

# Postgraduate Diploma

## Polygonal Modeling in 3DS Max



## Postgraduate Diploma Polygonal Modeling in 3DS Max

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

Website: [www.techtitute.com/in/videogames/postgraduate-diploma/postgraduate-diploma-polygonal-modeling-3ds-max](http://www.techtitute.com/in/videogames/postgraduate-diploma/postgraduate-diploma-polygonal-modeling-3ds-max)

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# 01

# Introduction

The 3D Studio Max polygonal modeling program is one of the most widely used in the video game design and development industry. This is a useful tool that allows the prototypes used in a composition to be modeled in meshes. This program, designed for professionals in the field who need to update their knowledge in 3ds Max, allows a tour from the most basic utilities to the most advanced ones, including work in Low Poly modeling. Additionally, it allows for the recycling of this knowledge without the need to sacrifice personal or work routine, since it is taught in online mode with all the multimedia content available from the virtual platform at any time.







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*Become an expert in 3D Studio Max polygonal modeling and refresh your knowledge with this online program"*

Polygonal modeling in 3DS Max is a very useful skill in the field of video game development and graphic design. Therefore, this program, designed by prestigious professionals in the sector, is the ideal option to deepen your knowledge of this tool. From its most basic and introductory aspects, to its most advanced aspects, including Low Poly polygonal modeling.

The content begins with an introductory module to Polygonal Modeling in 3DS Max, aimed at acquiring concepts and configurations of the program, understanding in depth the smoothing in meshes and understanding its behavior, designing geometries, as well as applying object transformation techniques and, finally, knowledge about the creation of UV maps.

Secondly, the plan goes into advanced polygonal modeling with the 3D Studio Max program and also into a more practical dynamic. In this section, all the techniques for the development of a specific product are applied, the development of the component parts is deepened and the topology of the modeling of an aircraft is explained in order to start the construction of the prototype of a science fiction spacecraft. The aim is to create complex forms through the development of simple forms and to understand the physiognomy of a bot form.

The last section of this program focuses on Low Poly modeling with 3D Studio Max. To do this, it focuses on working with basic shapes for mechanical models, developing the ability to decompose the elements and understand in depth how detail creates the effect of realism. It also has a more practical dimension focused on solving different techniques to develop details and understand how mechanical parts are connected.

In short, a Postgraduate Diploma that offers the possibility of redirecting the professional career to the specialization in Polygonal Modeling in 3DS Max. All this in a totally online mode, with unlimited access to the contents through the virtual platform, for which it is only essential to have an Internet connection.

This **Postgraduate Diploma in Polygonal Modeling in 3DS Max** contains the most complete and up-to-date educational program on the market. The most important features include

- ◆ The development of practical cases presented by experts in polygonal modeling in 3DS Max
- ◆ The graphic, schematic, and practical contents with which they are created, provide 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
- ◆ Access to content from any fixed or portable device with an Internet connection



*In 6 months, you will achieve the goal of becoming a true professional in polygonal modeling in 3D Studio Max"*

“

*Get an in-depth understanding of the leading polygonal modeling software 3D Studio Max thanks to this Postgraduate Diploma"*

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 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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*An educational plan organized in 3 modules perfectly structured for a progressive learning process.*

*Specialize your knowledge in Polygonal Modeling with 3DS Max applied to the edition and design of video games.*





# 02 Objectives

This program, designed by prestigious professionals in polygonal modeling for video game development, has one main objective: that the student can become a true expert in the sector. With a perfectly structured content, this training allows you to specialize your professional career in a sector that is increasingly in demand. The acquisition of knowledge is progressive during the 6 months of the educational plan and begins with very basic and introductory notions, followed by more complex and specialized concepts. By the end of the course, you will learn the theoretical and practical dimensions of polygonal modeling in 3DS Max.







“

*Get a theoretical and practical learning in polygonal modeling in 3DS Max”*



## General Objectives

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- ◆ Delve into the theory of form creation to develop form masters
- ◆ Learn in detail the basics of 3D modeling in its various forms
- ◆ Generate designs for different industries and their application
- ◆ Know all the tools related to the 3D modeling profession
- ◆ Acquire skills for the development of textures and FX of 3D models

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*Learn how to apply all polygonal modeling techniques in 3ds Max for the development of specific products”*





## Specific Objectives

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### Module 1. Polygonal Modeling in 3DS Max

- ◆ Possess extensive knowledge in the use of 3D Studio Max
- ◆ Learn to work with customized configurations
- ◆ Gain an in-depth understanding of how smoothing works on meshes
- ◆ Conceive geometries through different methods
- ◆ Develop an understanding of how meshes behave
- ◆ Apply object transformation techniques
- ◆ Knowledge of UV mapping

### Module 2. Advanced Polygonal Modeling in 3D Studio Max

- ◆ Apply techniques for specific product development
- ◆ In-depth understanding of component development
- ◆ Gain a broad understanding of aircraft topology in modeling
- ◆ Apply knowledge of technical components
- ◆ Create complex shapes through the development of simple shapes
- ◆ Understand the physiognomy of a bot shape

### Module 3. Low Poly 3D Studio Max Modeling

- ◆ Work according to basic shapes for mechanical models
- ◆ Develop skills to break down elements
- ◆ In-depth understanding of how detail makes for realism
- ◆ Work out different techniques to develop details
- ◆ Understand how mechanical parts are connected

# 03

# Course Management

Prestigious professionals in the field are part of the management team and faculty of this Postgraduate Diploma. All of them are highly qualified to prepare students for the challenges of a sector in constant growth and transformation, adapted to the programming and development of video games, in particular polygonal modeling with cutting-edge tools such as 3ds Max. With a broad professional background and experience, they will be able to bring the student closer to situations that are more similar to real life.





“

*Prestigious professionals are part of the management team and faculty of this Postgraduate Diploma"*

## Management



### Mr. Salvo Bustos, Gabriel Agustín

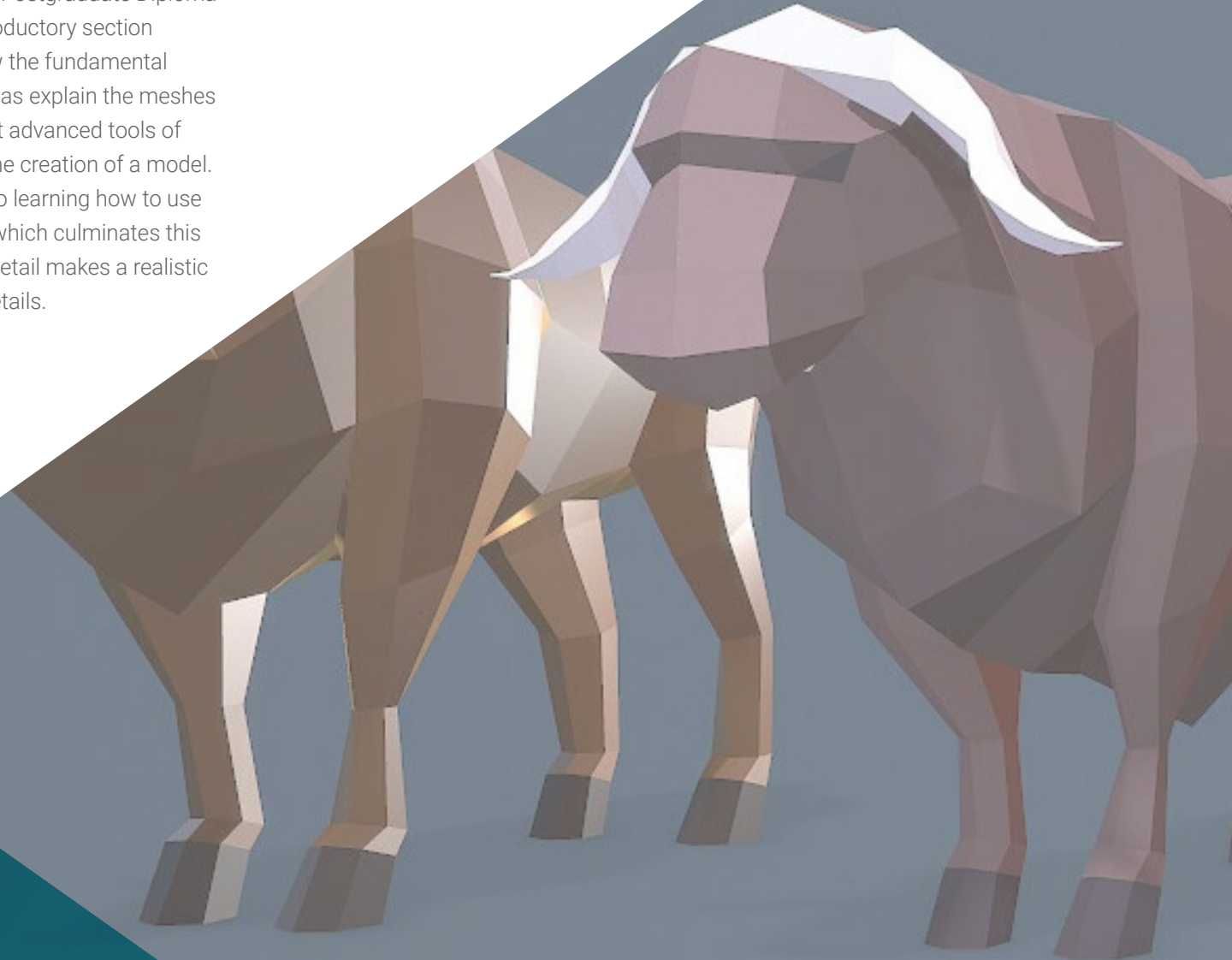
- 9 years of experience in Aeronautical 3D modeling
- 3D Artist at 3D Visualization Service Inc
- 3D production for Boston Whaler
- 3D Modeler for Shay Bonder Multimedia TV Production Company
- Audiovisual Producer in Digital Film
- Product Designer for Escencia de los Artesanos by Eliana M
- Industrial Designer Specializing in Products National University of Cuyo
- Mendoza Late Contest Honorable Mention
- Exhibitor in Regional Visual Arts Salon Vendimia
- Digital Composition Seminar National University of Cuyo
- National Congress of Design and Production CPRODI



# 04

# Structure and Content

Learning Polygonal Modeling in 3DS Max is easy through this Postgraduate Diploma that is divided into 3 modules. Initially, we will work on an introductory section to polygonal modeling with this program, where we will review the fundamental concepts and practice the geometric form and shape, as well as explain the meshes or creation of reference images. In a second section, the most advanced tools of the program and their implementation will be explored, with the creation of a model. This section has a practical dimension that is fundamental to learning how to use 3D Studio Max. Finally, we will delve into Low Poly modeling, which culminates this educational plan, providing the basis for understanding how detail makes a realistic effect and aimed at solving different techniques to develop details.







“

*Get introduced to Polygonal Modeling with 3DS Max, delve into its deepest tools and learn, in addition, Low Poly modeling, with this online Postgraduate Diploma"*

## Module 1. Polygonal Modeling in 3DS Max

- 1.1. 3D Studio Max
  - 1.1.1. 3D Studio Max Interface
  - 1.1.2. Custom Configurations
  - 1.1.3. Modeling with Primitives and Deformers
- 1.2. Reference Modeling
  - 1.2.1. Creating Reference Images
  - 1.2.2. Smoothing Hard Surfaces
  - 1.2.3. Organization of Scenes
- 1.3. High-Resolution Mesh
  - 1.3.1. Basic Smoothed Modeling and Smoothing Groups
  - 1.3.2. Extrusion and Bevel Modeling
  - 1.3.3. Using TurboSmooth Modifier
- 1.4. Modeling with Splines
  - 1.4.1. Modifying Curvatures
  - 1.4.2. Configuring Polygon Faces
  - 1.4.3. Extruding and Spherizing
- 1.5. Creating Complex Shapes
  - 1.5.1. Configuring Components and Work Grid
  - 1.5.2. Duplicating and Soldering Components
  - 1.5.3. Cleaning Polygons and Smoothing
- 1.6. Modeling with Edge Trimming
  - 1.6.1. Creation and Positioning of Templates
  - 1.6.2. Making Cuts and Cleaning Topology
  - 1.6.3. Extruding Shapes and Creating Folds
- 1.7. Modeling from Low Poly Model
  - 1.7.1. Starting with the Basic Shape and Adding Chamfers
  - 1.7.2. Adding Subdivisions and Generating Borders
  - 1.7.3. Cuts, Welds and Details
- 1.8. Edit Poly I Modifier
  - 1.8.1. Workflows
  - 1.8.2. Interfaces
  - 1.8.3. Sub Objects

- 1.9. Creation of Object Compounds
  - 1.9.1. Morph, Scatter, Conform and Connect Compound objects
  - 1.9.2. BlobMesh, Shape Merge and Boolean Compound objects
  - 1.9.3. Loft, Mesher and Proboolean Compound Objects
- 1.10. Techniques and Strategies to Create UVs
  - 1.10.1. Simple and Arc-Type Geometries
  - 1.10.2. Hard Surfaces
  - 1.10.3. Examples and Applications

## Module 2. Advanced Polygonal Modeling in 3D Studio Max

- 2.1. Modeling a Sci-Fi Spacecraft
  - 2.1.1. Creating our Workspace
  - 2.1.2. Beginning with the Main Body
  - 2.1.3. Wing Configuration
- 2.2. Cabin
  - 2.2.1. Development of Cockpit
  - 2.2.2. Modeling the Control Panel
  - 2.2.3. Adding Details
- 2.3. Fuselage
  - 2.3.1. Defining Components
  - 2.3.2. Adjusting Minor Components
  - 2.3.3. Development of Panel Under the Body
- 2.4. Wings
  - 2.4.1. Creating the Main Wings
  - 2.4.2. Incorporating the Tail
  - 2.4.3. Adding Aileron Inserts
- 2.5. Main Body
  - 2.5.1. Separating Parts into Components
  - 2.5.2. Creating Additional Panels
  - 2.5.3. Incorporating Dock Doors
- 2.6. Engines
  - 2.6.1. Creating Space for Engines
  - 2.6.2. Building the Turbines
  - 2.6.3. Adding Exhausts

- 2.7. Adding Details
  - 2.7.1. Lateral Components
  - 2.7.2. Typical Components
  - 2.7.3. Refining Overall Components
- 2.8. Bonus I-Creation of Pilot Helmet
  - 2.8.1. Head Block
  - 2.8.2. Detail Refinement
  - 2.8.3. Modeling Helmet Collar
- 2.9. Bonus II-Creation of Pilot Helmet
  - 2.9.1. Refining the Helmet Collar
  - 2.9.2. Steps for Finishing Touches
  - 2.9.3. Completion of the Mesh
- 2.10. Bonus III-Creation of a Co-Pilot Robot
  - 2.10.1. Developing Shapes
  - 2.10.2. Adding Details
  - 2.10.3. Supporting Edges for Subdivision

### Module 3. Low Poly 3D Studio Max Modeling

- 3.1. Heavy Duty Vehicle Modeling
  - 3.1.1. Creation of Volumetric Model
  - 3.1.2. Volumetric Modeling of Tracks
  - 3.1.3. Volumetric Construction of Shovel
- 3.2. Incorporating Different Components
  - 3.2.1. Cabin Volumetrics
  - 3.2.2. Mechanical Arm Volumetrics
  - 3.2.3. Mechanical Shovel Blade Volumetrics
- 3.3. Adding Sub-Components
  - 3.3.1. Creating Shovel Teeth
  - 3.3.2. Adding Hydraulic Piston
  - 3.3.3. Connecting Sub-Components
- 3.4. Incorporating Details to Volumetrics I
  - 3.4.1. Creating Track Caterpillars
  - 3.4.2. Incorporating Track Roller Bearings
  - 3.4.3. Defining Track Casing

- 3.5. Incorporating Details to Volumetrics II
  - 3.5.1. Chassis Sub-Components
  - 3.5.2. Bearing Shells
  - 3.5.3. Adding Part Cuts
- 3.6. Incorporating Details to Volumetrics III
  - 3.6.1. Creating Radiators
  - 3.6.2. Adding Hydraulic Arm Base
  - 3.6.3. Creating Tailpipes
- 3.7. Incorporating Details to Volumetrics IV
  - 3.7.1. Creating Protective Grill for Cockpit
  - 3.7.2. Adding Pipelines
  - 3.7.3. Adding Nuts, Bolts and Rivets
- 3.8. Developing Hydraulic Arm
  - 3.8.1. Creating Supports
  - 3.8.2. Retainers, Washers, Screws and Connections
  - 3.8.3. Creation of Head
- 3.9. Developing the Cabin
  - 3.9.1. Defining the Casing
  - 3.9.2. Adding Windscreen
  - 3.9.3. Latch and Headlight Details
- 3.10. Mechanical Development of the Excavator
  - 3.10.1. Creating Body and Teeth
  - 3.10.2. Creation of Tooth Roller
  - 3.10.3. Spline Wiring, Connectors and Fasteners



*Develop specific models in polygonal modeling with 3DS Max thanks to this program"*

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.







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*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 business 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. Over the course of 4 years, you will be presented with multiple practical case studies. You will have to combine all your knowledge, and research, argue, and defend your 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.

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 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

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 Diploma in Polygonal Modeling in 3DS Max guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.





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

This **Postgraduate Diploma in Polygonal Modeling in 3DS Max** 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 career evaluation committees.

Title: **Postgraduate Diploma in Polygonal Modeling in 3DS Max**

Official N° of Hours: **450 h.**



\*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.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development languages  
virtual classroom

**tech** universidad  
tecnológica

## Postgraduate Diploma Polygonal Modeling in 3DS Max

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## Polygonal Modeling in 3DS Max