Postgraduate Certificate

Creation of Machines through Digital Sculpting

tech global university

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Postgraduate Certificate
Creation of Machines through Digital Sculpting

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Accreditation: **6 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/videogames/postgraduate-certificate/creation-machines-digital-sculpting

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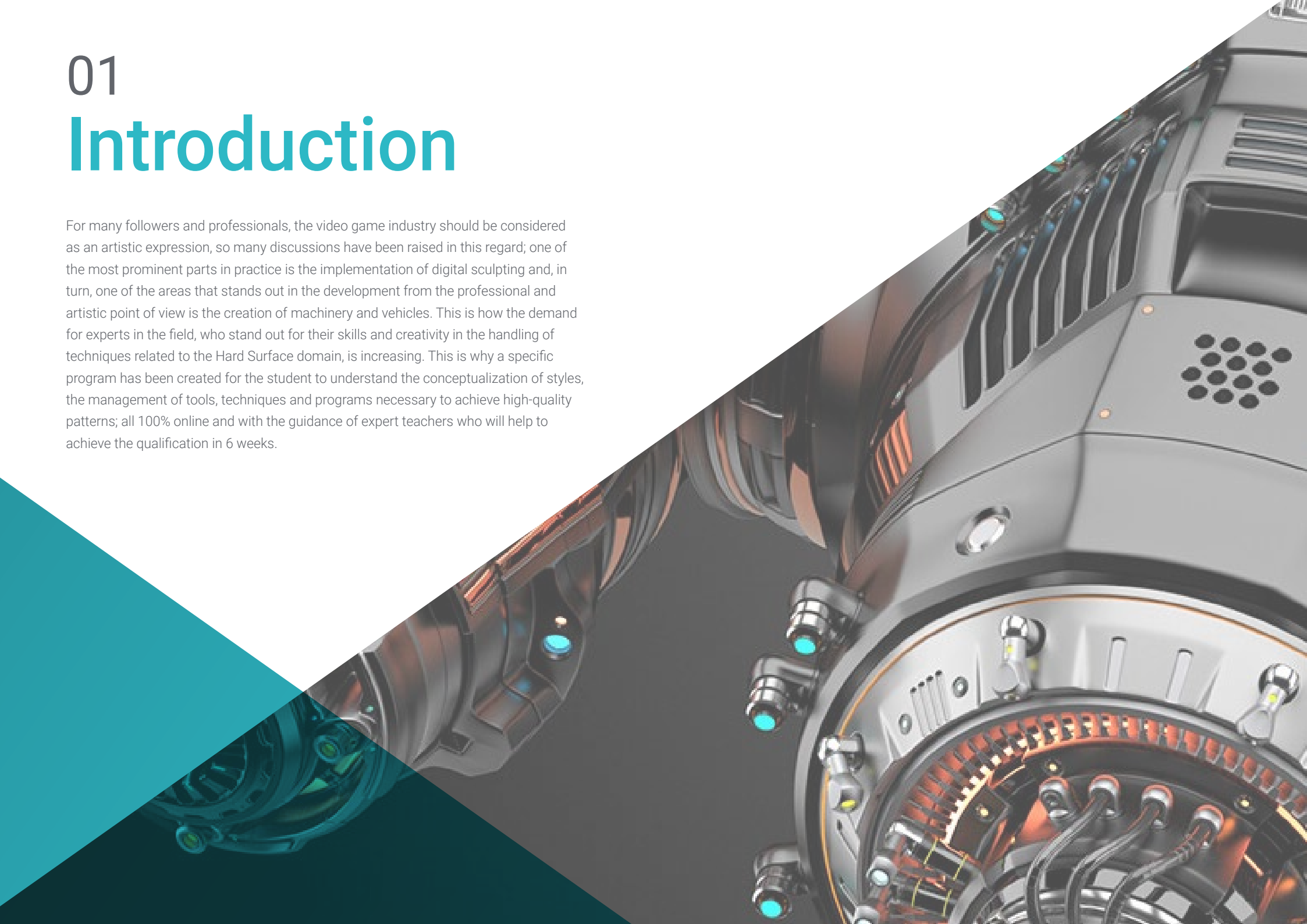
01

Introduction

For many followers and professionals, the video game industry should be considered as an artistic expression, so many discussions have been raised in this regard; one of the most prominent parts in practice is the implementation of digital sculpting and, in turn, one of the areas that stands out in the development from the professional and artistic point of view is the creation of machinery and vehicles. This is how the demand for experts in the field, who stand out for their skills and creativity in the handling of techniques related to the Hard Surface domain, is increasing. This is why a specific program has been created for the student to understand the conceptualization of styles, the management of tools, techniques and programs necessary to achieve high-quality patterns; all 100% online and with the guidance of expert teachers who will help to achieve the qualification in 6 weeks.



You will develop your own style, through the carving of shapes and texturing elements in Substance Painter, thanks to this qualification"

Taking into account the reference to consider video games as works of art, there are experts who express the need to differentiate which video games are works of art and which are mere consumer and entertainment products, as in cinema. For example, we must distinguish between video games, such as *The Witcher* saga, and hobbies such as *Candy Crush Saga,* among others.

In this particular case, the program focuses on showing the qualities of digital sculpting to create true works of art for this market, especially based on the creation of machines. In a 3D video game, every element is modeled by a digital sculptor and then brought to life through programming. Each character, object, building or animal is modeled by 3D software, given color by a texture artist, movement by an animator and, finally, behavioral codes by a programmer.

Additionally, this Postgraduate Certificate will allow the professional to go through the evolution of vehicles and robots through time, up to the conceptualization of styles, through the carving of shapes and texturing elements in Substance Painter, in order to open the range of genres from photorealism to other aesthetics. In the same way, it will open the way to the development of sculpting with structural modeling techniques in 3ds Max with organic in ZBrush, as well as mesh modeling, using a production pipeline in CGI, efficient and fast, to obtain optimal results in future projects.

Its innovative 100% online methodology, based on *Relearning* with various formats of theoretical and practical content, will allow the professional a continuous learning based on real problems, having the entire syllabus from the first day for consultation and possible download from any device of your choice, to achieve your qualification in at least 6 weeks.

This **Postgraduate Certificate in Creation of Machines through Digital Sculpting** contains the most complete and up-to-date program on the market. The most important features include:

- The development of practical cases presented by experts in 3D modeling and digital sculpture
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

Learn the design and evolution of robots, vehicles and Cybords, through shape sculpting and the use of Substance Painter"

Make your way in the video game industry by mastering modeling techniques and specializing in Hard Surface"

With this program you will create your first render studio with a professional lighting engine like Arnold, used by Sony Pictures and integrated in 3ds Max and Maya.

TECH allows you to study at your own pace and with full confidence of achieving your professional goals thanks to the implemented methodology.

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational 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 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 during the course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

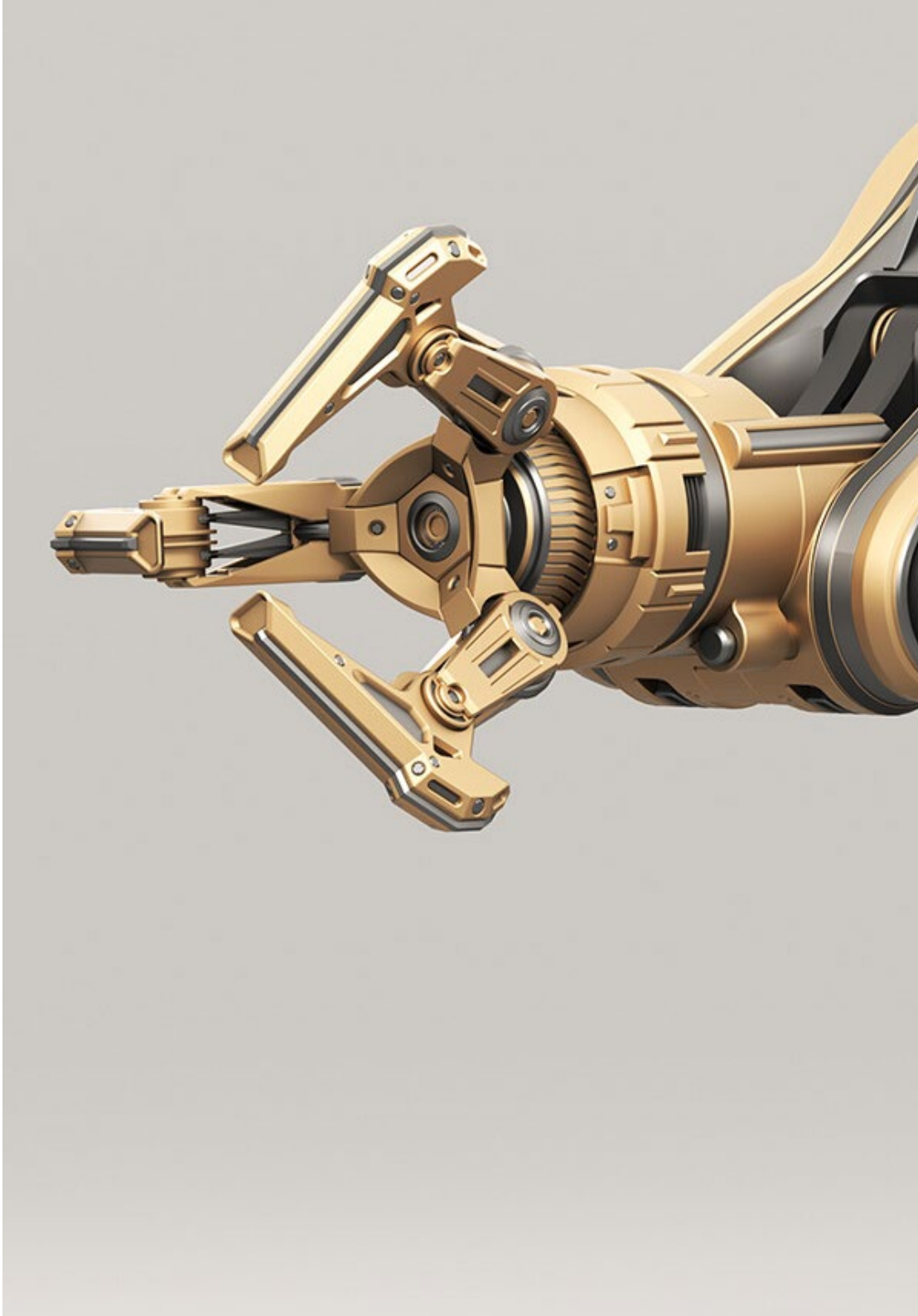
This Postgraduate Certificate opens the doors of professionalization to the student, by knowing in depth the subject of the Creation of Machines through Digital Sculpting. A specialized syllabus that will allow the mastery of specific techniques and software, which will lead you to offer your clients or employers, efficient results in the development of complex projects designed in three dimensions.

Make your way in the competitive digital world with specialized training in the art of 3D modeling for video games"

General Objectives

- Understand the need for good topology at all levels of development and production
- Understand the techniques for creating machines to enhance digital sculpture projects
- Advanced handling and use of various organic modeling systems, Edit Poly and Splines
- Obtain specialized hard surface and infoarchitecture finishes
- Understand current film and video game industry systems to deliver great results

Choose programs that allow you to differentiate yourself in your work environment. Master your skills in 3D modeling and excel in Machine Creation through Digital Sculpting for videogames"



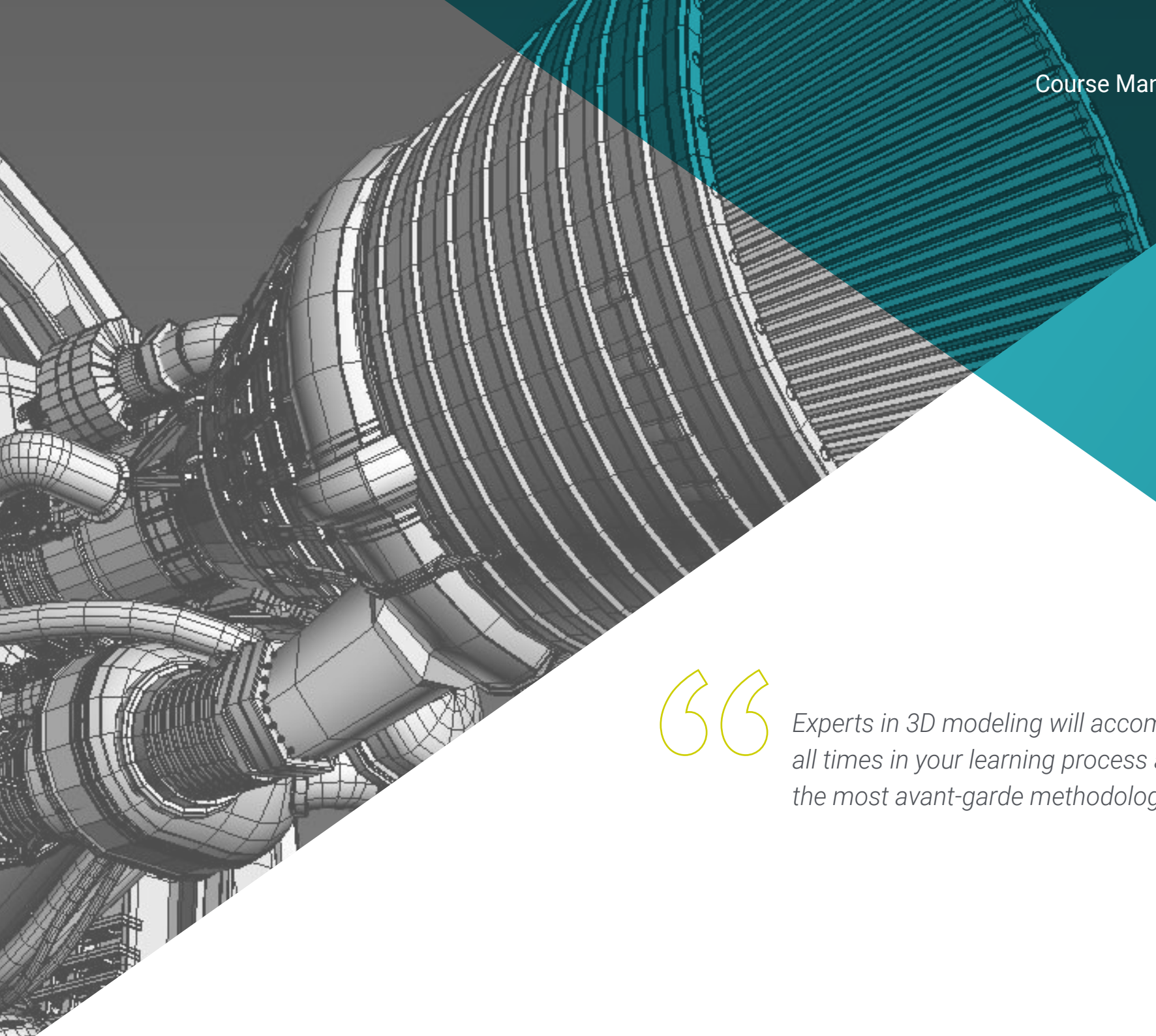
Specific Objectives

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

03

Course Management

A teaching staff of expert level in 3D modeling, composed of professionals with a reputed experience, will transmit their knowledge through innovative and specific methods implemented by TECH, to guarantee the student an effective learning and therefore, to integrate them in parallel in their professional performance.

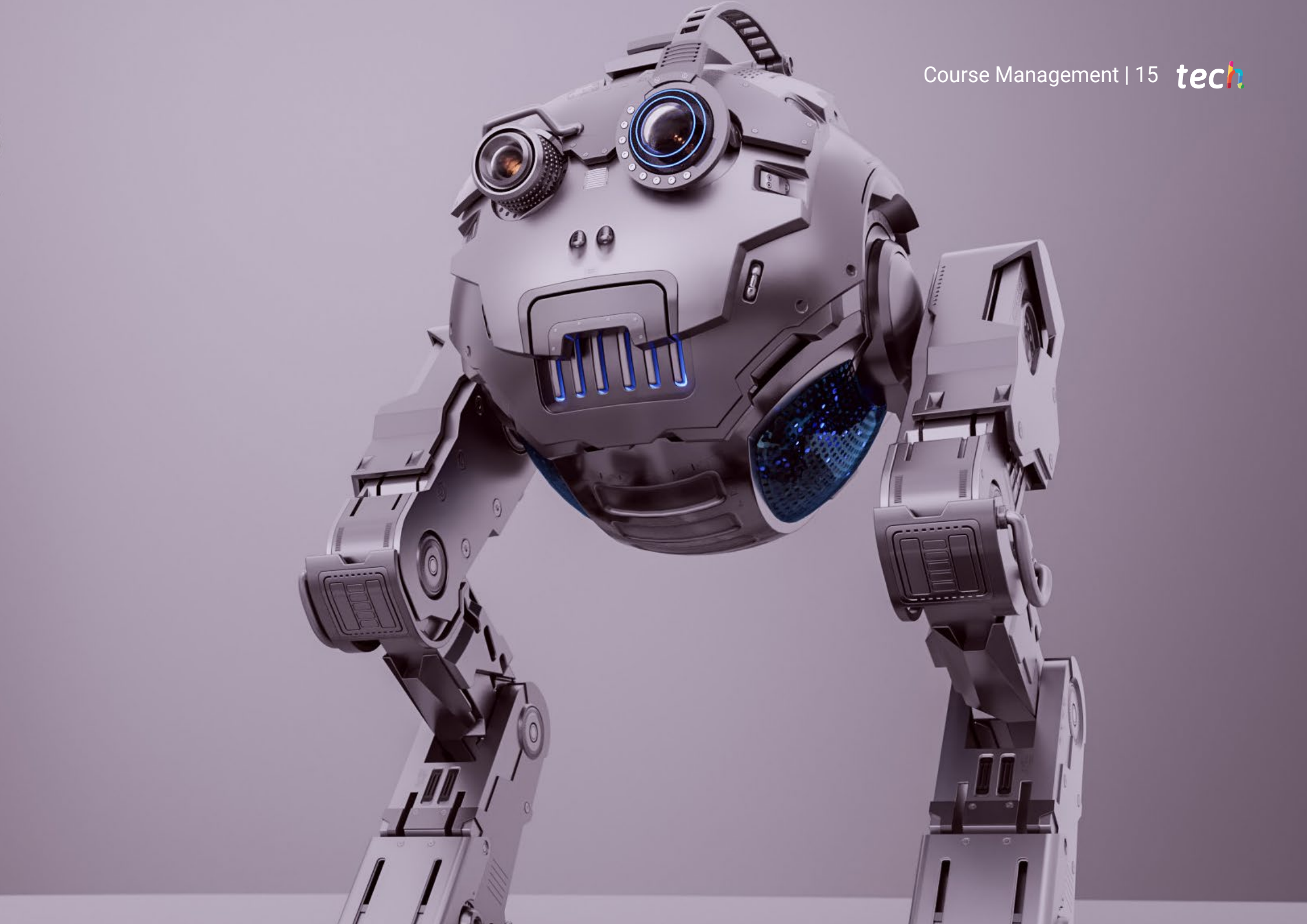


Experts in 3D modeling will accompany you at all times in your learning process and will use the most avant-garde methodology"

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
- Degree in Fine Arts at the University of Salamanca (specializing in Design and Sculpting).
- Master's Degree in Computer Graphics, Games and Virtual Reality. URJC University. Madrid



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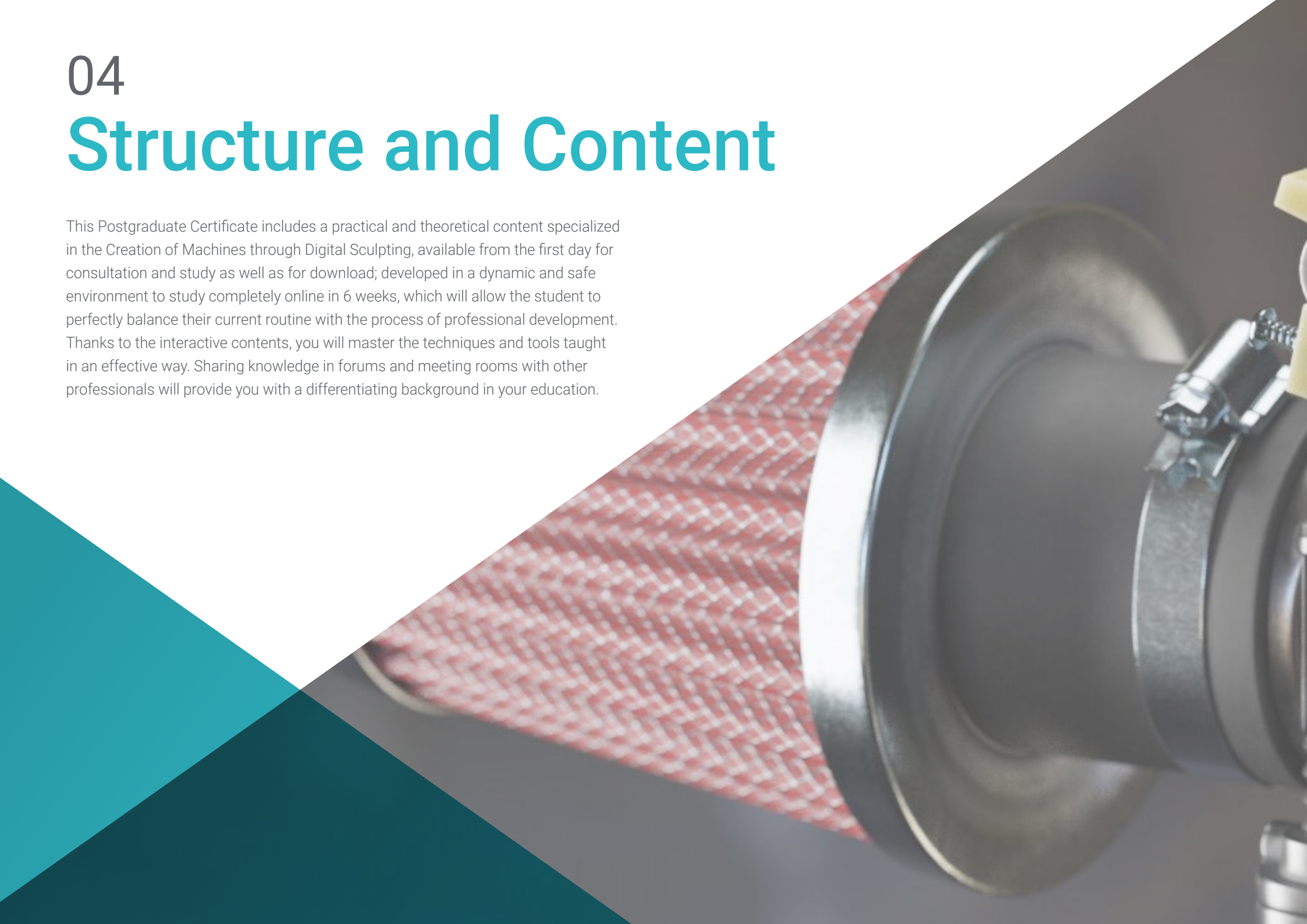
Structure and Content

This Postgraduate Certificate includes a practical and theoretical content specialized in the Creation of Machines through Digital Sculpting, available from the first day for consultation and study as well as for download; developed in a dynamic and safe environment to study completely online in 6 weeks, which will allow the student to perfectly balance their current routine with the process of professional development. Thanks to the interactive contents, you will master the techniques and tools taught in an effective way. Sharing knowledge in forums and meeting rooms with other professionals will provide you with a differentiating background in your education.



Creating is the ability to make real what you have in your imagination, study the best techniques and do it as a true professional"

Module 1. Machine Creation

1.1. Robots
- 1.1.1. Functionality
- 1.1.2. Character
- 1.1.3. Motor Skills in its Structure

1.2. Robot Quartering
- 1.2.1. IMM Brushes and Chisel
- 1.2.2. Insert Mesh and Nanomesh
- 1.2.3. Zmodeler in Zbrush

1.3. Cyborg
- 1.3.1. Sectioned by Masks
- 1.3.2. TrimAdaptive and Dynamic
- 1.3.3. Mechanization

1.4. Ships and Airplanes
- 1.4.1. Aerodynamics and Smoothing
- 1.4.2. Surface Texture
- 1.4.3. Cleaning of Polygon Mesh and Details

1.5. Land Vehicles
- 1.5.1. Vehicle Topology
- 1.5.2. Modeling for Animation
- 1.5.3. Caterpillars

1.6. Passing of Time
- 1.6.1. Credible Models
- 1.6.2. Materials in Time
- 1.6.3. Oxidations

1.7. Accidents
- 1.7.1. Crashes
- 1.7.2. Object Fragmentations
- 1.7.3. Destruction Brushes

1.8. Adaptations and Evolution
- 1.8.1. Biomimicry
- 1.8.2. Sci-fi, Dystopia, Uchronies and Utopias
- 1.8.3. Cartoon

1.9. Realistic Hard Surface Rendering
- 1.9.1. Studio Scene
- 1.9.2. Light
- 1.9.3. Physical Camera

1.10. Render Hard Surface NPR
- 1.10.1. Wireframe
- 1.10.2. Cartoon Shader
- 1.10.3. Illustration

Make your way in the freelance or corporate labor market with a program that will provide you with exclusive knowledge in digital sculpture. Enroll now and qualify in 6 weeks"

05

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

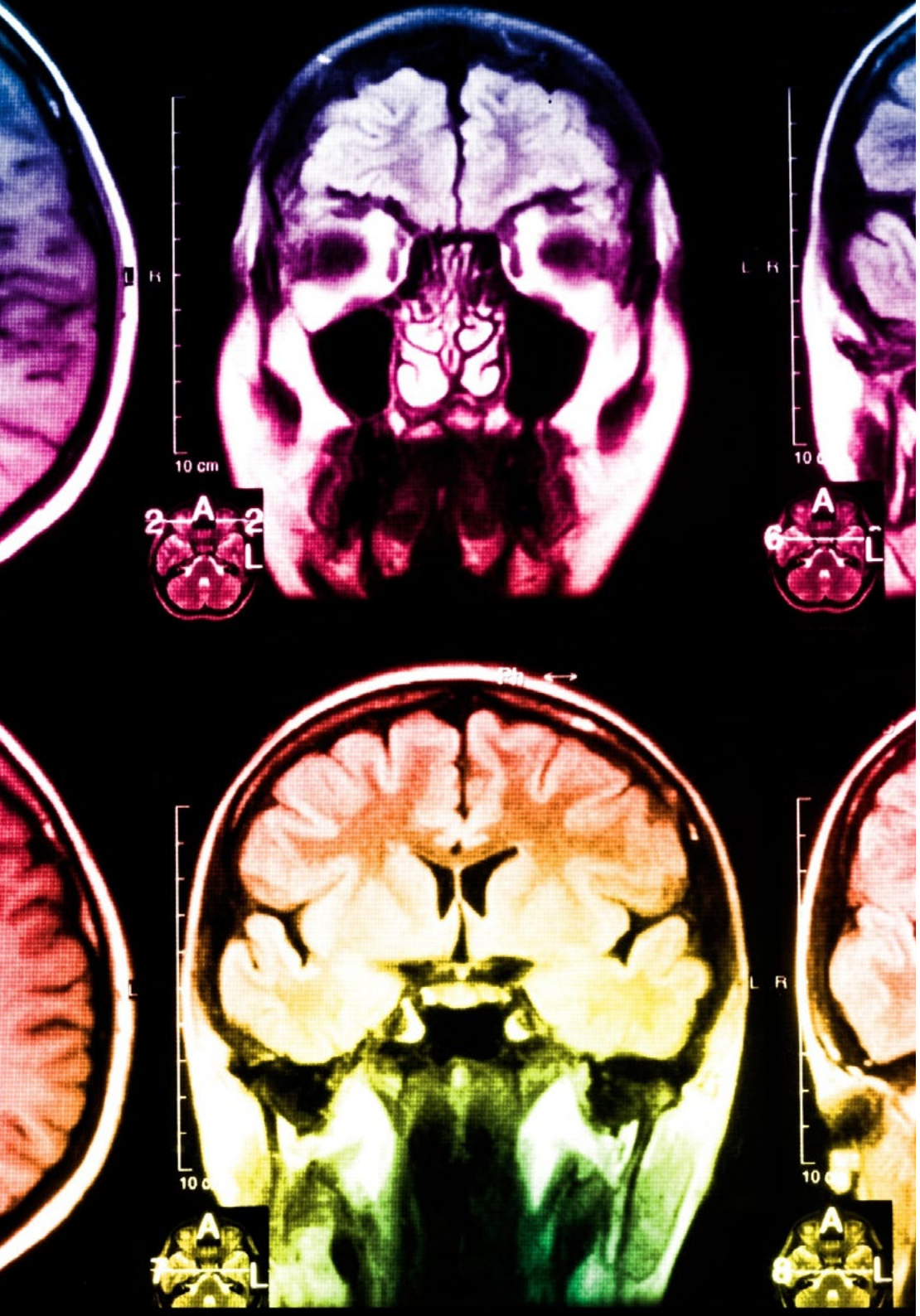
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.
This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

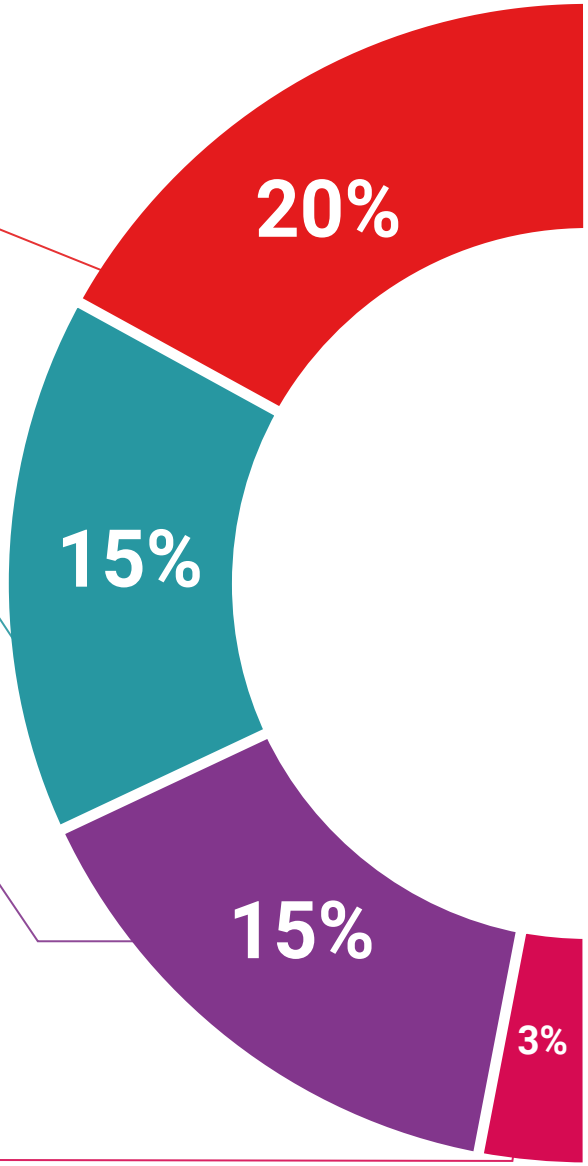
You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

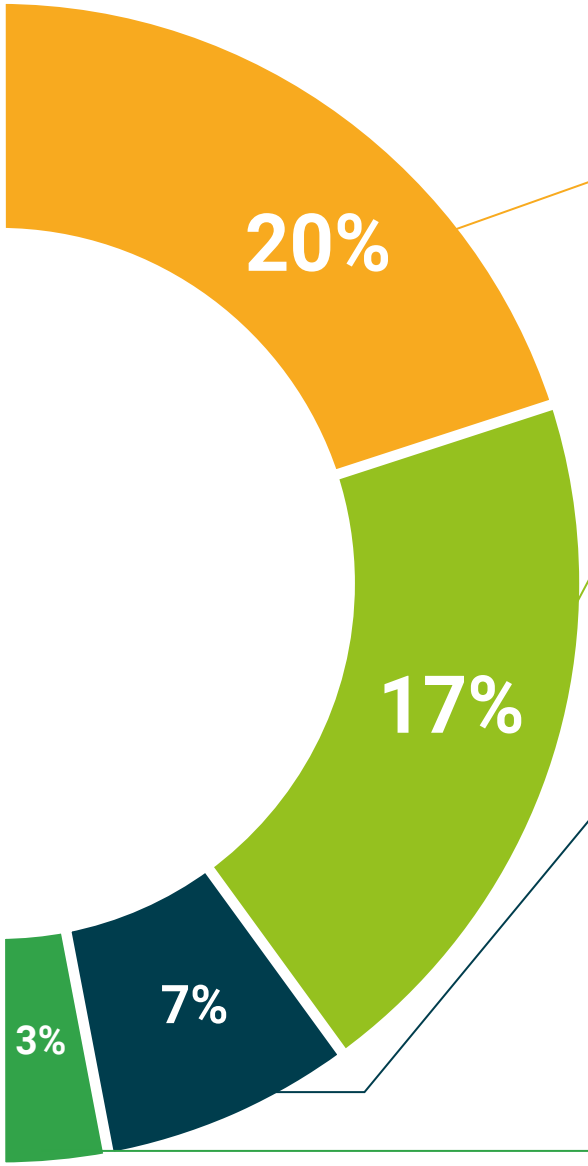
Interactive Summaries

We present 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".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field.
Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

06

Certificate

The Postgraduate Certificate in Creation of Machines through Digital Sculpting guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain a **Postgraduate Certificate in Creation of Machines through Digital Sculpting** endorsed by TECH Global University, the world's largest online university.

TECH Global University, is an official European University publicly recognized by the Government of Andorra ***(official bulletin)***. Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Creation of Machines through Digital Sculpting**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Creation of Machines through Digital Sculpting

This is a private qualification of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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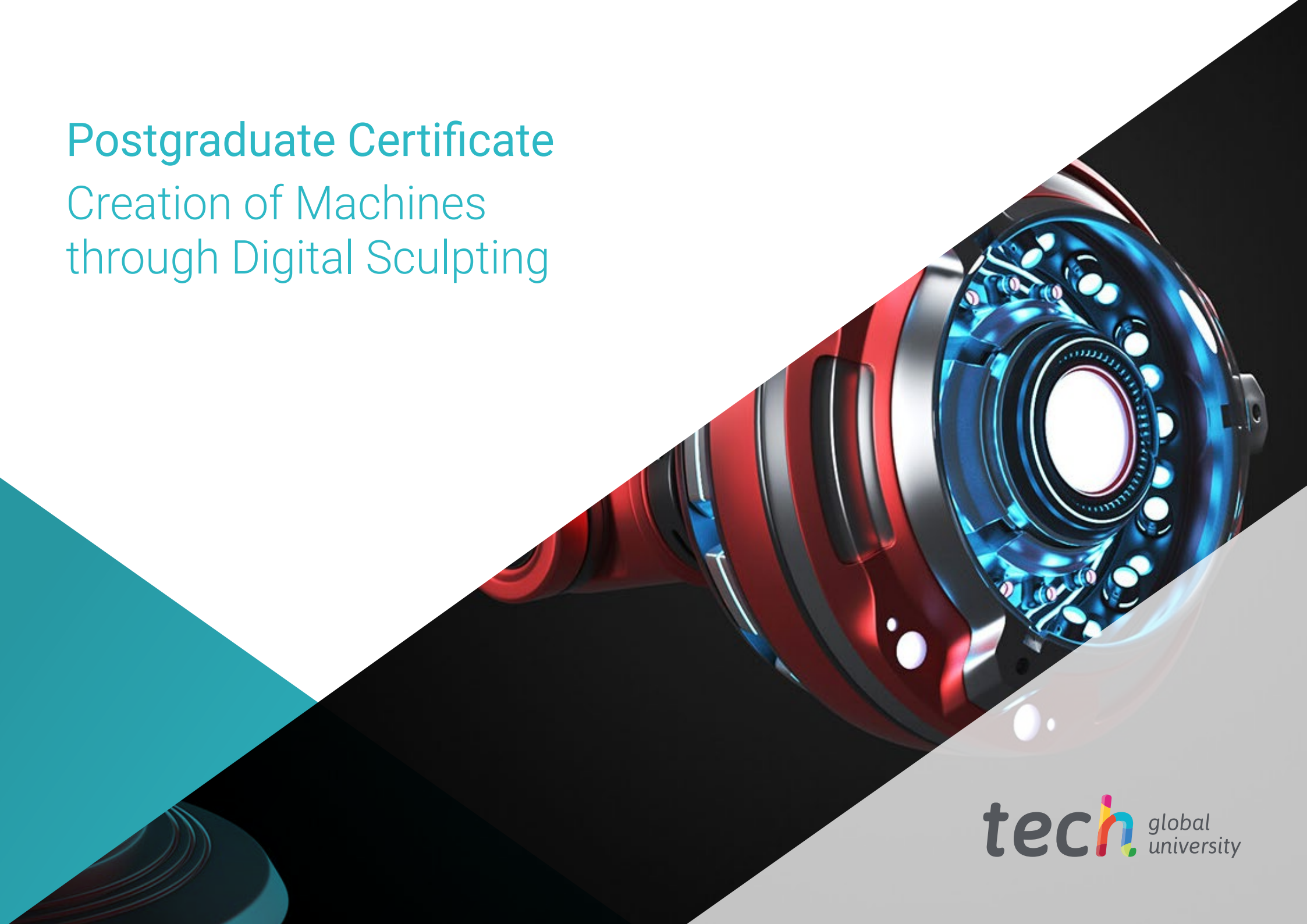
Postgraduate Certificate

Creation of Machines through Digital Sculpting



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