.2. Polygonal Count
- 1.9.3. Bake Maps

1.10. UV Maps
- 1.10.1. UV Coordinates
- 1.10.2. Techniques and Strategies
- 1.10.3. Unwrapping

A complete syllabus, structured into 10 sub-sections, that progressively delves into the most up to date content on 3D Hard Surface modeling"

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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 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

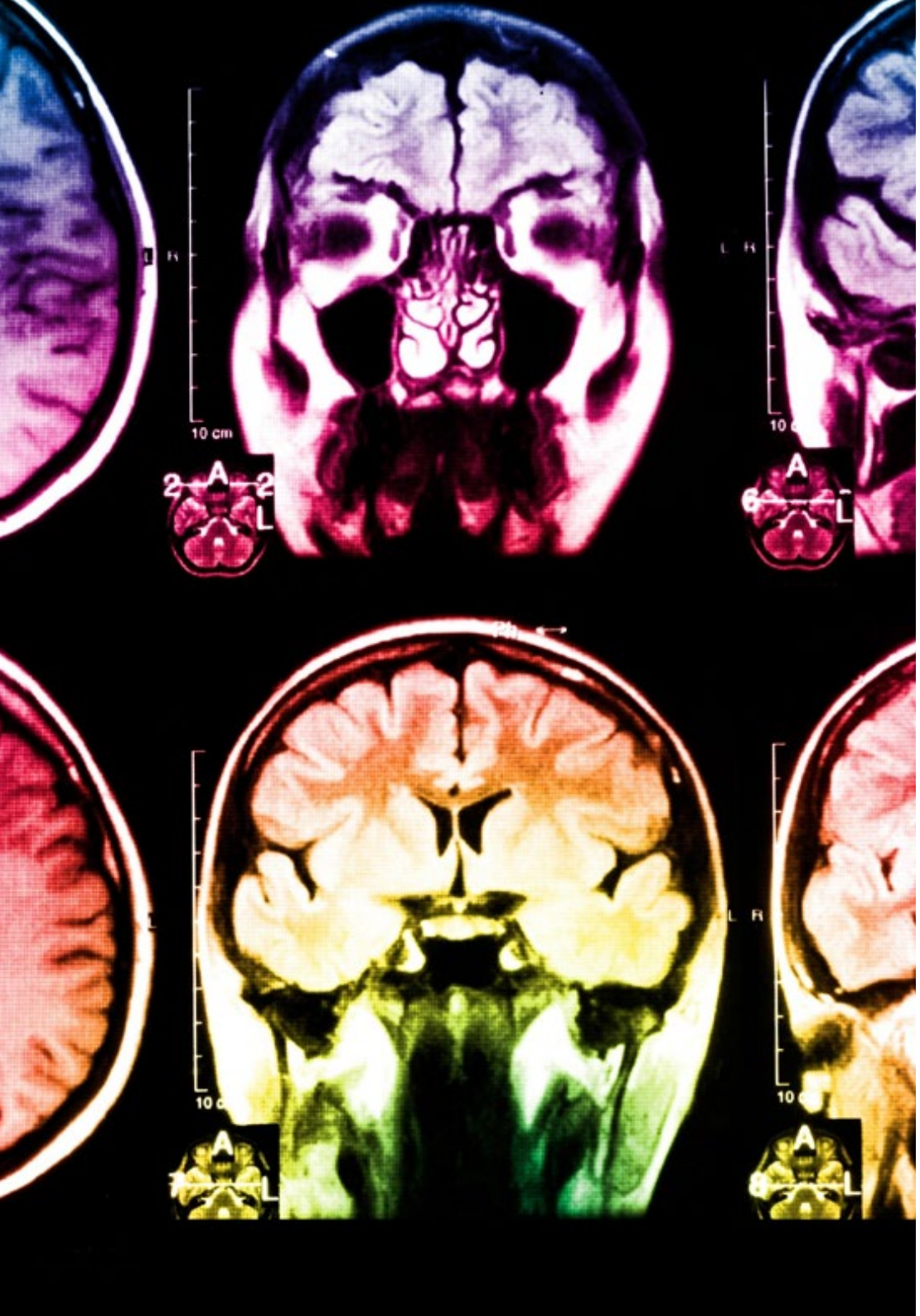
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

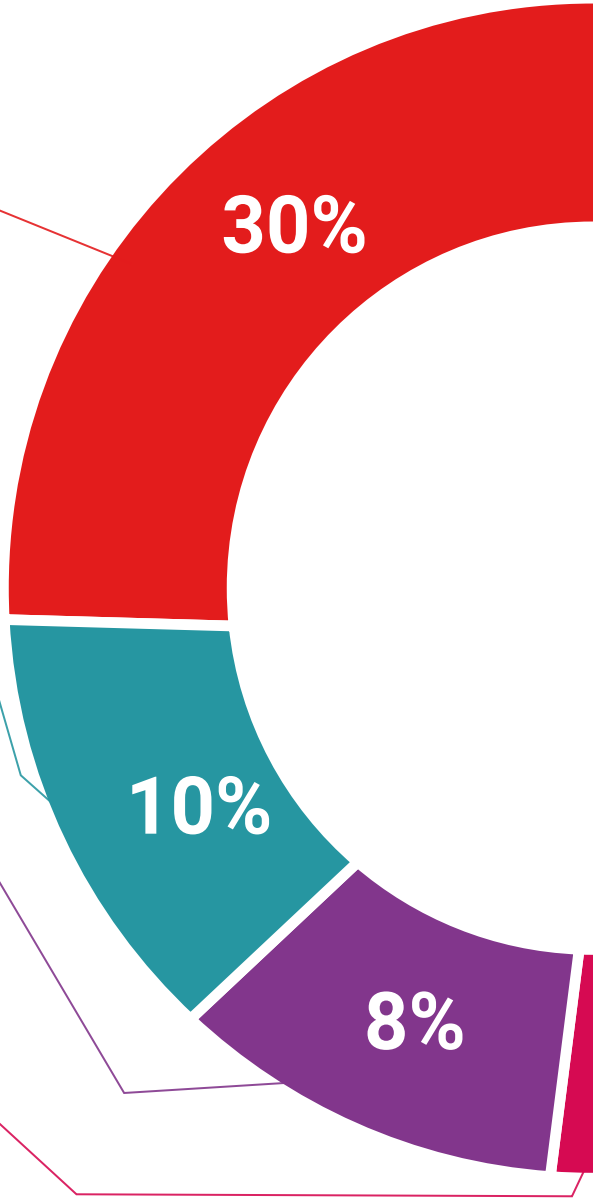
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

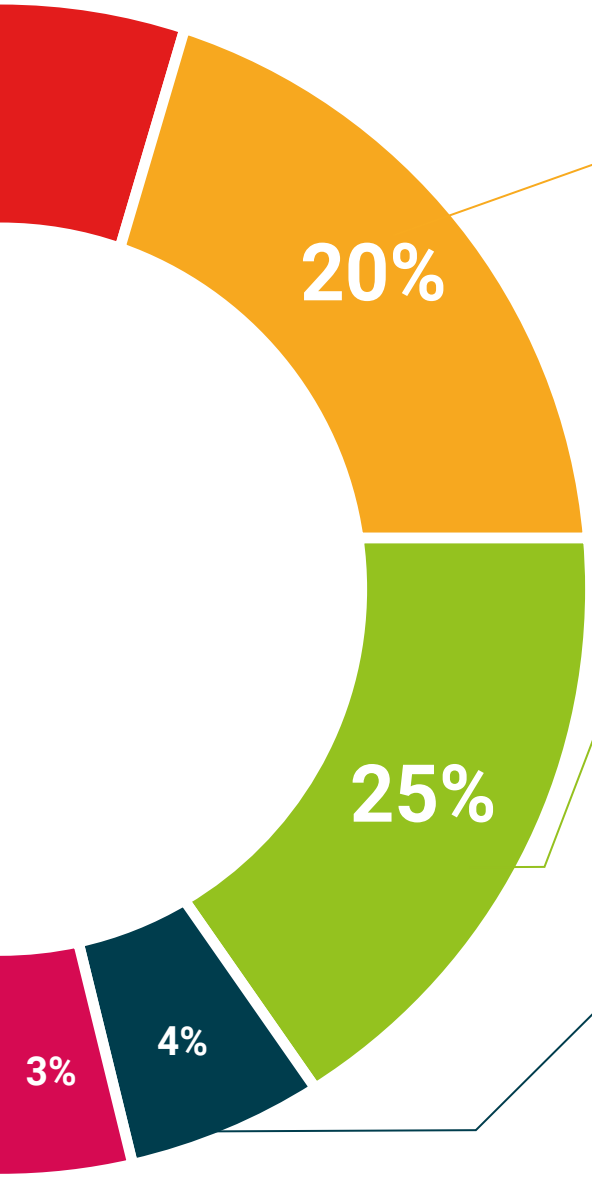
Practising Skills and Abilities

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 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 Hard Surface Modeling guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate 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 Hard Surface Modeling** 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 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 3D Hard Surface Modeling**
Official Nº of hours: **150 h.**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Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

3D Hard Surface Modeling

This is a qualification awarded by this University, equivalent to 150 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

Unique TECH Code: AFWORD23S techtitute.com/certificates

*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.

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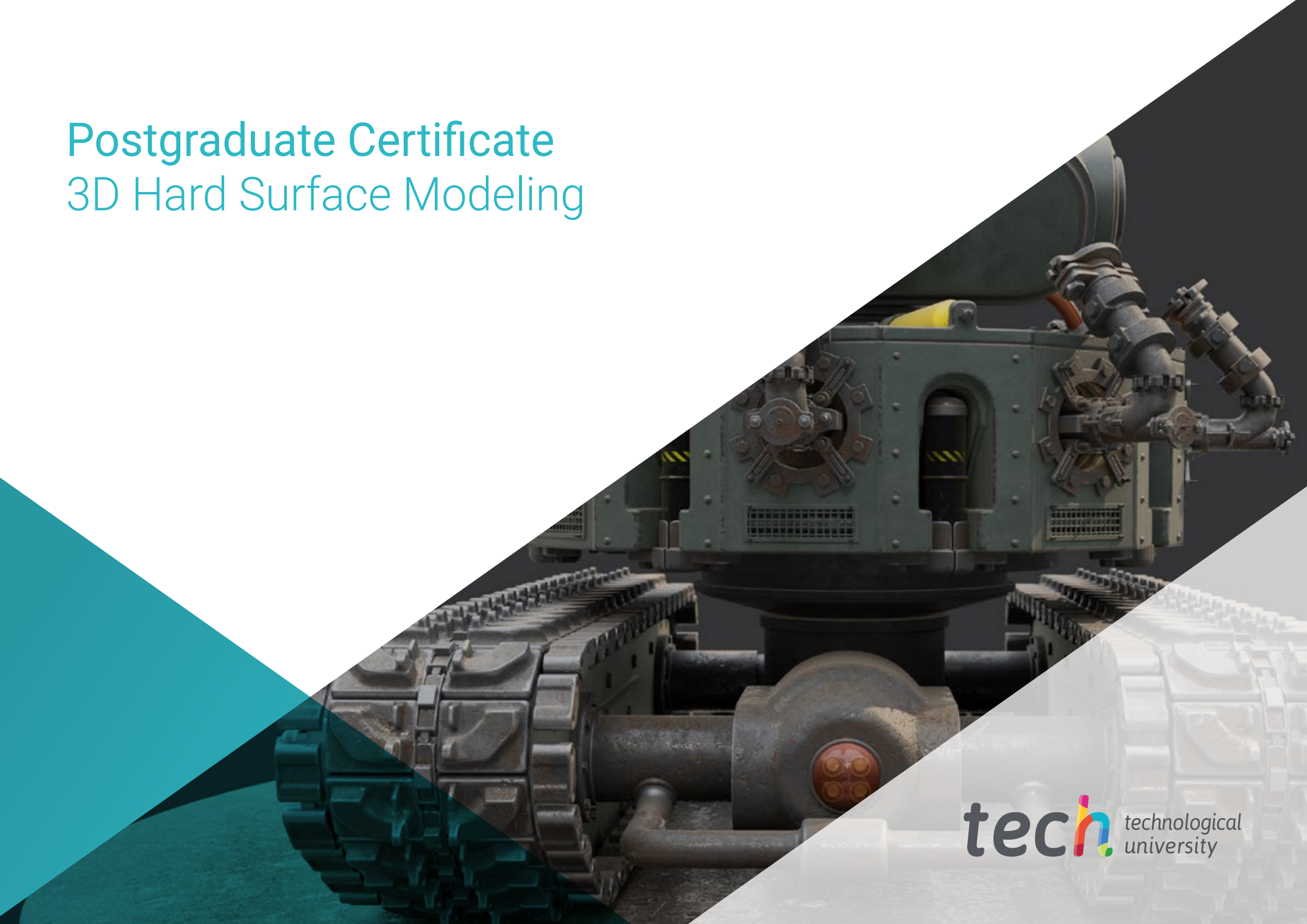

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