

# Postgraduate Certificate Light Modeling





## Postgraduate Certificate Light Modeling

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

Website: [www.techtitute.com/us/design/postgraduate-certificate/light-modeling](http://www.techtitute.com/us/design/postgraduate-certificate/light-modeling)

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# 01

# Introduction

Light is one of the fundamental elements when it comes to giving a visual context to a work. Its ability to transform, enhance style, color, brightness and other characteristics can change the perception of the receiver. With 3D modeling, the incidence of light makes it possible to maximize volumes. This program will teach advanced lighting techniques in Digital Sculpture, as well as the processes and tools that allow the professional to show differentiating results in each project. It uses a highly effective and 100% online educational system.





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*Learn how AAA companies such as Epic Games develop modeling techniques. Infoarchitecture studios and large animation studios such as Disney”*

In only 6 weeks, this course will take an in-depth look at how multi-pass systems are used to divide the rendering in layers of light and manage objects, which helps improve final quality when editing it professionally through Photoshop. Students will also work on renderings from the paradigm of photorealism and non-photorealistic styles with Cartoon and Hand-Painted styles.

They will gradually leave other styles behind to develop their own and present their work in different genres. Students will integrate their work into rapid visualization systems such as Keyshot or Marmoset to launch videos in Turntable, where they can visualize the mesh. They will, therefore, be able to Showreel their models, which will allow them to advance professionally.

In fact, they will be able to develop integrations with architectural spaces and sculptures using the amazing Unity and Unreal game engines. This software is used by AAA companies such as Epic Gamesinfoarchitecture studios and large animation studios like Disney. The advantage of this tool is that it allows working without having to spend time rendering in Realtime, which makes the process much more efficient.

This system has only been on the market for a few years and is already, and will be, among the most demanded in the coming years. Therefore, the professional who masters it will add an important plus to his or her professional career. So, this Postgraduate Certificate applies to those who wish to broaden their horizons in the digital industry. You will obtain the specialization you need online, interact with expert teachers and have best content, thanks to the methodology promoted by TECH Global University.

This **Postgraduate Certificate in Light Modeling** contains the most complete and up-to-date 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 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

“*Test your creativity with the amazing Unity and Unreal video game engines*”

“*Get the most out of the objects you create using 3D. Make them visually appealing by applying the best lighting techniques”*

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 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.

*At the end of this course, you will be able to showreel all your models.*

*Learn more about TECH's 100% online educational platform, led by experts in each subject.*



# 02

## Objectives

The main objective of this Postgraduate Certificate is to open the doors of professionalization to students. They will learn everything related to Light Modeling: its techniques, processes and the finest tools to create works which produce the best results. All this, thanks to the support of an expert teaching faculty that will facilitate your learning experience at all times in a 100% online environment, and with quality content.



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*If you work in the digital industry, you need to be up to date. Expand your skills and learn all about Light Modeling”*



## General Objectives

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- ◆ Apply accurate modeling, texturing, lighting and rendering processes
- ◆ Understand the necessity of having an adequate topology at all levels of development and production
- ◆ Efficient use of advanced global lighting techniques
- ◆ Understand current film and video game industry systems to deliver great results



*Make expert use of lighting in your 3D creations Enroll in this Postgraduate Certificate in Light Modeling"*





## Specific Objectives

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- ◆ Develop advanced lighting and photographic concepts using offline engines such as Arnold and V-Ray, and learn about render post-production to obtain professional finishes
- ◆ In-depth study of advanced visualizations in Realtime in Unity and Unreal
- ◆ Carry out modeling in video game engines to create interactive scenographies
- ◆ Integrate projects in real spaces

# 03

## Course Management

For the design of this Postgraduate Certificate in Light Modeling, TECH Global University has selected a teaching staff composed of professionals specialized in the field of 3D modeling, concept art and video mapping. They also have the teaching skills required to impart knowledge through the most innovative methodology and online environment. Accompanying the student at all times in their learning process.





“

*Being ambitious means looking beyond the present. Get ready to become a professional”*

## 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 Las Fallas designers 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 content of this Postgraduate Certificate in Light Modeling has been distributed in various online and theoretical formats, so that students may learn about the current and more specific techniques used in 3D modeling. It is designed by an expert faculty team who have selected the most relevant and useful topics for professional development. This allows you to have an agile learning experience in only 6 weeks, through the TECH Global University platform, which provides a safe and dynamic environment. You will have access to forums, meeting rooms and private chats with your faculty, as well as to downloading the syllabus for consultation without an internet connection.





“With this program, you will be able to control rendering in real time and make your results more efficient”

## Module 1. Light Modeling

- 1.1. Offline Arnold Methods
  - 1.1.1. Indoor and Outdoor Lighting
  - 1.1.2. Application of Displacement and Normal Maps
  - 1.1.3. Render Modifiers
- 1.2. V-Ray
  - 1.2.1. Lighting Platforms
  - 1.2.2. Shading
  - 1.2.3. Maps
- 1.3. Advanced Global Lighting Techniques
  - 1.3.1. ActiveShade GPU Management
  - 1.3.2. Optimization of Photorealistic Render Denoiser
  - 1.3.3. Non-Photorealistic Rendering (Cartoon and Hand-Painted)
- 1.4. Quick Display of Models
  - 1.4.1. ZBrush
  - 1.4.2. Keyshot
  - 1.4.3. Marmoset
- 1.5. Post-Production of Renders
  - 1.5.1. Multi-Pass
  - 1.5.2. 3D Illustration in ZBrush
  - 1.5.3. ZBrush Multi-Pass
- 1.6. Integration into Real Spaces
  - 1.6.1. Shading Materials
  - 1.6.2. HDRI and Global Lighting
  - 1.6.3. Image Tracking



- 1.7. Unity
  - 1.7.1. Interface and Configuration
  - 1.7.2. Import into Video Game Engines
  - 1.7.3. Materials
- 1.8. Unreal
  - 1.8.1. Interface and Configuration
  - 1.8.2. Sculpture in Unreal
  - 1.8.3. Shaders
- 1.9. Modeling in Video Game Engines
  - 1.9.1. Pro-Builder
  - 1.9.2. Modeling Tools
  - 1.9.3. Prefabs and Memory-Stored
- 1.10. Advanced Lighting Techniques for Video Games
  - 1.10.1. Realtime, Pre-Calculation of Lights and HDRP
  - 1.10.2. Ray Tracing
  - 1.10.3. Post-Processing



*Master the most advanced illumination techniques in just 6 weeks with this TECH Postgraduate Certificate"*

# 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.



A photograph of a desk with a laptop, a blue pen, and a silver pen. The laptop is open, and the pens are lying on the desk. The image is partially obscured by a teal and white geometric overlay.

“

*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.

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*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.

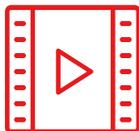
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



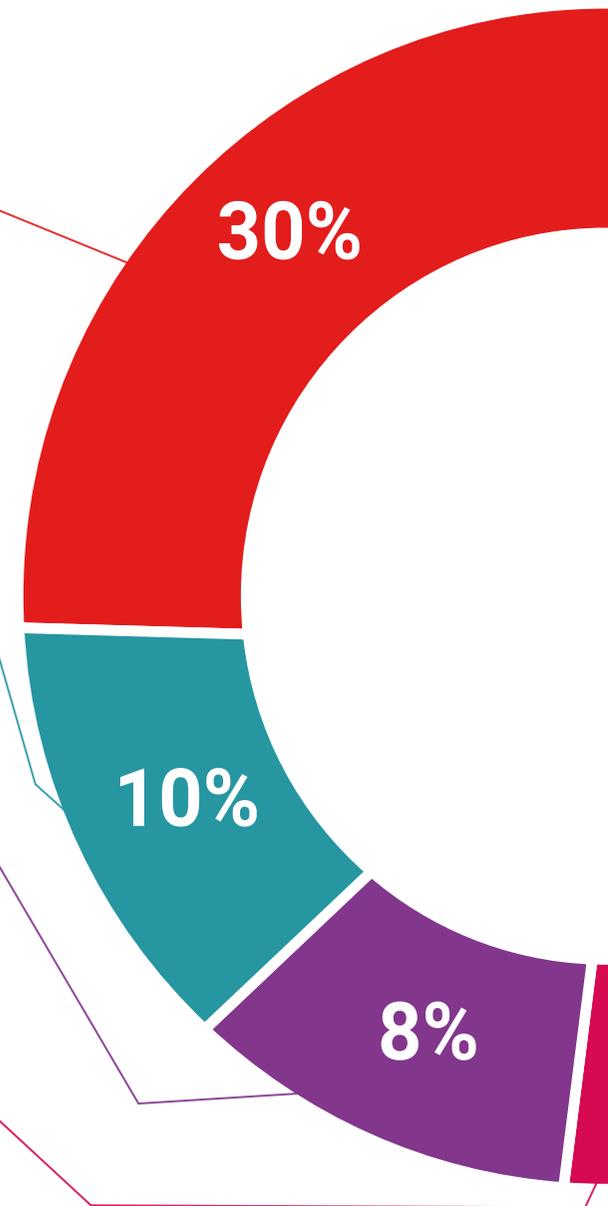
### Practising Skills and Abilities

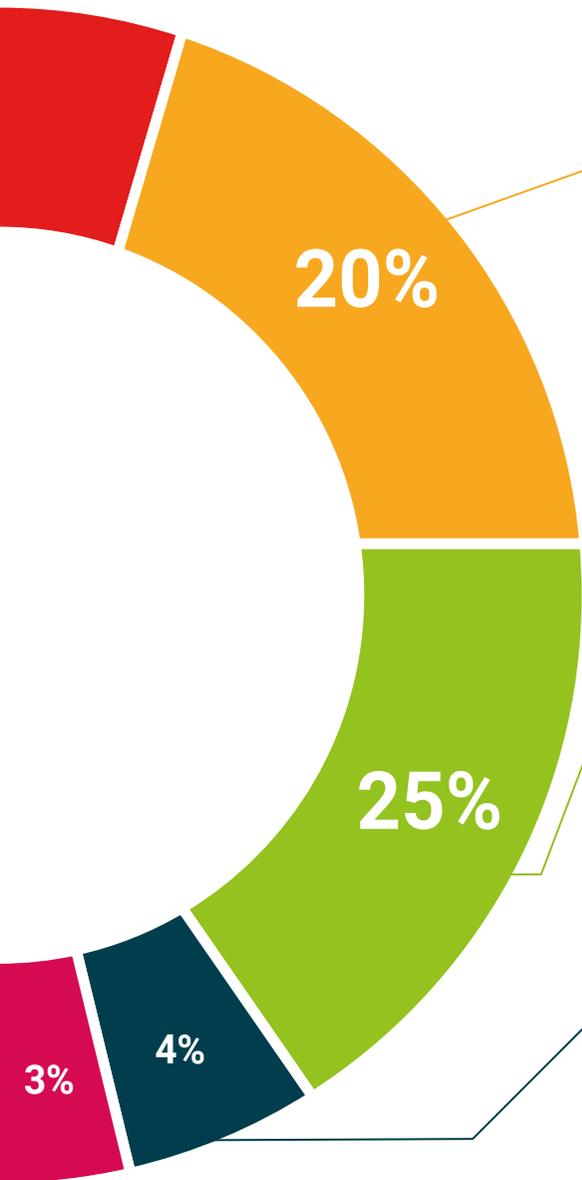
They will carry out activities to develop specific competencies and skills in each thematic area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 Light Modeling guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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*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 your **Postgraduate Certificate in Light Modeling** 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** title 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 Light Modeling**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



## Postgraduate Certificate Light Modeling

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

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