Postgraduate Certificate
Light Modeling

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Light Modeling

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

Website: **www.techtitute.com/pk/information-technology/postgraduate-certificate/light-modeling**

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01
Introduction

Achieving light and luminosity in artistic productions has been the subject of research and the application of artists' methods since ancient times. Nowadays, lighting within the 3D modeling process is achieved thanks to technological implementations and is fundamental to achieve an optimal result. This is because the incidence of light allows playing with the textures and volumes of the finishes. This educational plan is based on the most developed techniques and tools for the implementation of light in 3D modeling. It is a totally online training, which provides students with all the didactic material on the virtual platform and content designed by the best experts in the sector.

tech

Learn how to play with luminosity in your three-dimensional modeling and digital sculptures thanks to this online training"

This Postgraduate Certificate in Light Modeling is designed for the student to develop lighting techniques that will lead to more successful results in three-dimensional productions. Currently the use of these models is applied to multiple and diverse fields such as 3D printing, infoarchitecture, or animation and video game design.

The student will be able to delve into advanced concepts of lighting and photography in offline engines such as Arnold and V-Ray, as well as the post-production of *renders* to obtain a professional finish. In addition, students will learn advanced visualizations in *realtime* in Unity and Unreal, modeling in video game engines to create interactive scenographies and integrating projects in real spaces.

This is a Postgraduate Certificate in online format that facilitates the professional and personal conciliation with the acquisition of new knowledge. The degrees designed by TECH are directly accredited, which means that it is not necessary to complete a project or end-of-course work in order to obtain the degree. In addition, it has the support of a faculty made up of the best professionals in the field.

This **Postgraduate Certificate in Light Modeling** contains the most comprehensive and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in 3D Modeling and Digital Sculpture

- The graphic, schematic, and eminently 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

Train yourself with the best professionals in a growing sector that requires professionals versed in 3D modeling lighting"

Learn how to model in videogame engines to create interactive scenographies and integrate projects in real spaces with this Postgraduate Certificate"

Thanks to this degree you will be able to delve deeper into advanced concepts of lighting and photography in offline engines such as Arnold and V-Ray.

Take this degree in online mode and become an expert in light modeling in just 6 weeks.

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 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

The purpose of this Postgraduate Certificate is to ensure that the graduate student is able to model, texture, illuminate and render accurately, using the best tools on the market for this purpose, as well as to efficiently use advanced global illumination techniques. All this will be achieved through the achievement of a study plan designed to progress and deepen the content in an autonomous way.

> "Efficiently employs the most advanced techniques in global illumination"

General Objectives

- Apply processes of modeling, texturing, lighting and rendering in a precise way
- Understand the need for a good topology at all levels of development and production
- Efficiently employ the advanced techniques of global illumination
- Understand current systems in the film and video game industry to deliver great results

Specific Objectives

- Develop advanced lighting and photography concepts in offline engines such as Arnold and V-Ray, as well as post-production of renders to have professional finishes
- Deepen in advanced visualizations in realtime in Unity and Unreal
- Modeling in videogame engines to create interactive scenographies
- Integrate projects in real spaces

Apply yourself to illuminate with Arnold and V-Ray engines as a true expert with this Diploma"

03
Course Management

Authentic professionals and experts in the field of three-dimensional modeling are part of the faculty of this Diploma in Modeling with Light. They have dedicated a large part of their professional life to the research and development of lighting techniques in order to achieve the best results in their three-dimensional modeling. They will share their expertise in the field with the students, providing them not only with theoretical and practical knowledge, but also with skills and abilities transversal to lighting itself, turning them into professionals well positioned in their field. In addition, they will be available for consultation at any time the student needs them.

By taking this training you will learn from the best professionals in the three-dimensional modeling sector"

Management

Mr. Sequeros Rodríguez, Salvador

- Freelance 2D/3D modeler and generalist
- Concept art and 3D modeling for Slicecore Chicago)
- Videomapping and modeling Rodrigo Tamariz (Valladolid)
- Professor of Higher-Level Training Cycle 3D Animation Superior School of Image and Sound ESISV (Valladolid)
- Professor of Higher-Level Training Cycle GFGS 3D Animation European Institute Design IED (Madrid)
- 3D modeling for the falleros Vicente Martinez and Loren Fandos Castellón)
- Master's Degrees in Computer Graphics, Games and Virtual Reality URJC University Madrid.
- Bachelor of Fine Arts at the University of Salamanca (specializing in Design and Sculpture)

04
Structure and Content

This Postgraduate Certificate in Light Modeling has been designed by TECH Technological Univeristy, in order to develop a complete syllabus that responds to the needs of a demanding market of professionals with expertise in 3D modeling lighting. The content is developed along 10 subsections that cover from lighting with Arnold and V-Ray engines, to working with global lighting techniques based on realistic and non-photorealistic renders, as well as the essential exports with other engines and programs such as Unreal or Unity. The program also includes a section dedicated to advanced lighting techniques in video games, although the learning applies to any 3D modeling you want to work on.

A complete study plan adapted to the demands of a market demanding lighting professionals"

Module 1. Light Modeling

1.1.   Offline Arnold Motors
    1.1.1.   Interior and Exterior Lighting
    1.1.2.   Application of Displacement and Normal Maps
    1.1.3.   Render Modifiers

1.2.   V-Ray
    1.2.1.   Lighting Bases
    1.2.2.   Shading
    1.2.3.   Maps

1.3.   Advanced Global Illumination Techniques
    1.3.1.   ActiveShade GPU Management
    1.3.2.   Optimization of Photorealistic Rendering 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.   Rendering Postproduction
    1.5.1.   Multipass
    1.5.2.   3D Illustration in ZBrush
    1.5.3.   Multipass in ZBrush

1.6.   Integration in Real Spaces
    1.6.1.   Shadow Materials
    1.6.2.   HDRI and Global Illumination
    1.6.3.   Image Tracing

In only 6 weeks and in a totally online format: the best training in Light Modeling you will find in the academic market"

05
Methodology

This training program provides you with 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"

At TECH we use the Case Method

Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

" *At TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world"*

We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.

A learning method that is different and innovative.

This intensive program in Computer Science at TECH Technological University prepares you to face all the challenges in this area, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Technological University you will use Harvard case studies, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

> *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 Computer 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.

The student will learn, through collaborative activities and real cases, how to solve complex situations in real business environments.

Relearning Methodology

Our university is the first in the world to combine Harvard University case studies with a 100%-online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies with the best 100% online teaching method: Relearning.

In 2019 we obtained the best learning results of all Spanish-language 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 Spanish-speaking university qualified 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 Spanish online university indicators.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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 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 we live in.
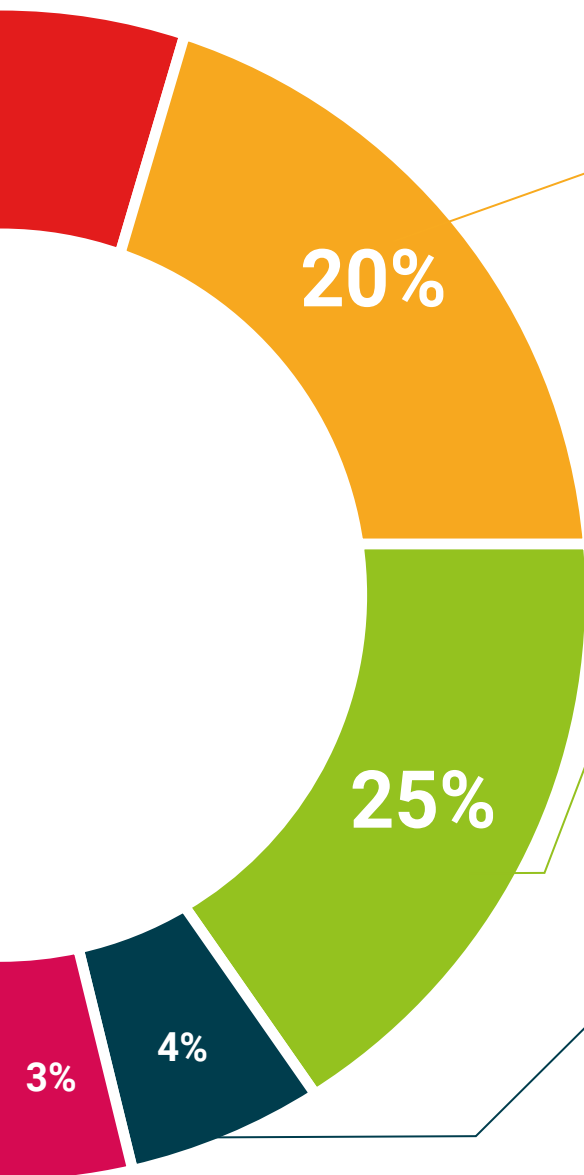
Additional Reading

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.

30%

10%

8%

20%

25%

4%

3%

Case Studies

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management specialists in Latin America.

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 multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".

Testing & Re-testing

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 your goals.

Certificate

The Postgraduate Certificate in Light Modeling, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Technological University.

"*Successfully complete this training program and receive your diploma without travel or laborious paperwork*"

This **Postgraduate Certificate in Light Modeling** contains the most comprehensive 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 though the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Light Modeling**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Light 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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S   techtitute.com/certificates

*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.

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