# Postgraduate Certificate
## Electrical Installations

tech global university

tech global university

# Postgraduate Certificate

## Electrical Installations

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

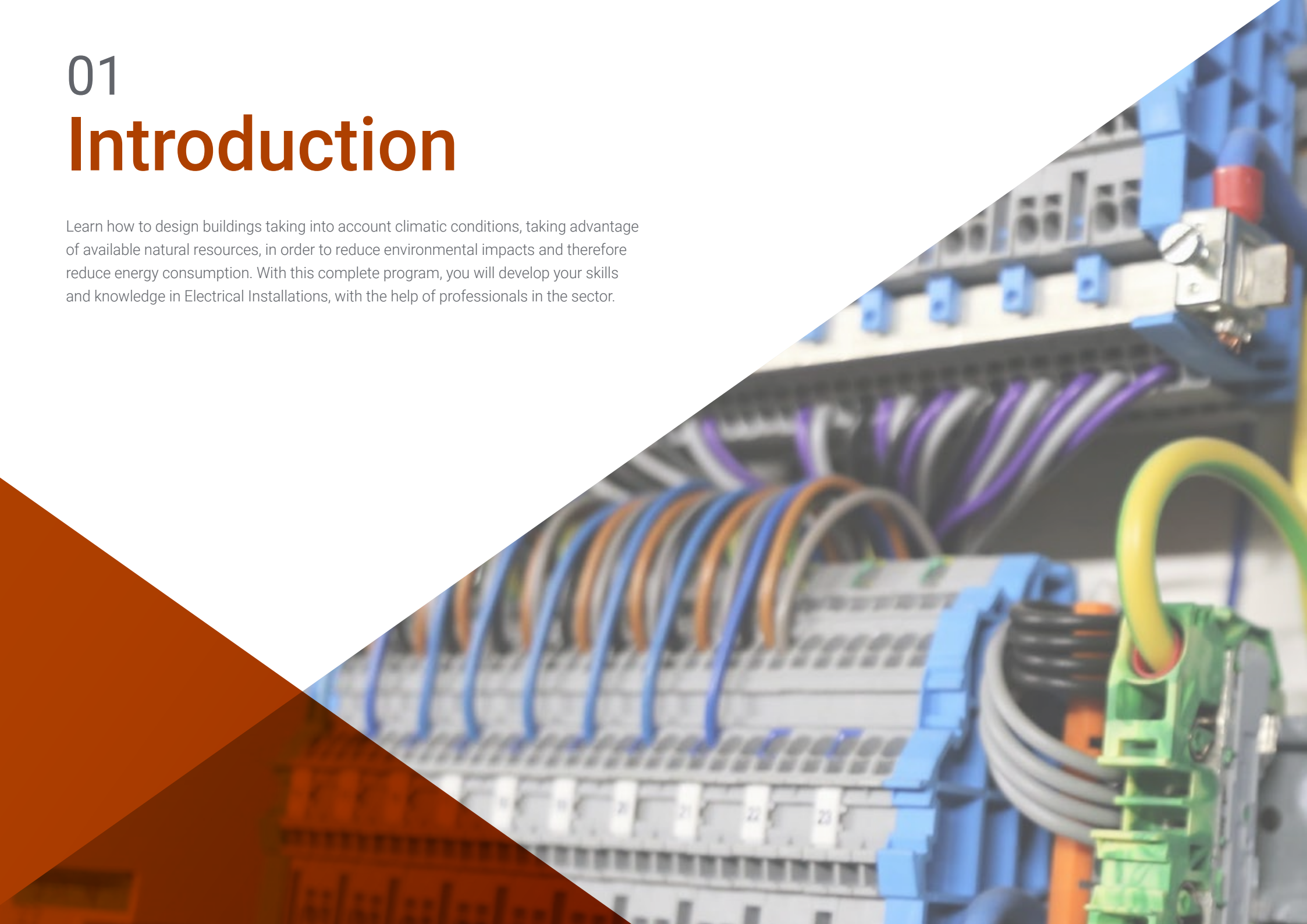
Website: **www.techtitute.com/us/engineering/postgraduate-certificate/electrical-installations**

# Index

01

# Introduction

Learn how to design buildings taking into account climatic conditions, taking advantage of available natural resources, in order to reduce environmental impacts and therefore reduce energy consumption. With this complete program, you will develop your skills and knowledge in Electrical Installations, with the help of professionals in the sector.



*Engineering professionals must continue their training during their career to adapt to new developments in the field"*

The Postgraduate Certificate in Electrical Installations addresses the complete range of issues involved in this field, both in the residential and tertiary sectors. Its study has a clear advantage over other programs that focus on specific blocks, which prevents the student from knowing the interrelationship with other areas included in the multidisciplinary field of Electrical Installations.

Throughout these months of specialization, you will learn to study those structural components that allow the use of sunlight and other natural resources and their architectural adaptation, you will also be able to detect the relationship of a building with human health.

By completing and passing the assessments of this training program, the student will obtain a solid knowledge of Electrical Installations.

As this is a 100% online course, the student is not constrained by fixed timetables or the need to move to another physical location, but can access the contents at any time of the day, balancing their professional or personal life with their academic life.

This **Postgraduate Certificate in Electrical Installations** contains the most complete and up-to-date academic program on the market. The most important features include:

- The development of practical cases presented by experts in Electrical Installations
- The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional development
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies in Electrical Installations
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection

*Do not miss the opportunity to take this Postgraduate Certificate in Electrical Installations. It's the perfect opportunity to advance your career"*

*This Postgraduate Certificate is the best investment you can make when selecting a refresher program to update your knowledge in Electrical Installations"*

*This program comes with the best teaching material, providing you with a contextual approach that will facilitate your learning.*

*This 100% online program will allow you to combine your studies with your professional work while increasing your knowledge in this field.*

Its teaching staff includes professionals belonging to the field of construction, who bring to this program the experience of their work, as well as recognized specialists from leading companies 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 learning 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. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned experts in Electrical Installations with extensive experience.

02

# Objectives

The Postgraduate Certificate in Electrical Installations is oriented to facilitate the performance of the professional in this field to acquire and know the main developments in this area of engineering.

*Our goal is to train you to be the best in your profession and for this we count on the quality of our teachers and subjects"*

## General Objectives

- Choose the most efficient equipment and detect deficiencies in the electrical installation to reduce consumption, optimize installations and establish a culture of energy efficiency in the organization. As well as the design of electric vehicle charging point infrastructures for their implementation in buildings
- Delve into the different cooling and heating generation systems most commonly used today
- Perform a complete analysis of the main maintenance operations of air conditioning equipment, its cleaning and replacement of parts
- In-depth breakdown of the properties of light involved in building energy savings
- Master and apply the techniques and requirements for the design and calculation of lighting systems, seeking to comply with health, visual and energy criteria
- Delve into and analyze the different control systems installed in buildings, the differences between them, the applicability criteria in each case




## Specific Objectives

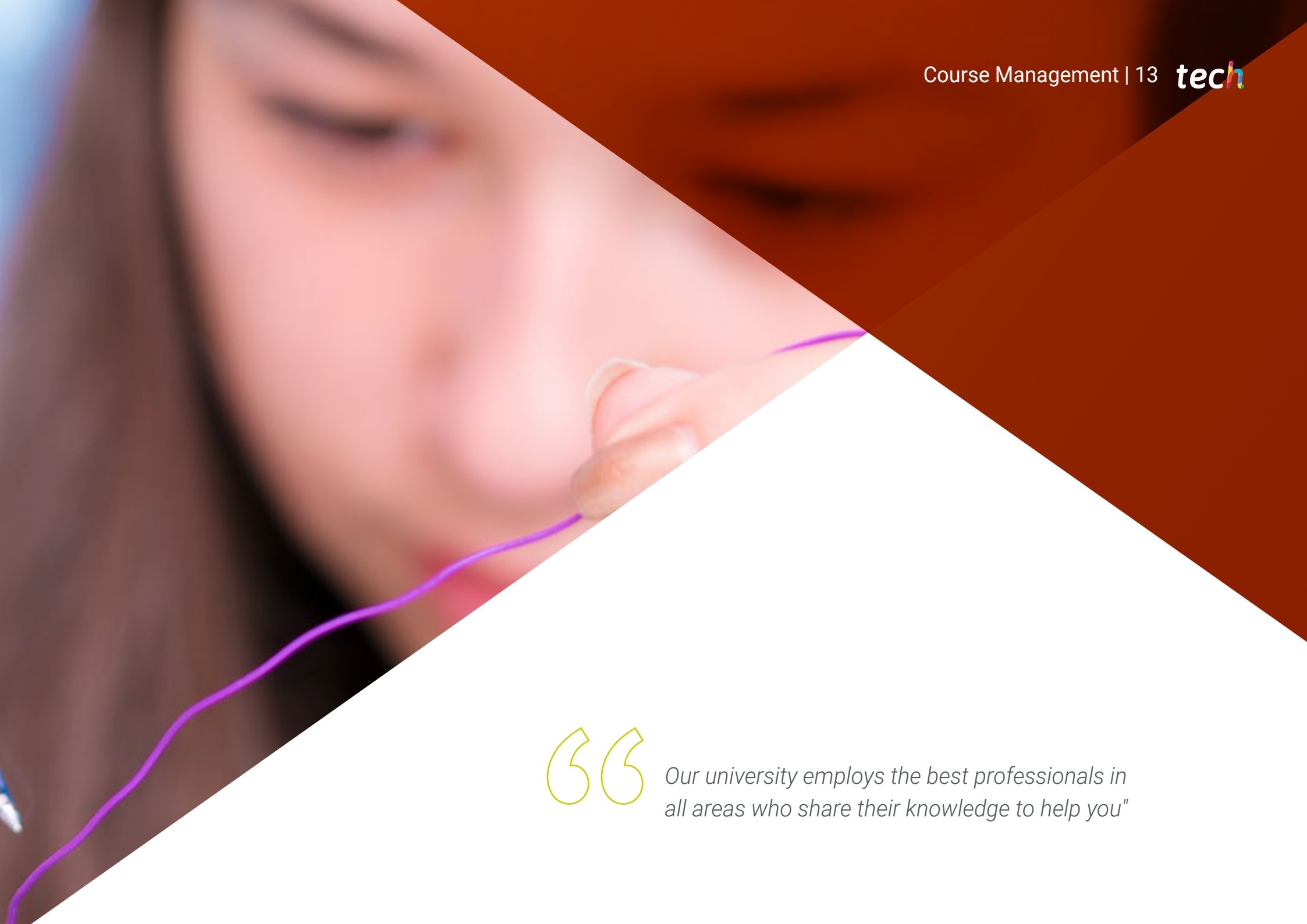
- Choose the most efficient equipment to ensure the lowest possible energy consumption in building activity
- Detect and correct defects derived from the existence of harmonics to reduce energy losses in the electrical grid by optimizing its energy transmission capacity
- Design electric vehicle charging infrastructures in the building in compliance with current regulations or specific customer requirements
- Optimize electricity bills to obtain the greatest economic savings according to the building's demand profile
- Implement a culture of energy efficiency to increase energy and economic savings in *facility management* activity within property management

*Take the step to get up to date on the latest developments in Electrical Installations"*

03

# Course Management

In our university we have professionals specialized in each area of knowledge, who bring their work experience into our training programs.



*Our university employs the best professionals in all areas who share their knowledge to help you"*

## Management

### Mr. Nieto-Sandoval González- Nicolás, David

- Industrial Technical Engineer by the E.U.P. of Málaga
- Industrial Engineer from E.T.S.I.I
- Master's Degree in Integral Management of Quality, Environment and Health and Safety at Work from the University of the Balearic Islands
- He has been working for more than 11 years, both for companies and independently, for clients in the private agri-food industrial sector and the institutional sector, as a consultant in engineering, project manager, energy saving and circularity in organizations
- Professor certified by the EOI in the areas of industry, entrepreneurship, human resources, energy, new technologies and technological innovation
- Trainer for the European INDUCE project
- Trainer at institutions such as COGITI or COIIM

## Professors

### Ms. Peña Serrano, Ana Belén

- Technical Engineer in Topography from the Polytechnic University of Madrid
- Master's Degree in Renewable Energies from San Pablo CEU University
- Postgraduate Certificate in Geological Cartography from Universidad Nacional de Educación a Distancia (National University of Distance Education)
- Postgraduate Certificate in Building Energy Certification from Fundación Laboral de la Construcción
- Her experience covers several sectors from working on site, to managing people in human resources
- She collaborates in different scientific communication projects, directing the dissemination in different media in the field of energy
- Member of the work management team for the Master's Degree in Environmental and Energy Management in Organizations at the International University of La Rioja

### Mr. González Cano, José Luis

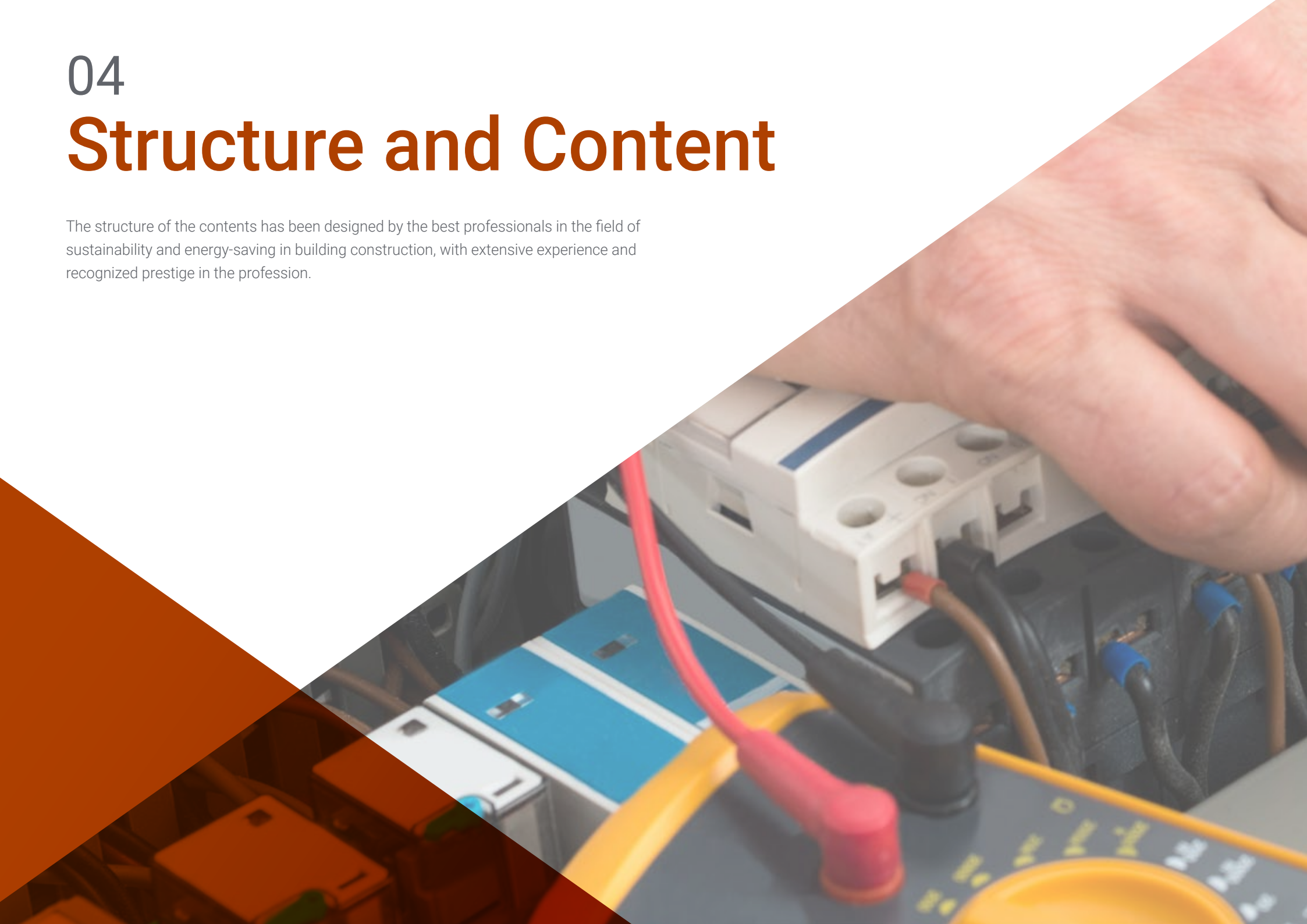
- Degree in Optics and Optometry from the Complutense University of Madrid
- Lighting Designer He collaborates with companies in the lighting sector in consulting, training, lighting technology projects and implementation of ISO 9001:2015 quality systems (internal auditor)
- He is a teacher for Vocational Training in electronic systems, telematics (CISCO certified instructor), radio communications, IoT
- Member of the Professional Association of Lighting Designers (Technical Consultant) and member of the Spanish Lighting Committee, who participates in working groups on LED technology

*Specialize in the world's leading private Spanish-speaking online university"*

04

# Structure and Content

The structure of the contents has been designed by the best professionals in the field of sustainability and energy-saving in building construction, with extensive experience and recognized prestige in the profession.



*We have the most complete and up-to-date program on the market. We strive for excellence and for you to achieve it too"*

## **Module 1.** Electrical Installations

1.1. Electrical Equipment
- 1.1.1. Classification
- 1.1.2. Appliance Consumption
- 1.1.3. Usage Profiles

1.2. Energy Labels
- 1.2.1. Labeled Products
- 1.2.2. Label Interpretation
- 1.2.3. Ecolabels
- 1.2.4. EPREL Database Product Registration
- 1.2.5. Estimated Savings

1.3. Individual Measurement Systems
- 1.3.1. Measuring Power Consumption
- 1.3.2. Individual Meters
- 1.3.3. Switchboard Meters
- 1.3.4. Choosing Devices

1.4. Filters and Capacitor Banks
- 1.4.1. Differences between Power Factor and Cosine PHI
- 1.4.2. Harmonics and Distortion Rate
- 1.4.3. Reactive Energy Compensation
- 1.4.4. Filter Selection
- 1.4.5. Capacitor Bank Selection

1.5. Stand-By Consumption
- 1.5.1. Stand-By Study
- 1.5.2. Code of Conduct
- 1.5.3. Estimating Stand-By Consumption
- 1.5.4. Anti-Stand-By Devices

1.6. Electric Vehicle Recharging
- 1.6.1. Types of Recharging Points
- 1.6.2. Potential ITC-BT 52 Diagrams
- 1.6.3. Provision of Regulatory Infrastructures in Building Construction
- 1.6.4. Horizontal Property and Installation of Recharging Points




1.7. Uninterruptible Power Supply (UPS) Systems
- 1.7.1. UPS Infrastructure
- 1.7.2. Types of UPS
- 1.7.3. Features
- 1.7.4. Applications
- 1.7.5. UPS Selection

1.8. Electric Meter
- 1.8.1. Types of Meters
- 1.8.2. Digital Meter Operation
- 1.8.3. Use as an Analyzer
- 1.8.4. Telemetry and Data Mining

1.9. Electric Billing Optimization
- 1.9.1. Electricity Rates
- 1.9.2. Types of Low Voltage Consumers
- 1.9.3. Types of Low Voltage Rates
- 1.9.4. Power Term and Penalties
- 1.9.5. Reactive Power Term and Penalties

1.10. Efficient Usage of Energy
- 1.10.1. Energy Saving Habits
- 1.10.2. Appliance Energy Saving
- 1.10.3. Energy Culture in Facility Management

*This program will allow you to advance in your career comfortably"*

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.

*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 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 that you are presented with 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

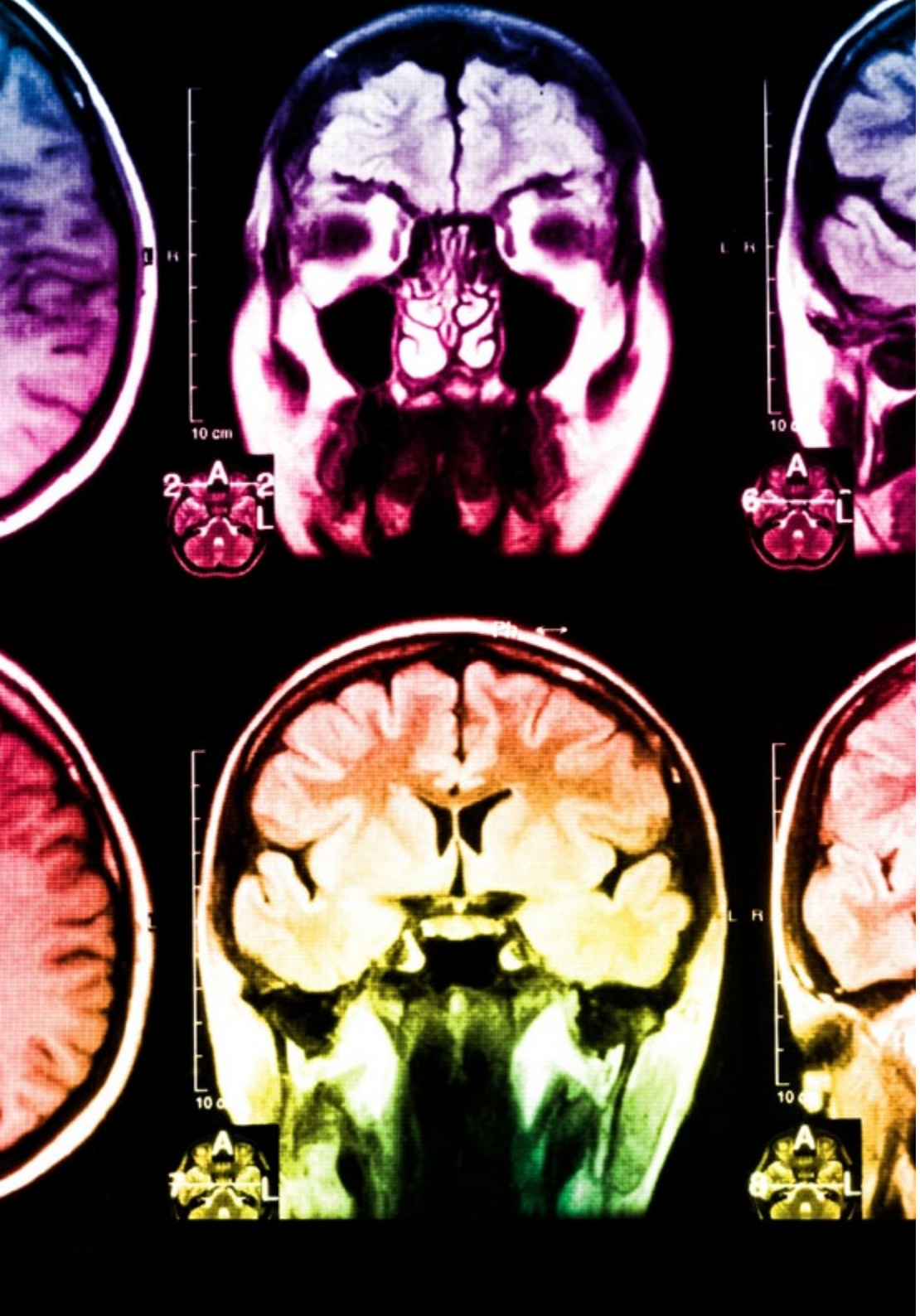
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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. 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.

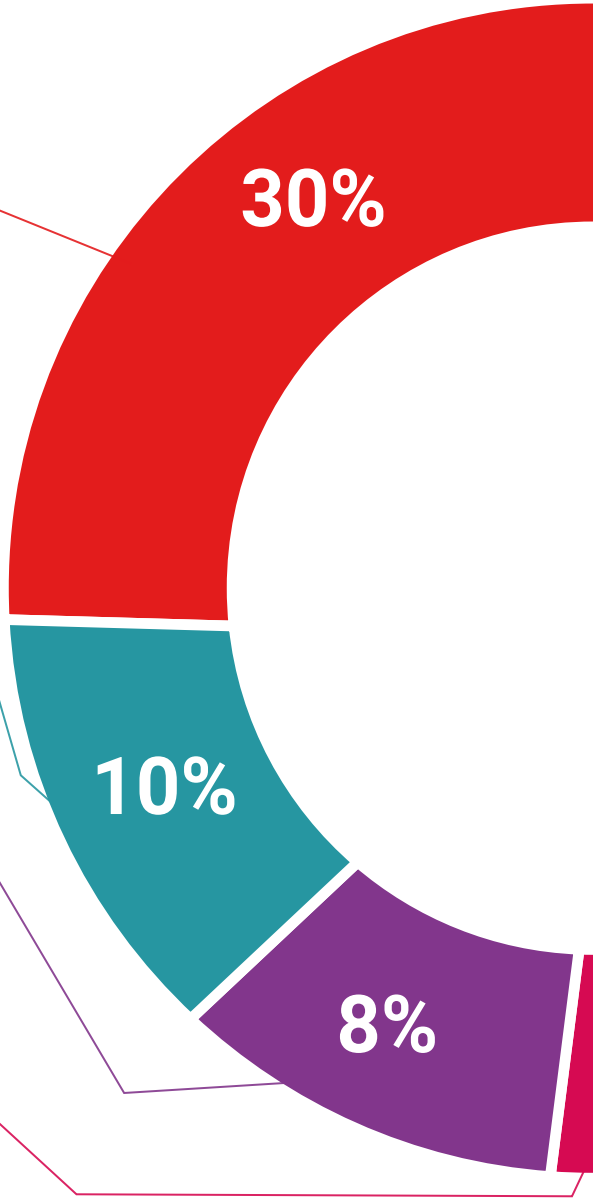
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

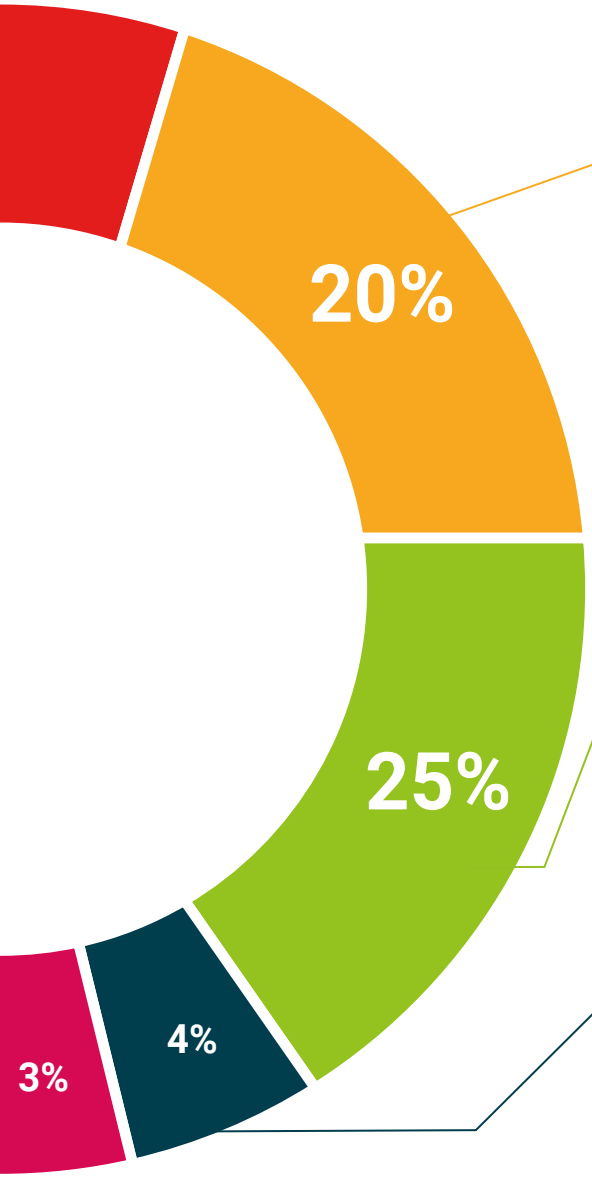
### Practising Skills and Abilities

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 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 Electrical Installations 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 your **Postgraduate Certificate in Electrical Installations** 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 Electrical Installations**

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 Electrical Installations**

This is a program 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
Rector

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 diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.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