

# Internship Program

## 3D Hard Surface Modeling



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Internship Program  
3D Hard Surface Modeling

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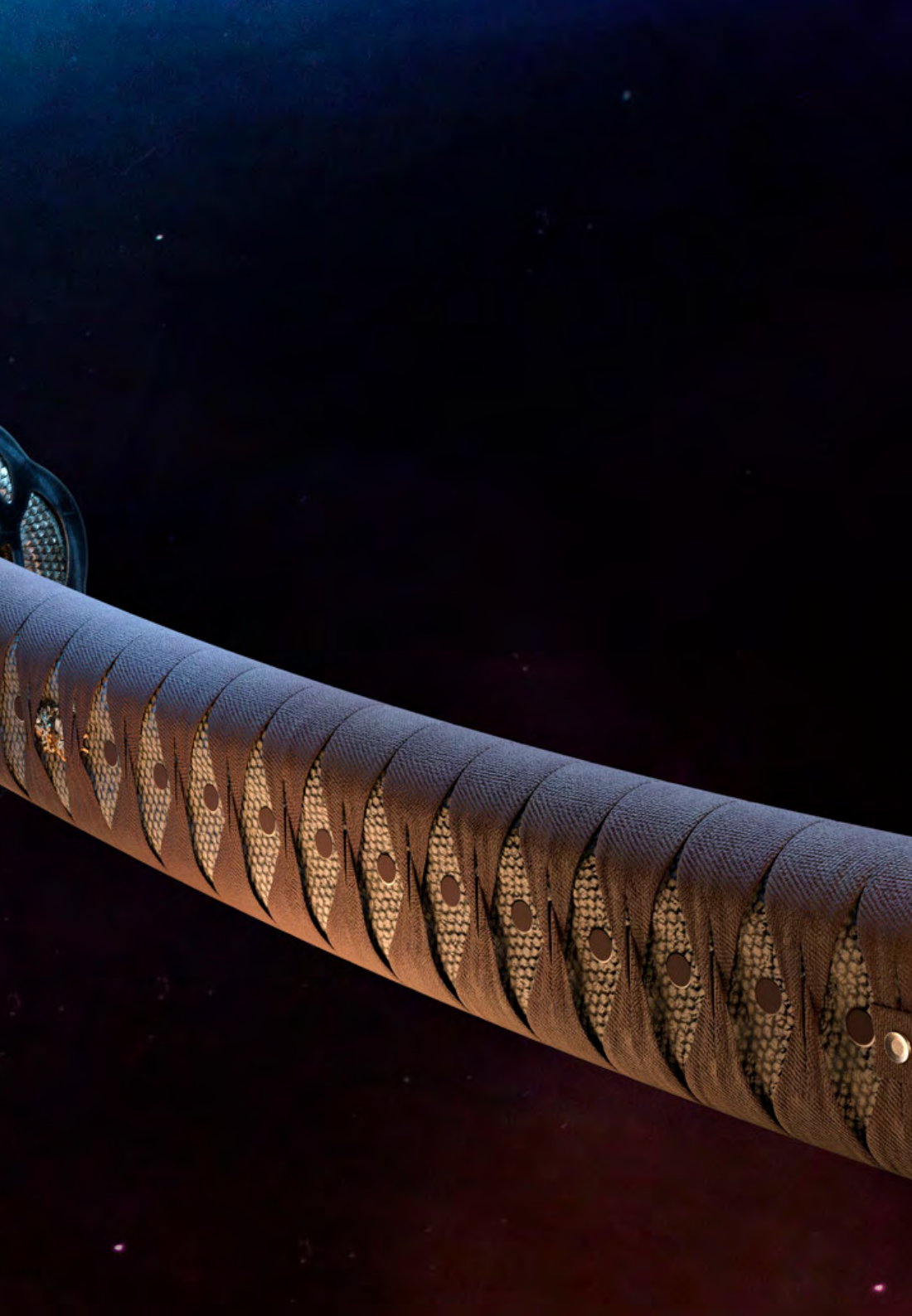
# 01 Introduction

The improvement of *Hard Surface* modeling has had a great impact on industrial animation, aeronautics and even on science fiction scenarios in video games, where the surface textures of objects are shown with greater detail and precision. This is thanks to the work done by the graphic designers, who provide a very high level of technical and creative knowledge. In response to the industry's need for highly qualified professionals in their teams, this program was created. Students will acquire specialized training in one of the leading companies in the sector, where they will carry out an intensive 3-week internship.



*Incorporate to your daily professional practice the mastery of the most up-to-date technological resources of 3D Hard Surface Modeling through this practical experience of excellence"*





The 3D animation industry has reached revenues in excess of one billion euros per year in Europe alone. This is largely due to *Hard Surface* modeling and its potential interactions with niche markets such as architecture, aeronautics, interior design, *e-Sports* and video games, among others. At the same time, software for the generation of rigid surfaces is constantly being updated, forcing graphic designers to keep abreast of major advances. At the same time, software for the generation of rigid surfaces is constantly being up to date, forcing graphic designers to keep abreast of major advances.

Through this on-site internship, students will complete 3 weeks in a prestigious institution where they will actively work with complex 3D *Hard Surface* modeling tools. In particular, you will acquire complex skills to master the Rhino application and, through it, edit object geometries, curve blends *and loft*. In turn, you will develop up-to-date skills for the creation of polygonal shapes, with appropriate cleaning and smoothing techniques, which you will be able to run through the 3D Studio MAX program. You will also be able to specialize in the elaboration of metallic textures and the inclusion of details such as oxides and scratches.

For the assimilation of all these practical skills, the professional will be guided by a tutor from the company where the internship will take place. This figure will be in charge of supervising the fulfillment of the academic objectives and, at the same time, integrating them in the development of the different projects of the company. Also, from this learning period, your technical knowledge on digital sculpting and the generation of UV maps will be complemented. As a result, the graduate of this course will have the most up-to-date skills, giving them the opportunity to access the most competitive and demanding positions in the 3D modeling sector.

# 02

## Why Study an Internship Program?

In industries such as video games or animated films, 3D modeling is a key element for the development of projects. Experts in this field are not only in charge of bringing characters to life, they are also responsible for integrating environments and surfaces that mimic the created universe. For these tasks, it is essential to have a practical command of the most up-to-date digital applications and technical production resources. Taking this reality into account, TECH has created an academic program that is unique in its kind in today's educational landscape. As a result, during a 3-week on-site internship in a prestigious company, you will experience firsthand how to include these skills in your daily work practice and stand out in the productive landscape through your ability with 3D Hard Surface techniques.



*Thanks to this on-site internship, you will learn the techniques and practical tools of 3D Hard Surface modeling from specialists with extensive professional experience in industries such as animated film and video games"*

### 1. Updating from the Latest Technology Available

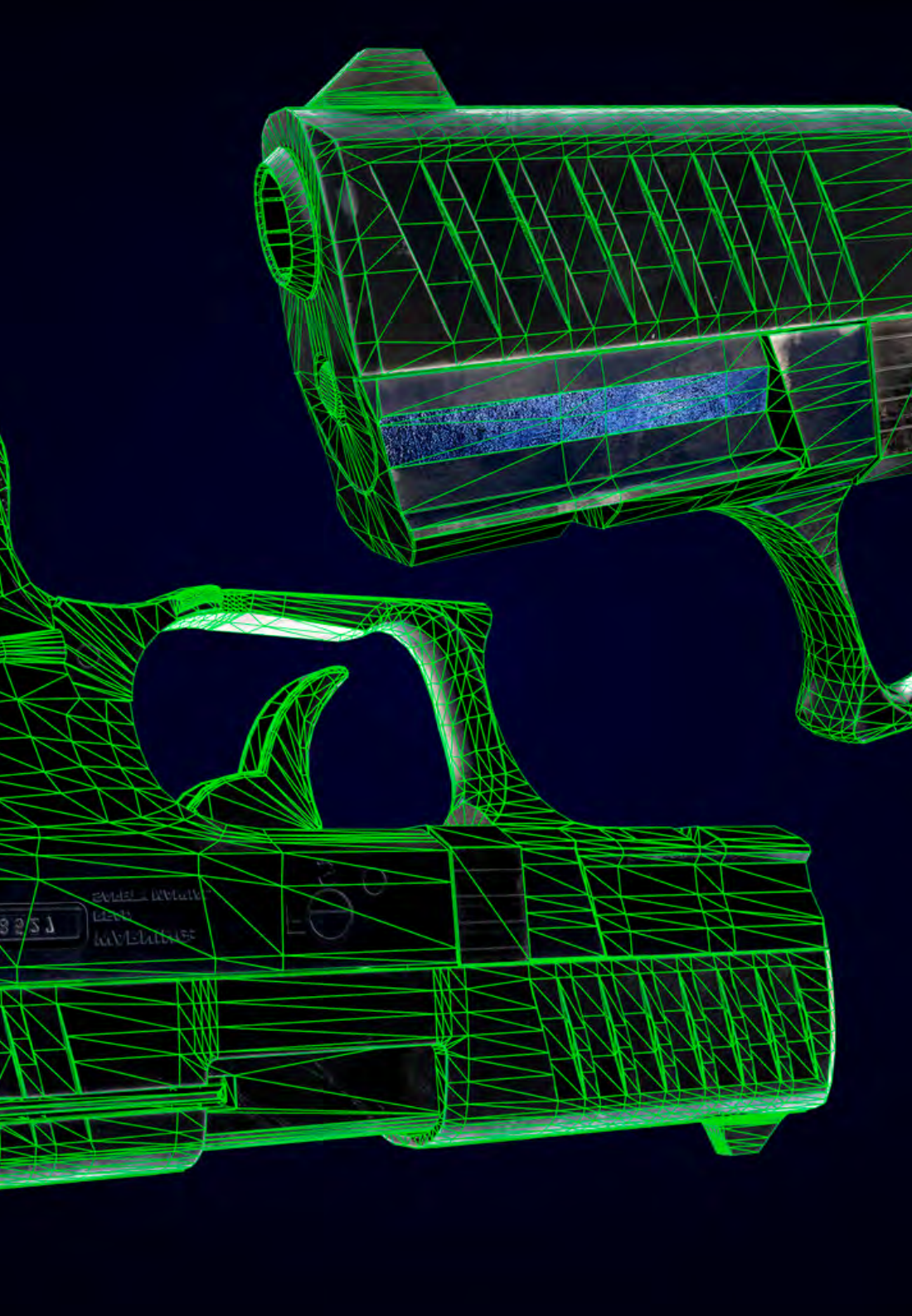
Hard Surface 3D Modeling has become a valuable technique in recent years. Through their use, areas such as Virtual Reality and Augmented Reality have perfected their graphics, resulting in much more realistic immersions and a much deeper application of detail. TECH has arranged an Internship Program of excellence with the objective of perfecting the skills of its students in the use of these technologies. From it, students will have the opportunity to access the most innovative tools that distinguish today's three-dimensional animation.

### 2. Gaining In-depth Knowledge from the Experience of Top Specialists

Throughout this practical educational process, students will maintain close contact with experienced specialists. In this way, their on-site internship will provide an unprecedented guarantee of updating. They will also have a specific tutor, in charge of assigning them projects in which they will have to execute digital tools and software of varying complexity.

### 3. Getting into World-Class 3D Modeling Environments

TECH carefully selects all available centers for Internship Programs. Thanks to this, students will have guaranteed access to companies dedicated to 3D Hard Surface modeling for video games, architecture, animated films or aeronautics. As a result, they will be able to experience the day-to-day work in a demanding, rigorous and exhaustive area, where they will apply various techniques and skills.



#### 4. Putting the acquired knowledge into daily practice from the very first moment

The academic market is plagued by teaching programs that are poorly adapted to the daily work of the specialist and that require long teaching hours, often not very compatible with personal and professional life. TECH offers a new learning model, 100% practical, that allows you to get to grips with the most complex digital applications for 3D Hard Surface modeling and, best of all, to put it into professional practice in just 3 weeks.

#### 5. Expanding the Boundaries of Knowledge

TECH's Internship Programs are not limited to the national scene. Students in this educational modality also have the opportunity to access cutting-edge centers in different parts of the world. In this way, they will broaden their professional horizons and will be able to exchange with the most qualified experts in different latitudes.



*You will have full practical immersion at the center of your choice"*

# 03 Objectives

This on-site program provides an in-depth update on the latest techniques and most complex digital software for 3D animation and, in particular, for the development of figures and environments using Hard Surface. All of this will be possible through an on-site internship in graphic design companies that stand out from others in the market for their rigor and prestige. In addition, this educational tour will be led by professionals with extensive experience in this innovative creative sector.



## General Objectives

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- ♦ Master the creation of shapes, polygons and textures through 3D modeling techniques
- ♦ Handle the most innovative software applications and development techniques within the 3D Hard Surface creative landscape
- ♦ Manage the workflow for the development of characters, elements and environments that best fits the dynamics of working with Hard Surface 3D Modeling techniques







## Specific Objectives

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- ◆ Learn how to export materials and maps for different platforms
- ◆ Present a Hard Surface character model
- ◆ Understand in depth how detail makes for realism
- ◆ Understand the physiognomy of a bot form
- ◆ Knowledge of UV mapping
- ◆ Understand in detail how the component parts of an advanced model work
- ◆ Work with analysis tools
- ◆ Work with precision modeling systems
- ◆ Have knowledge of the emergence of Hard Surface
- ◆ Develop an understanding of how shapes are developed



*Enroll in an Internship Program that allows you to get closer to the professional world in the graphic design sector with the help of the best professionals”*

# 04

## Educational Plan

The Internship Program of this qualification in Hard Surface 3D Modeling will allow students to carry out a practical internship in a studio in the field of graphic design. During 3 weeks, from Monday to Friday and with a total of 120 hours of duration, the designer will be in a continuous learning process with experts in this field. In addition, TECH's teaching team will help the student during the internship to achieve the objectives and receive a quality education, in accordance with the academic institution.

In this internship program, of a completely practical nature, the activities are aimed at developing and perfecting the skills necessary for the provision of graphic design services that require a high level of technical knowledge and are oriented towards specific training for the exercise of the activity, in a work environment in which 3D modeling specialists converge.

This Internship Program is therefore a good opportunity for people who wish to enhance their creativity and skills in digital design. The on-site internship allows students to complete a minimum number of hours where they will be able to master the creation of mechanical elements in a practical and working environment in Hard Surface 3D Modeling and will be able to apply the different textures to achieve the maximum detail in each of their projects. All this always using the main software used by the best experts in the industry.

In this way, students will be able to acquire a knowledge close to the reality of the sector and identify the latest trends in Hard Surface 3D Modeling in the video game sector, but also its application in other possible sectors where high quality three-dimensional objects are widely demanded.

The practical education be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the praxis of physical therapy (learning to be and learning to relate).



*Receive specialized education in an institution that can offer you all these possibilities, with an innovative academic program and a human team that will help you develop your full potential"*



The procedures described below will be the basis of the practical part of the training, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

Module	Practical Activity
Technologies and software applied to Hard Surface 3D modeling	Perform technical modeling in Rhino by handling the fundamental notions of Rhino
	Manage 3D Studio Max and use it to create complex polygonal shapes with proper cleaning and smoothing techniques
	Create modeling from Low Poly models
	Analyze the created model with different tools to detect irregularities or polish imperfections
Techniques of Hard Surface 3D Modeling	Perform technical, polygonal or sculpt modeling as required by the job
	Create UV Maps with specific coordinates, techniques and strategy
	Handle geometric figures, polygons and the axonometric workflow system
	Create modeling from Low Poly models and objects with complex geometries
	Master the fundamentals of mechanical elements in a practical and working environment in Hard Surface 3D Modeling
	Analyze the shape and topology of models to optimize work processes
Development of vehicles, spaceships and other complex structures with Hard Surface 3D modeling	Create advanced models of motorcycles, engines or other vehicles
	Handle specific modeling of windshields, brake cables, handlebars or other specific elements of the vehicle
	Create tires, rims, space helmets or other specific targets with specific modeling techniques
	Model ships, vehicles or advanced polygonal objects, with a suitable workspace
	Pay attention to specific details such as pistons, cases, crawler tracks, mechanical arms or cabs
	Create detailed wiring, latches, windshields, headlights or headers for the model to be worked on
	Refine the model by adding details
	Improve techniques for working with metal objects, with variations of rust, polishing or scratches
Hard Surface Modeling for Characters	Model the torso, arms and legs, as well as accessories such as belts, helmets or wings
	Adapt the workflow to the specific work with characters
	Clean and finalize the model by creating a suitable pose

# 05 Where Can I Do the Internship Program?

In the 3 weeks that make up this Internship Program, students will learn about Hard Surface 3D modeling in a company that has been selected by TECH due to the specialized professional team that integrates this reference design studio. An experience that will give the participant an opportunity to learn first-hand about the day-to-day work in this sector.



*Master the main software used to create the most realistic 3D object textures with this Internship Program”*





The student will be able to do this program at the following centers:



Design

### Goose & Hopper

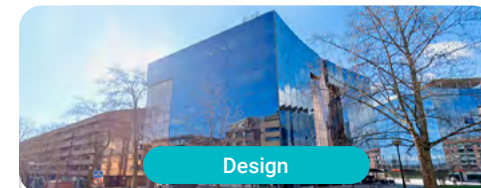
Country: Spain  
City: Valencia

Management: La Marina de Valencia, Muelle de la Aduana S/N Edificio Lanzadera 46024

Advertising, design, technology and creative agency

**Related internship programs:**

- Digital Communication and Reputation Management
- Organic 3D Modeling



Design

### Lab66

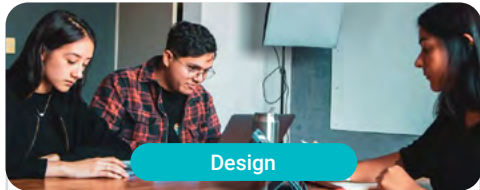
Country: Spain  
City: Navarra

Management: Tomás Caballero nº2, 1ª Planta Oficina 9, 31005

Studio specialized in Virtual Reality and 3D Rendering

**Related internship programs:**

- Organic 3D Modeling
- Video Game Programming



### Goose & Hopper

Country City  
Mexico Michoacán de Ocampo

Management: Avenida Solidaridad Col. Nueva Chapultepec Morelia, Michoacan

Advertising, design, technology and creative agency

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#### Related internship programs:

- Digital Communication and Reputation Management
- Organic 3D Modeling





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*You will learn firsthand the reality of work in the area, in a demanding and rewarding environment"*

# 06

## General Conditions

### Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.





## General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

**1. TUTOR:** During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

**2. DURATION:** The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

**3. ABSENCE:** If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

**4. CERTIFICATION:** Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** The Internship Program shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

**7. DOES NOT INCLUDE:** The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

# 07 Certificate

This **Internship Program in 3D Hard Surface Modeling** contains the most complete and up-to-date program in the professional and academic landscape.

After the student has passed the assessments, they will receive their corresponding Internship Program diploma issued by TECH Technological University via tracked delivery\*.

The certificate issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in 3D Hard Surface Modeling**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Total Hours: **120 h. of professional practice**



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## 3D Hard Surface Modeling

