

# Postgraduate Certificate

## Energy Savings in Hermeticity



## Postgraduate Certificate Energy Savings in Hermeticity

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

Website: [www.techtitute.com/us/engineering/postgraduate-certificate/energy-savings-hermeticity](http://www.techtitute.com/us/engineering/postgraduate-certificate/energy-savings-hermeticity)

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# 01

# Introduction

This complete program develops the content related to the study of the most important installations to be implemented in buildings with high Energy Efficiency according to the technical criteria of the work. A high quality proposal aimed at the most demanding professionals in the sector.





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*Acquire the most advanced and up-to-date knowledge in the field of Energy Saving in Hermeticity with a highly qualified Postgraduate Certificate and educational impact"*

The key concepts of the analysis of air conditioning equipment and aerothermal heat pumps, ventilation installations with heat recovery, optimization in the selection of boilers and pumps, new air conditioning alternatives such as installations with radiant floors and radiant ceilings, fan coils and trombe walls will be presented. In addition, free cooling systems (*Free-Cooling*) as well as lighting and transport systems with efficient equipment will be analyzed.

In addition, solar thermal and solar photovoltaic production facilities will be analyzed, analyzing their viability and contribution according to the technical requirements requested.

We will end with a presentation of the different consumption control tools, highlighting home automation and *Best Management Systems* (BMS) for application in Efficient Buildings.

“*Join the elite, with this highly effective educational training and open new paths to help you advance in your professional progress*”

This **Postgraduate Certificate in Energy Saving in Hermeticity** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The latest technology in online teaching software
- ◆ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ◆ Practical cases presented by practising experts
- ◆ State-of-the-art interactive video systems
- ◆ Teaching supported by telepractice
- ◆ Continuous updating and recycling systems
- ◆ Autonomous learning: full compatibility with other occupations
- ◆ Practical exercises for self-assessment and learning verification
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums
- ◆ Communication with the teacher and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection
- ◆ internet connection
- ◆ Supplementary documentation databases that are permanently available, even after the course has concluded

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*With a methodological design based on proven teaching techniques, this innovative course will use a range of teaching approaches to allow you to learn in a dynamic and effective way”*

Our teaching staff is made up of professionals from different fields related to this specialty. In this way, we ensure that we provide you with the educational update we are aiming for. A multidisciplinary team of professionals with expertise and experience in different areas, will efficiently cover the theoretical knowledge, but above all, will bring practical knowledge from their own experience to the education: one of the factors that makes this program unique.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice learning: with the help of an innovative interactive video system, and *learning from an expert*, you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

*With the experience of active professionals and the analysis of real cases of success in the application and use of energy saving systems in buildings.*

*A complete educational course that will qualify you in the latest trends of the sector in Energy Saving in Hermeticity.*



# 02

# Objectives

Our objective is to prepare highly qualified professionals for the working An objective that is complemented, moreover, in a global manner, by promoting human development that lays the foundations for a better society. This objective is materialized in helping professionals to reach a much higher level of competence and control. A goal that, in just a few months, you will be able to achieve with high intensity and effective educational program.





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*If your objective is to broaden your skills set to include new paths of success and development, this is your Professional Master's Degree: a training that aspires to excellence”*



## General Objectives

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- ◆ Undertake the particularities to correctly manage the design, project, construction and execution of Energy Rehabilitation Works (Existing Buildings) and Energy Saving (New Buildings)
- ◆ Interpret the current regulatory framework based on current regulations and the possible criteria to be implemented for energy efficiency in buildings
- ◆ Discover the potential business opportunities offered by the knowledge of the various energy efficiency measures, from studying tenders and technical tenders for construction contracts, projecting buildings, analyzing and directing the works, managing, coordinating and planning the development of Energy Saving and Rehabilitation Projects
- ◆ Ability to analyze building maintenance programs developing the study of appropriate energy saving measures to be implemented according to technical requirements
- ◆ Delve into the latest trends, technologies and techniques in the field of Energy Efficiency in the Construction of Buildings





## Specific Objectives

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- ◆ Delve into the scope of the airtightness study, such as parameters related to the definition, application regulations, technical justifications and various innovation solutions depending on the nature of the building
- ◆ Interpret the possible energy improvements based on the study of the energy optimization of airtightness based on the intervention in the envelope and in the installations
- ◆ Interpret the development of the various pathologies that can occur when airtightness is not taken into account in the building: condensation, humidity, efflorescence, high energy consumption, poor comfort, etc
- ◆ Address the technical requirements based on different technical solutions in order to optimize comfort, indoor air quality and noise protection
- ◆ Plan and control the correct execution based on the required thermography tests, smoke tests and *Blower-Door test*

“ *A path to achieve education and professional growth that will propel you towards a greater level of competitiveness in the employment market”.*

03

# Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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*A program created and taught by specialists in this field of work that will give you a close and real vision of this profession, bringing you closer to it in a realistic and direct way"*

## Management



### Ms. Peña Serrano, Ana Belén

- ◆ Content writer on renewable energies and energy efficiency for leading technical magazines and websites.
- ◆ Technical Engineering in Topography by the Polytechnic University of Madrid
- ◆ Master's Degree in Renewable Energies from San Pablo CEU University
- ◆ Qualifying training in Wind Energy Installations by LevelCOM Formación
- ◆ Energy Certification of Buildings by Fundación Laboral de la Construcción
- ◆ Geological Cartography by the Universidad Nacional de Educación a Distancia (National University of Distance Education).
- ◆ Collaborates in different scientific communication projects, directing the dissemination of engineering and energy in different media
- ◆ Director of renewable energy projects of the Master in Environmental and Energy Management in Organizations of the UNIR
- ◆ Teacher of the Professional Master's Degree in Energy Saving and Sustainability in Buildings and several other programs at TECH-Technological University

## Management

### Ms. Rodríguez Jordán, Daniela

- ◆ Architect in the Support Program for the National Early Childhood Plan
- ◆ Specialist in Eco-efficient Building Rehabilitation and use of BIM. EMVISESA
- ◆ Developer of high-rise housing developments. One on One
- ◆ Management of municipal procedures and urban code consultancy
- ◆ Design studio dedicated to interior design. Maso Studio
- ◆ Architecture FADU, UBA
- ◆ Si Fadu Project. Research topic: Sustainability in existing buildings in CABA FADU, UBA
- ◆ Eco-efficient Rehabilitation of Buildings and Neighborhoods. Master-University of Seville



**Ms. Segura Suárez, Minerva**

- ◆ Freelance Architect
- ◆ Architecture by the University of Las Palmas de Gran Canaria
- ◆ Specialist Technician in Building Evaluation Reports by the University of Las Palmas de Gran Canaria
- ◆ Postgraduate degree in Energy Simulation of Buildings, Architecture and Building Technology from the University of Barcelona
- ◆ Master's Degree in BIM and Integrated Design from the University of Barcelona
- ◆ Master's Degree in Architecture and Conditioning with Communications Technology from the University of Las Palmas de Gran Canaria
- ◆ Master's Degree in Energy Facilities Management and Project Internationalization from the CEU Cardenal Herrera University
- ◆ Specialist Technician in Building Evaluation Reports.
- ◆ Venia Docendi course (2016/17) in the subject of Construction V at the ULPGC
- ◆ Specialist in rehabilitation and refurbishment of sustainable hotels. Renewable Energies. Energy Saving. Bioclimatic Architecture. Certifications, Interior Design, Construction Management
- ◆ Founder of Breathe Human Architecture and president of BNI LPA UBUNTU

# 04

# Structure and Content

The contents of this Postgraduate Certificate have been developed by the different experts participating in it, with a clear purpose: to ensure that our students acquire each and every one of the skills necessary to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.







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*A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life"*

## Module 1. Energy Savings in Airtightness

- 1.1. Main Concepts
  - 1.1.1 Definition of Hermeticity vs. Tightness
  - 1.1.2 Regulations
  - 1.1.3 Technical Justifications
  - 1.1.4 Innovation Solutions
- 1.2. Control of Airtightness in the Enclosure
  - 1.2.1 Location
  - 1.2.2 Regulations
  - 1.2.3 Technical Justifications
  - 1.2.4 Innovation Solutions
- 1.3. Tightness Control in Installations
  - 1.3.1 Location
  - 1.3.2 Regulations
  - 1.3.3 Technical Justifications
  - 1.3.4 Innovation Solutions
- 1.4. Pathologies
  - 1.4.1 Condensations
  - 1.4.2 Moisture
  - 1.4.3 Energy Consumption
  - 1.4.4 Low Comfort
- 1.5. Comfort
  - 1.5.1 Definition
  - 1.5.2 Regulations
  - 1.5.3 Technical Justifications
  - 1.5.4 Innovation Solutions
- 1.6. Indoor Air Quality
  - 1.6.1 Definition
  - 1.6.2 Regulations
  - 1.6.3 Technical Justifications
  - 1.6.4 Innovation Solutions





- 1.7. Noise Protection
  - 1.7.1 Definition
  - 1.7.2 Regulations
  - 1.7.3 Technical Justifications
  - 1.7.4 Innovation Solutions
- 1.8. Tightness Test: Thermography
  - 1.8.1 Thermographic Equipment
  - 1.8.2 Work Conditions
  - 1.8.3 Detection of Encounters to be Corrected
  - 1.8.4 Thermography in the Solution
- 1.9. Smoke Testing
  - 1.9.1 Smoke Test Equipment
  - 1.9.2 Work Conditions
  - 1.9.3 Detection of Encounters to be Corrected
  - 1.9.4 Smoke Test in the Solution
- 1.10. Blower *Door Test*
  - 1.10.1 *Blower-Door* Test Equipment
  - 1.10.2 Work Conditions
  - 1.10.3 Detection of Encounters to be Corrected
  - 1.10.4 *Blower-Door* Test in the Solution

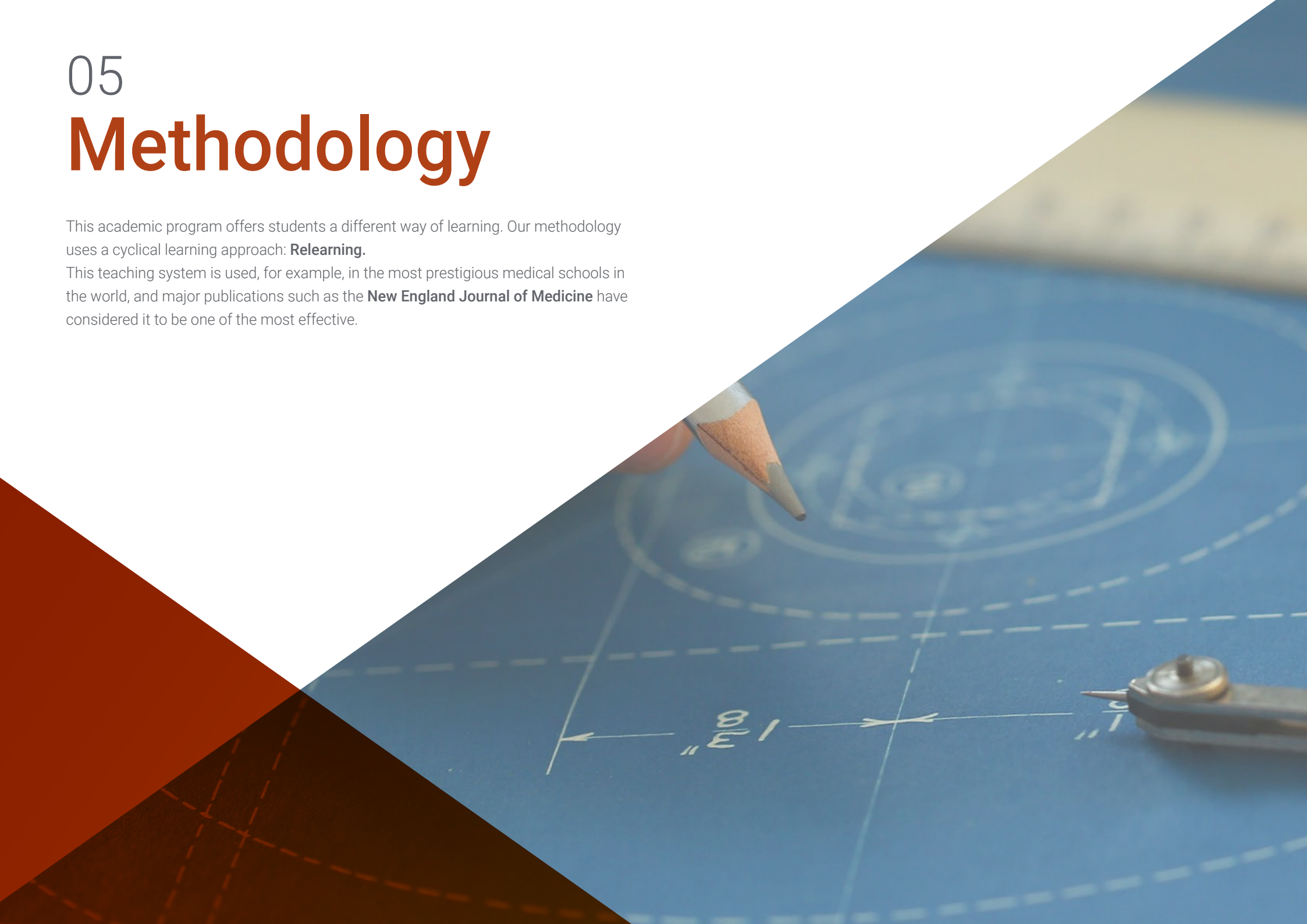
“ Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: learning from an expert”

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.

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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 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 Energy Saving in Hermeticity guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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*Successfully complete this program  
and receive your university certification  
without traveling or complex paperwork”*

This **Postgraduate Certificate in Energy Saving in Hermeticity** 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 Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Energy Savings in Hermeticity**

Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma 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  
development lang  
virtual classroom



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