

# Postgraduate Certificate

## Circular Economy in the Construction of Buildings



## Postgraduate Certificate Circular Economy in the Construction of Buildings

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

Website: [www.techtute.com/us/engineering/postgraduate-certificate/circular-economy-construction-buildings](http://www.techtute.com/us/engineering/postgraduate-certificate/circular-economy-construction-buildings)

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# 01

# Introduction

The circular economy in the construction sector involves the use of measures such as the intelligent selection of resources, prioritizing the use of recycled materials, as well as the minimization of environmental impacts, favoring the replenishment of natural capital and its regeneration. Therefore, with this intensive program, you will learn the latest developments and most efficient techniques about the circular economy.







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*Engineering professionals must continue their training during their careers to adapt to new developments in the field”*

The Postgraduate Diploma in Circular Economy in the Construction of Buildings 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 Circular Economy.

Throughout these weeks of specialization, you will learn to quantify through life cycle analysis and the calculation of the carbon footprint the impact on sustainability in the management of real estate for the development of improvement plans that allow energy savings and reduction of the environmental impact produced by buildings.

By completing and passing the assessments of this educational program, the student will obtain a solid knowledge of the Circular Economy.

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 Circular Economy in the Construction of Buildings** 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 Circular Economy
- ◆ 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 Circular Economy
- ◆ 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 with us this Postgraduate Certificate in Circular Economy in the Construction of Buildings. It's the perfect opportunity to advance your career"*

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*This Postgraduate Certificate is the best investment you can make when selecting a refresher program to update your knowledge in Circular Economy”*

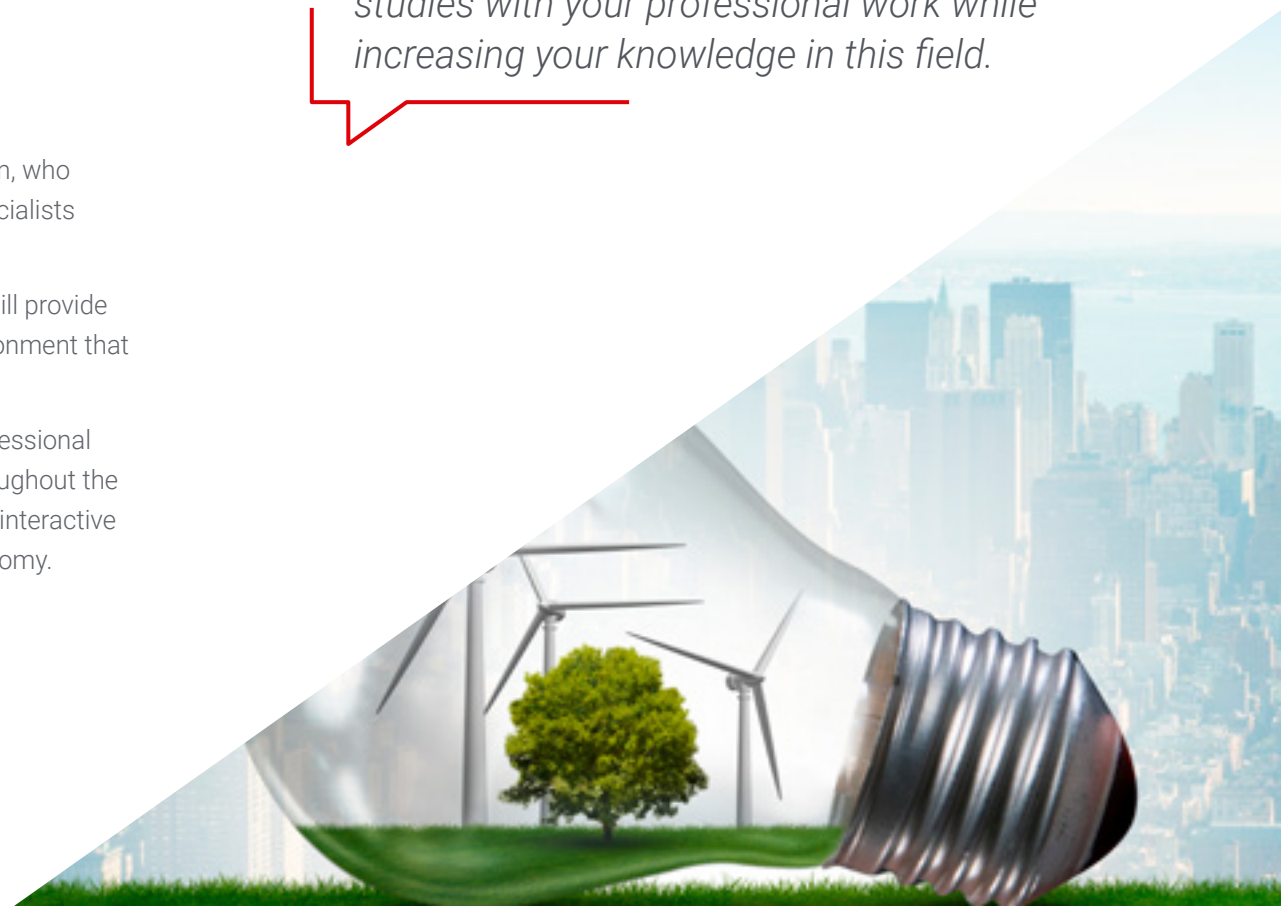
Its teaching staff includes professionals belonging to the field of construction, who bring to this program the experience of their work, as well as recognized specialists from leading companies and prestigious universities.

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 and experienced experts in Circular Economy.

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

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





# 02

# Objectives

The Postgraduate Certificate in Circular Economy in the Construction of Buildings is designed to facilitate the performance of the professionals in this field to enable them to master the main developments in this area of Engineering.







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



## General Objectives

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- ◆ 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 and the energy savings provided





## Specific Objectives

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- ◆ Have a comprehensive approach to the circular economy in buildings in order to maintain a strategic vision of implementation and best practices
- ◆ Quantify through life cycle analysis and carbon footprint calculation the impact of real estate management on sustainability in order to develop improvement plans that allow energy savings and environmental impact reduction in buildings
- ◆ Master the criteria of green public procurement in the real estate sector in order to be able to face and manage them with criteria



*Take the step to get up to date on the latest developments in Circular Economy”*



03

# Course Management

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





“

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

## International Guest Director

Stefano Silvani is a proven leader in digital transformation, with more than 10 years of experience driving technology innovations in areas such as cloud, IoT, Artificial Intelligence, Machine Learning (AI/ML), Software as a Service (SaaS) and Platform as a Service (PaaS) solutions. As such, his background includes a strategic focus on transforming business models and negotiating large-scale enterprise deals. In addition, his interests encompass value creation through technology, the development of new digital solutions and leadership implementation.

He has also worked in world-renowned companies such as General Electric Digital, where he played a crucial role in the launch of Predix, the first industrial IoT platform in the market. He has also joined Siemens Digital Industries, where he has led the expansion of the Mindsphere platform and the code development platform under Mendix. In this sense, his career has continued at Siemens Smart Infrastructure, where he has led the global pre-sales team for the intelligent building platform Building X, generating advanced technology solutions for global companies.

In addition to his professional work, he has been an active speaker on topics of digital innovation, value co-creation and leadership. With experience in several countries, such as Italy, Spain, Luxembourg and Switzerland, he has brought a global perspective to his projects, exploring new ways to drive business and technological innovation worldwide.

He has also been recognized for his ability to lead digital transformations in complex organizations. In fact, his team has generated \$70 million in annual revenue, offering consulting services in intelligent buildings and architectural governance solutions. And it is his focus on cross-functional collaboration and his ability to manage global teams that have positioned him as a trusted advisor to senior executives.



## Mr. Silvani, Stefano

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- Global Head of Pre-Sales at Siemens, Zurich, Switzerland
- Global Pre-Sales - Smart Buildings at Siemens
- Presales Predix - EMEA at GE Digital
- Commercial Contracts and Partnership Management Officer at Menarini
- International Operations Luxemburg SA
- Master's Degree in Economics and Management at the University Di Roma Tor Vergata
- Master's Degree in Computer Engineering and Big Data at the University
- Telematica Internazionale

“

*Thanks to TECH, you will be able to learn with the best professionals in the world”*

## 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

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

04

# Structure and Content

The structure of the contents has been designed by the best professionals in the sector, 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. Circular Economy

- 1.1. Circular Economy Tendency
  - 1.1.1. Circular Economy Origin
  - 1.1.2. Circular Economy Definition
  - 1.1.3. Circular Economy Necessity
  - 1.1.4. Circular Economy as Strategy
- 1.2. Circular Economy Features
  - 1.2.1. First Principle: Preserve and Improve
  - 1.2.2. Second Principle: Optimize
  - 1.2.3. Third Principle. Promote
  - 1.2.4. Key Features
- 1.3. Circular Economy Benefits
  - 1.3.1. Economic Advantages
  - 1.3.2. Social Benefits
  - 1.3.3. Business Benefits
  - 1.3.4. Environmental Benefits
- 1.4. Circular Economy Legislation
  - 1.4.1. Regulations
  - 1.4.2. European Directives
  - 1.4.3. Legislation in Spain
  - 1.4.4. Autonomous Community Legislation
- 1.5. Life Cycle Analysis
  - 1.5.1. Life Cycle Analysis (LCA) Scope
  - 1.5.2. Stages
  - 1.5.3. Reference Standards
  - 1.5.4. Methodology
  - 1.5.5. Tools
- 1.6. Green Public Contracting
  - 1.6.1. Legislation
  - 1.6.2. Green Procurement Handbook
  - 1.6.3. Public Procurement Guidance
  - 1.6.4. Public Procurement Plan 2018-2025





- 1.7. Carbon Footprint Calculation
  - 1.7.1. Carbon Footprint
  - 1.7.2. Types of Scope
  - 1.7.3. Methodology
  - 1.7.4. Tools
  - 1.7.5. Carbon Footprint Calculation
- 1.8. CO2 Emission Reduction Plans
  - 1.8.1. Improvement Plans: Supplies
  - 1.8.2. Improvement Plans: Demand.
  - 1.8.3. Improvement Plans: Installations
  - 1.8.4. Improvement Plans: Equipment
  - 1.8.5. Emissions Offsets
- 1.9. Carbon Footprint Records
  - 1.9.1. Carbon Footprint Records
  - 1.9.2. Requirements Prior to Registration
  - 1.9.3. Documentation
  - 1.9.4. Registration Request
- 1.10. Good Circular Practices
  - 1.10.1. Methodology BIM
  - 1.10.2. Selecting Material and Equipment
  - 1.10.3. Maintenance
  - 1.10.4. Waste Management
  - 1.10.5. Reusing Material



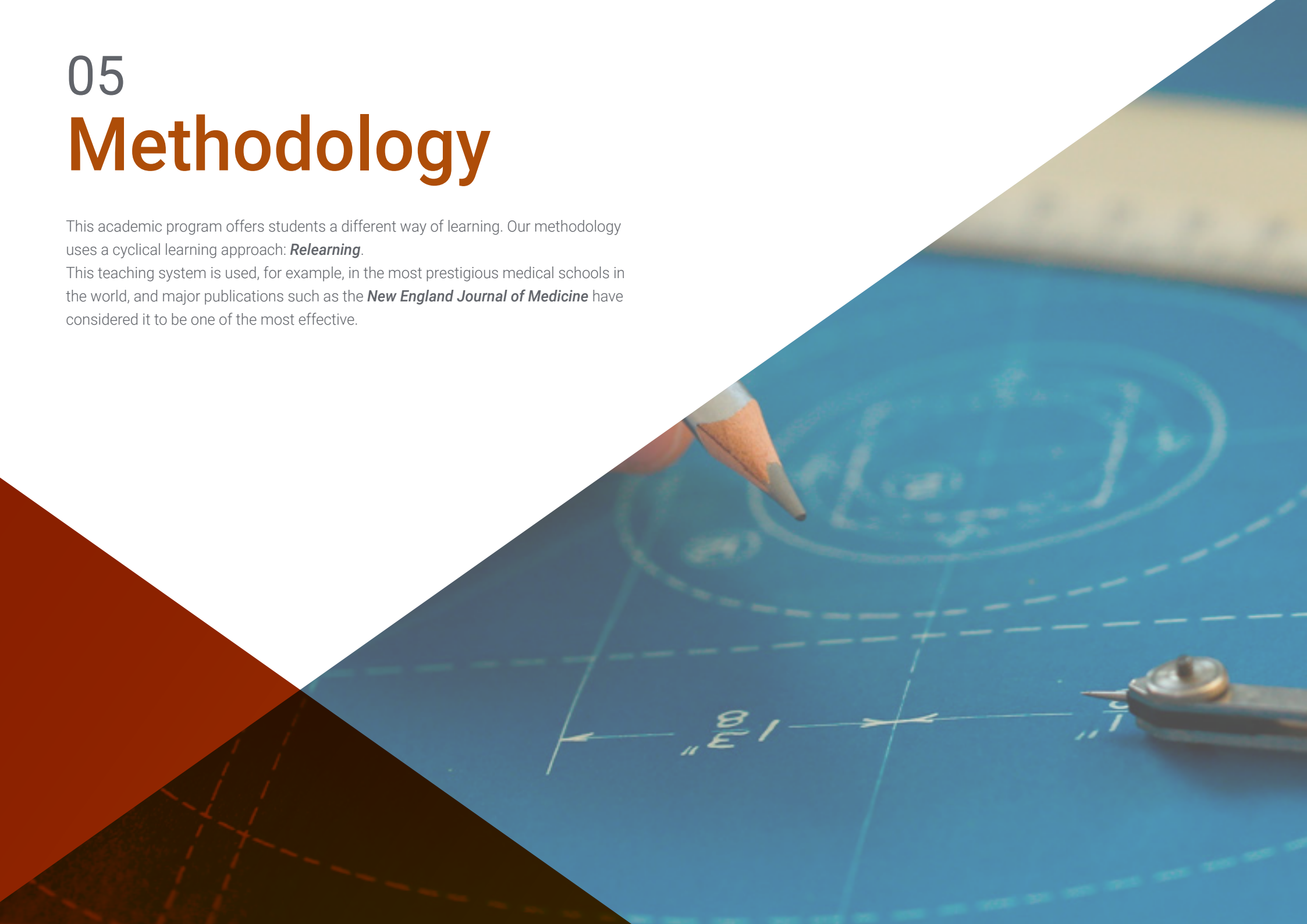
*This program will allow you to advance in your career comfortably"*

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"*

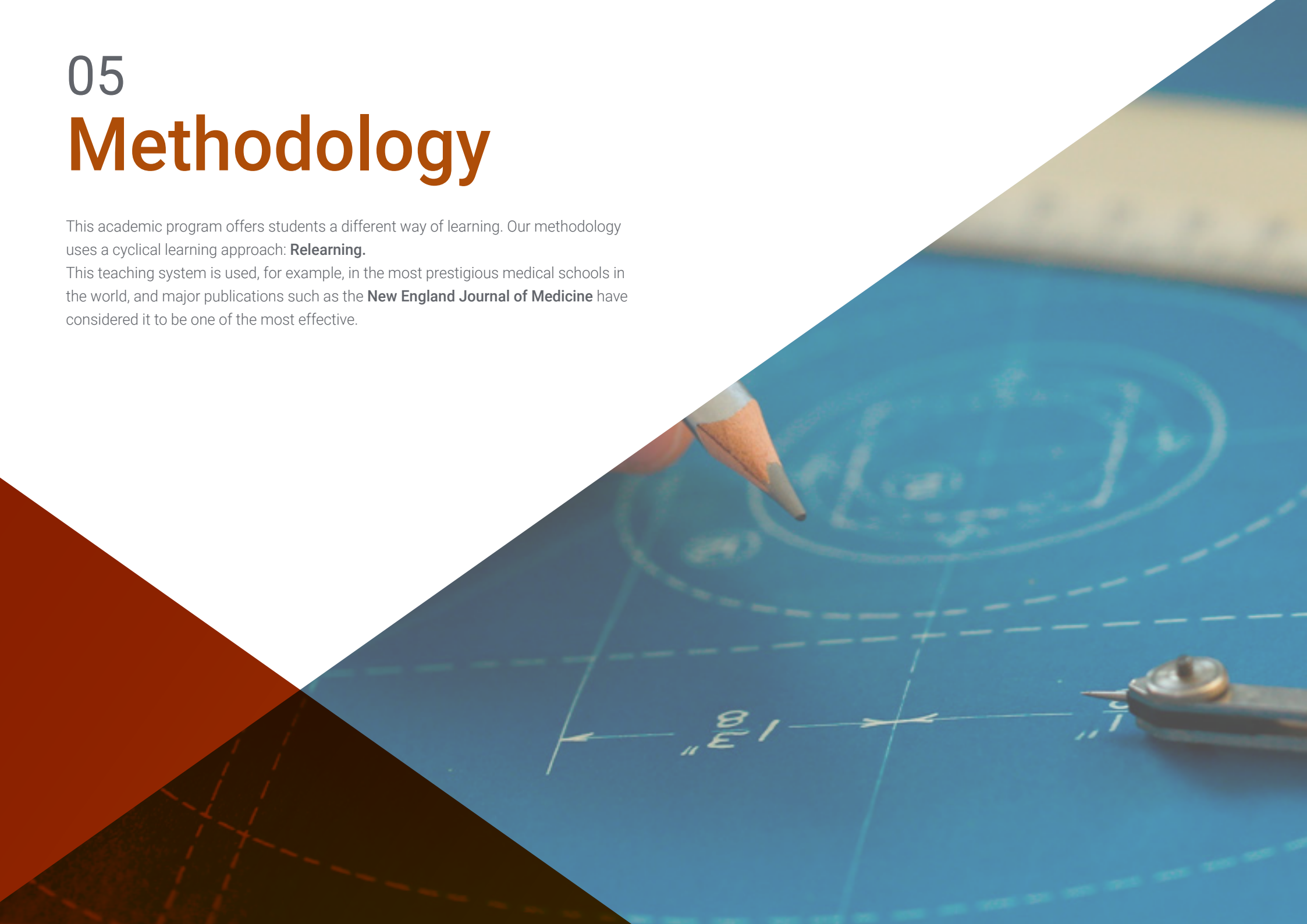


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### Case Study to contextualize all content

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.*





### **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 student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

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.

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

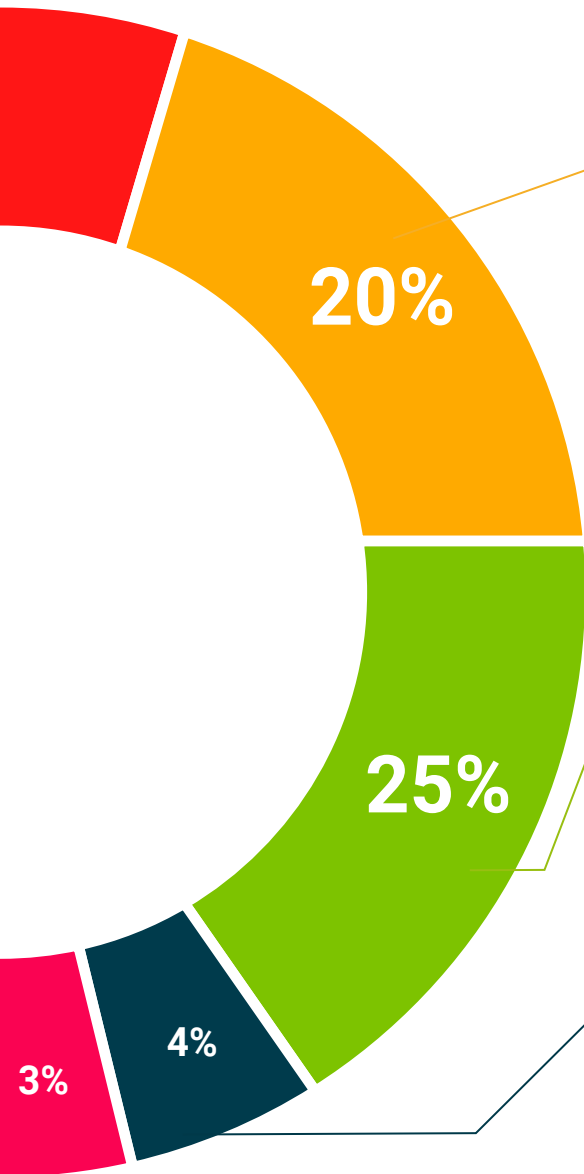
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 Circular Economy in the Construction of Buildings 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 qualification  
without having to travel or fill out  
laborious paperwork”*

This **Postgraduate Certificate in Circular Economy in the Construction of Building** contains the most complete and up-to-date program in 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 Circular Economy in the Construction of Buildings**

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 language

virtual classroom

**tech** technological  
university

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