

# Postgraduate Certificate Construction and Demolition Waste Management





## Postgraduate Certificate Construction and Demolition Waste Management

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

Website: [www.techtute.com/us/engineering/postgraduate-certificate/construction-demolition-waste-management](http://www.techtute.com/us/engineering/postgraduate-certificate/construction-demolition-waste-management)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 18*

05

Methodology

---

*p. 22*

06

Certificate

---

*p. 30*

# 01

# Introduction

Managing urban waste has been a problem for humanity throughout history. Today, there is a modernized method that handles the collection and disposal of this waste in an orderly fashion. Despite this, this problem is almost non-existent in the construction and demolition sector, since obtaining and manufacturing raw materials to be used in a site is too valuable a process for it to then be wasted. Because of this, it is essential for engineers working on a building to be aware of current sustainability measures through this Construction and Demolition Waste Management program.



“

*Gain the knowledge you need to manage construction and demolition waste and improve the sustainability of the project you are working on"*

One of the current trends in the sector of construction, in addition to guaranteeing the durability of materials is to have a correct waste management plan. For this reason, the search for alternatives with greater economic, ecological and energy validity has begun. Thus, part of the objective is to reduce the Carbon Footprint associated with construction materials, such as new clinkerization processes, "geopolymers".

Therefore, professionals in the sector must have a certain degree of expertise in this area. Thus, this program will become the right opportunity to achieve this goal and, at the same time, guarantee an improvement in the students' careers.

In this course you will learn about the application and methodologies of Sustainability Indicators, such as the Carbon Footprint and the Life Cycle Analysis of the materials involved in the construction process. During the development of the program, the different types of waste that may be generated during the execution of construction and demolition works will be classified and identified, promoting their management from the source. The possible options for the treatment of these wastes will be assessed according to their nature and origin and the valuation that such management entails. As an expert in construction materials, it is essential to focus on the correct management of the process from the beginning to the end of the service life of construction and demolition waste.

It will provide new knowledge for the analysis of the environmental management of building and demolition processes, and the methodology for the treatment of demolition and construction waste. For this reason, we have an excellent teaching staff that offers students their extensive experience in this sector that is highly-demanded on an international level.

With a 100% online Postgraduate Certificate students will be able to study comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality according to the current times with all the guarantees to position the engineer in a highly demanded sector.

This **Postgraduate Certificate in Construction and Demolition Waste Management** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- ◆ Gain in-depth knowledge of the variables, analysis and processing methods, as well as the characterization and properties of the materials used in construction
- ◆ Determine the life cycle and the carbon footprint of the materials
- ◆ Experiment with new materials and technology related to new applications and uses
- ◆ Manage new building technologies and participate in building quality management processes
- ◆ Evaluate aspects of sustainability and environmental impact of the materials
- ◆ Analyze the concept of durability of the construction materials and their relationship with the concept of sustainability
- ◆ Identify the main causes of the alteration of construction materials



*Learn about the regulations and the recycling process behind the management of construction and demolition waste to improve the quality of an infrastructure project"*

“

*Study this Postgraduate Certificate  
100% online at a time to suit you  
no matter where you are"*

The program's teaching staff includes professionals from 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 professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will have the support of the  
extensive experience of a prestigious  
teaching staff that will accompany you  
at all times.*

*Efficiently manage construction and  
demolition waste for later use.*



# 02

# Objectives

The design of this Postgraduate Certificate will allow the student to acquire new competencies and skills that are necessary to update their knowledge and skills in their profession. The knowledge gained in this program will address the key aspects of sustainable materials and the impact of the carbon footprint, while learning about regulations and the current importance of recycling construction and demolition materials. In view of the above, TECH establishes the following general and specific objectives to guarantee the satisfaction of the future graduate.







“

*Develop your skills with a program focused on the reuse of materials from construction or demolition works”*



## General Objectives

---

- ◆ Perform an exhaustive analysis of the different types of construction materials
- ◆ Gain in-depth knowledge of the features of different construction materials
- ◆ Implement new technologies applied to engineering materials
- ◆ Assess the waste materials
- ◆ Manage materials from a quality and production point of view
- ◆ Apply new techniques in making construction materials that are more environmentally friendly
- ◆ Raise awareness of new trends and materials applied to construction





## Specific Objectives

---

- ◆ Gain in-depth knowledge of sustainable material, carbon footprint and life cycle, etc.
- ◆ Differentiate between the regulations and the importance of recycling CDW
- ◆ Address issues related to circular economy and waste reduction at source, as well as content related to the need for increased application of sustainable materials in construction works
- ◆ Use waste as sustainable material Future possibilities for reuse
- ◆ Apply sustainable materials in projects

“

*Learn all the knowledge you need in Waste Management in a simple and practical way”*

# 03

# Course Management

In our commitment to offer education for all, TECH works with renowned professionals in order for the student to acquire solid knowledge in this Postgraduate Certificate in Construction and Demolition Waste. For this reason, this Postgraduate Certificate has a highly qualified team with extensive experience in the sector, which will offer the best possible resources for students in the development of their skills during the course. In this way, students have the guarantees they need to specialize at an international level in a booming sector that will catapult them to professional success.





“

*Complete your professional profile by learning how to manage waste from construction work and its later use from an excellent group of experts from this field”*

## Management



### Dr. Miñano Belmonte, Isabel de la Paz

- ◆ Contracted Doctor for the Advanced Construction Science and Technology Group of the Polytechnic University of Cartagena.
- ◆ Technical Architect from the Polytechnic University of Cartagena
- ◆ Construction Engineer from the Camilo José Cela University.
- ◆ PhD from the Polytechnic University of Cartagena
- ◆ Master's Degree in Construction (Major in Technology) from the Polytechnic University of Valencia.
- ◆ Speaker at various national and international conferences and congresses.
- ◆ Author of the books "*Manual de cálculo de hormigón armado. Teoría y ejemplos prácticos*" (Reinforced concrete calculation manual. Theory and practical examples) and "*Problemas resueltos de hormigón armado (HA)*" (Solved problems of reinforced concrete), as well as author of specific chapters in other books.
- ◆ Co-author of various scientific high-impact publications on construction materials



### Dr. Benito Saorin, Francisco Javier

- ◆ Technical Architect in Optional Direction and Coordination Functions Of SS
- ◆ Municipal Technician in the Ricote-Murcia Town Hall
- ◆ Work experience in an Architecture Office
- ◆ Construction Engineer
- ◆ Construction Engineer from the Camilo José Cela University.
- ◆ PhD from the Polytechnic University of Valencia
- ◆ Master's Degree in Construction (Major in Technology) from the Polytechnic University of Valencia.
- ◆ Vast experience in R&D&I with more than 10 years experience on site
- ◆ Reviewer of journals indexed in JCR
- ◆ Articles in international congresses and high-impact indexed journals on the different areas of construction materials



### **Dr. Rodríguez López, Carlos Luis**

- ◆ Head of the Materials Department at the Construction Technology Center of the Region of Murcia.
- ◆ Coordinator of the sustainable construction and climate change area in CTCON
- ◆ Technician in the projects department of PM Arquitectura y Gestión SL
- ◆ PhD in Construction Engineering in Construction Materials and Sustainable Construction
- ◆ Construction Engineer from Polytechnic University of Cartagena
- ◆ PhD from the University of Alicante
- ◆ Master's Degree in Engineering of Materials, Water and Land: Sustainable Construction from the University of Alicante
- ◆ Extensive experience in R&D&I
- ◆ Articles in international congresses and high-impact indexed journals on the different areas of construction materials
- ◆ Specialist in the development of new materials, products for construction and in the analysis of pathologies in construction

## Professors

### Mr. del Pozo Martín, Jorge

- ◆ Technical and economic evaluator and project auditor at the Spanish Ministry of Science and Innovation
- ◆ Civil Engineer
- ◆ Diploma in Business Administration from UNED In his professional work experience, he worked in the private sector in Arthur Andersen, Pacadar, Dragados and Bovis Lend Lease
- ◆ Master's Degree in Research in Civil Engineering from the University of Cantabria

### Dr. Muñoz Sánchez, María Belén

- ◆ Consultant in Innovation and Sustainability of Construction Materials
- ◆ Reseracher in polymers at POLYMAT
- ◆ Dr. Engineer of Sustainable Processes and Materials from the University of the Basque Country
- ◆ Chemical Engineer from the University of Extremadura
- ◆ Master's Degree in Research, with a major in Chemistry from the University of Extremadura
- ◆ Extensive experience in R&D&I in materials, including waste valorization to create innovative construction materials
- ◆ Co-author of scientific article published in international journals
- ◆ Speaker at international congresses related to renewable energies and the environmental sector







“

*A unique, key, and decisive training experience to boost your professional development”*

# 04

## Structure and Content

The content has been designed to comply with the essential requirements in the field of Construction and Demolition Waste Management. In addition, thanks to the proposals of the teaching team, it has the necessary structure to offer a broad perspective in this field. All of this in order to identify the different types of waste generated during the development of a construction or demolition site. From the first class, students will see their knowledge broadened, allowing them to learn through practical and theoretical content.

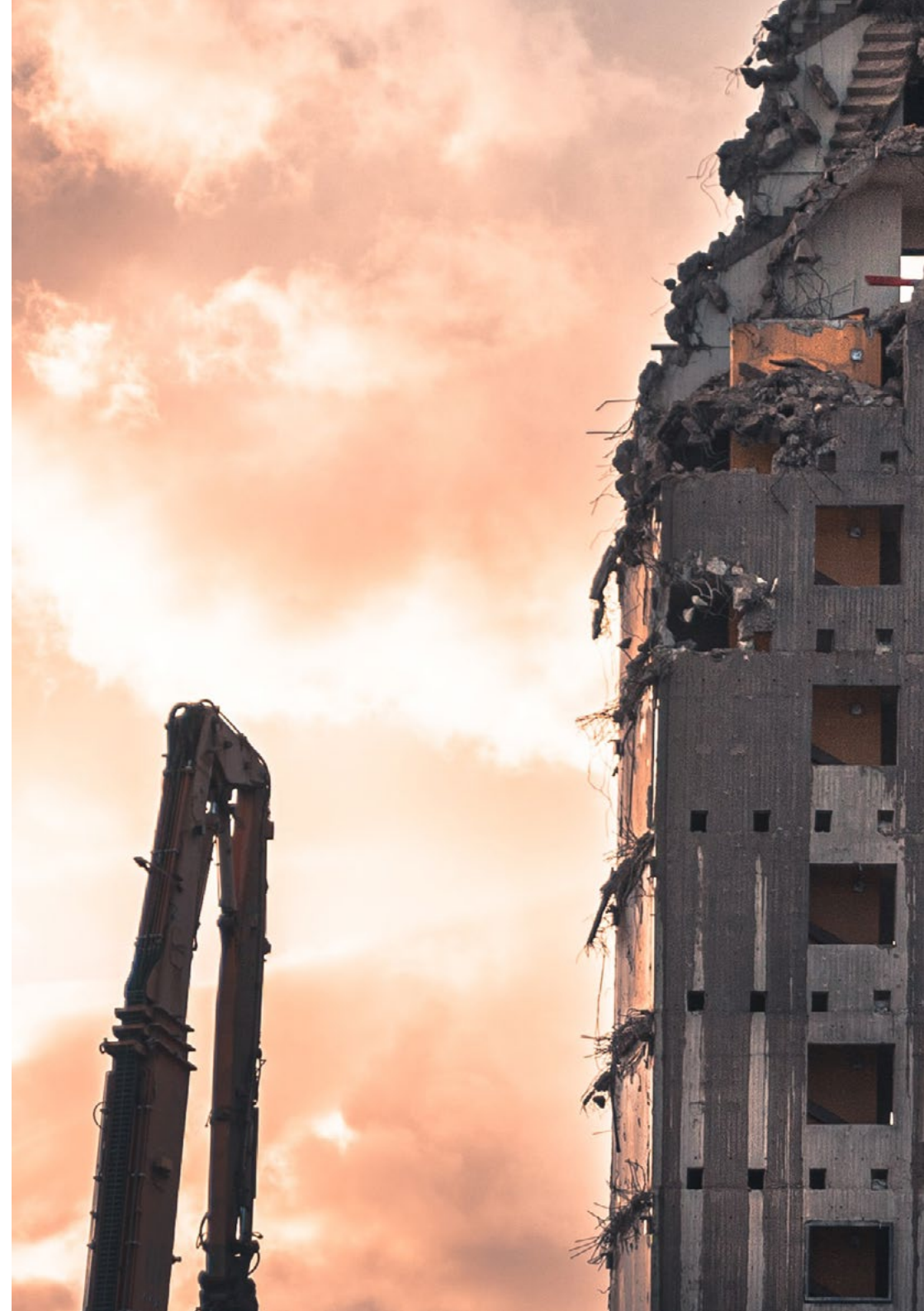




“Complete this program to become a specialist expert in the management of construction and demolition waste”

## Module 1. Valuation of Construction and Demolition Waste (CDW)

- 1.1. Decarbonization
  - 1.1.1. Sustainability of Construction Materials
  - 1.1.2. Circular Economy
  - 1.1.3. Carbon Footprint
  - 1.1.4. Life Cycle Analysis Methodology and Analysis
- 1.2. Construction and Demolition Waste (CDW)
  - 1.2.1. CDW
  - 1.2.2. Current Situation
  - 1.2.3. Problems of CDW
- 1.3. Characterization of CDW
  - 1.3.1. Dangerous Waste
  - 1.3.2. Non-Dangerous Waste
  - 1.3.3. Urban Waste
  - 1.3.4. European List of Construction and Demolition Wastes
- 1.4. Management of CDW I
  - 1.4.1. General Rules
  - 1.4.2. Dangerous Waste
  - 1.4.3. Non-Dangerous Waste
  - 1.4.4. Inert Waste. Earth and Stones
- 1.5. Management of CDW II
  - 1.5.1. Reuse
  - 1.5.2. Recycled
  - 1.5.3. Energy Value. Elimination
  - 1.5.4. Administrative Management of CDW
- 1.6. Legal Framework in CDW Material. Environmental Policy
  - 1.6.1. Environment
  - 1.6.2. Regulations
  - 1.6.3. Obligations
- 1.7. Properties of CDW
  - 1.7.1. Classification
  - 1.7.2. Properties
  - 1.7.3. Applications and Innovation with CDW



- 1.8. Innovation. Optimization of the Use of Resources, of Other Industrial, Agricultural and Urban Wastes
  - 1.8.1. Supplementary Materials. Ternary and Binary Mixtures
  - 1.8.2. Geopolymers
  - 1.8.3. Concrete and Asphalt Mixtures
  - 1.8.4. Other Uses
- 1.9. Environmental Impact
  - 1.9.1. Analysis
  - 1.9.2. Impacts of CDW
  - 1.9.3. Measures Adopted, Identification and Valorization
- 1.10. Degraded Spaces
  - 1.10.1. Landfill
  - 1.10.2. Use of Land
  - 1.10.3. Control Plan, Maintenance and Restoration of the Zone

“

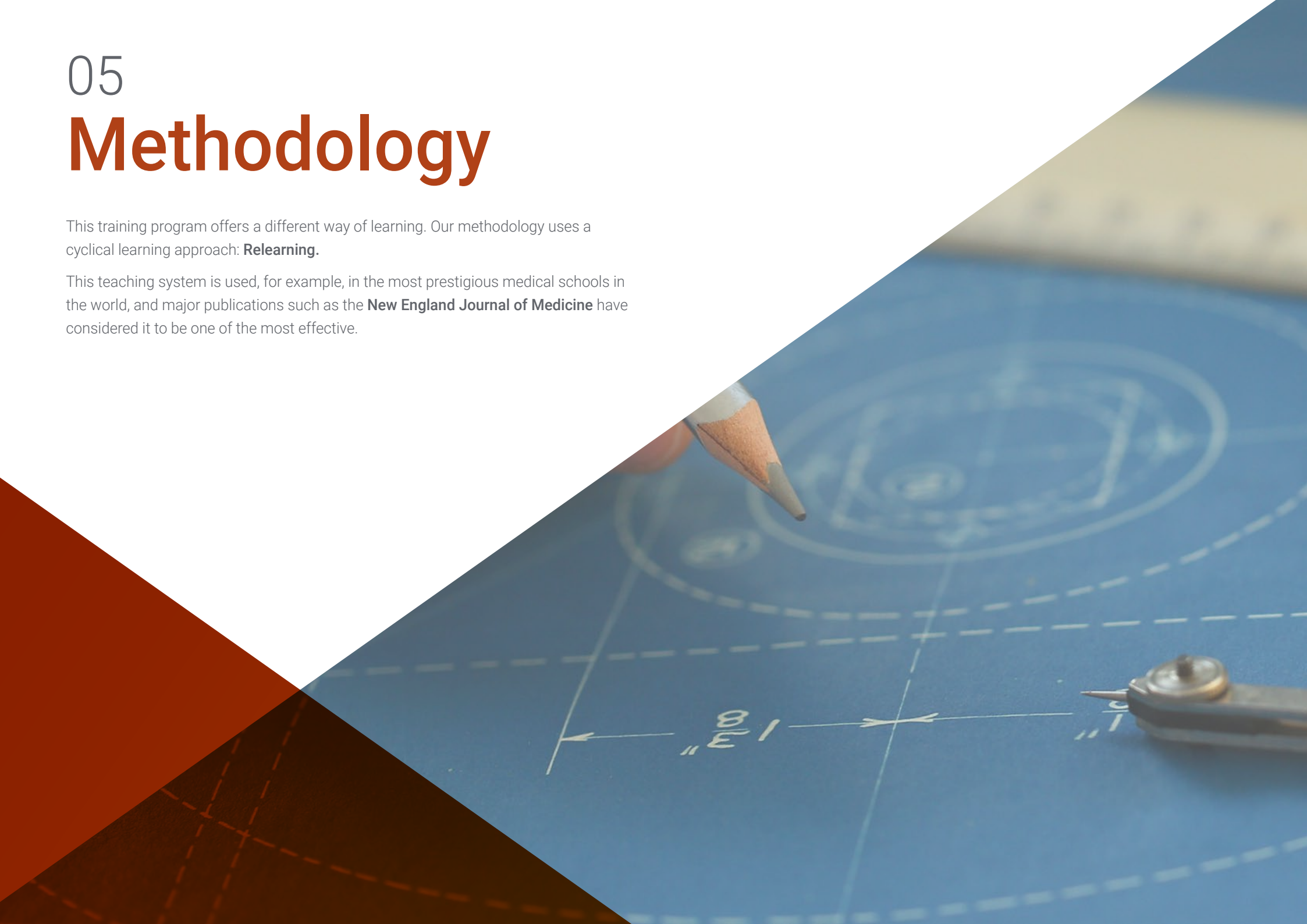
*Know the new concepts and regulations for the environmental development in the process of construction and demolition, complying with a complete program in this field”*

05

# Methodology

This training program offers 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 Engineering program at TECH Technological University prepares you to face all the challenges in this field, 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 student will learn, through collaborative activities and real cases, how to solve complex situations in real business environments.*

The case method is the most widely used learning system by 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 is the first university in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines 8 different didactic 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 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 university 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.



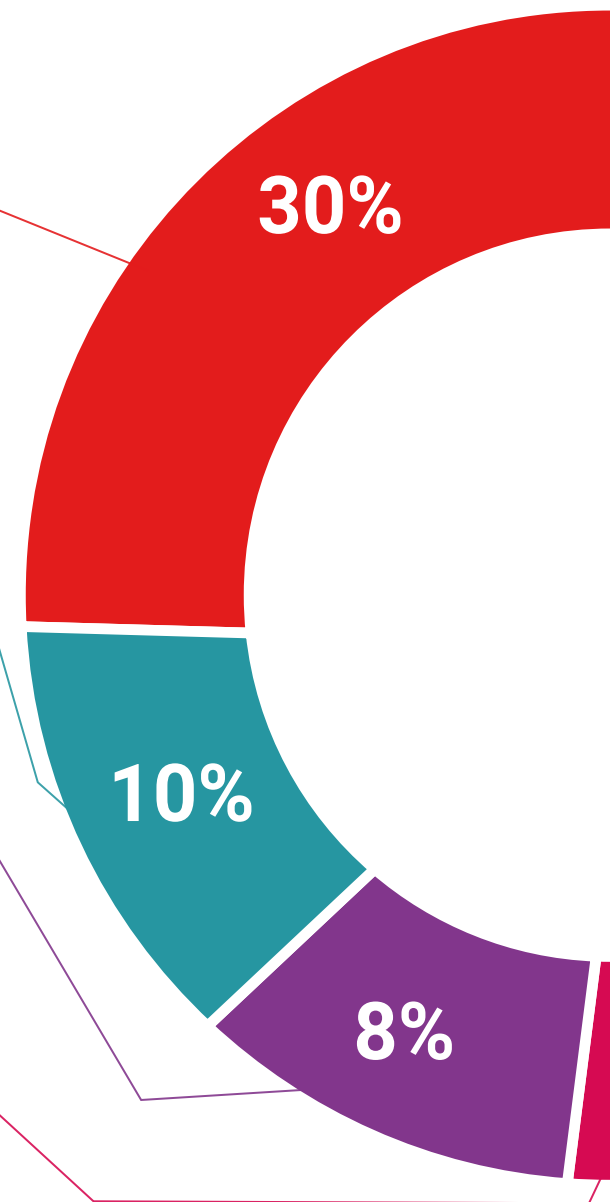
#### Practising Skills and Abilities

They will carry out activities to develop specific 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.





**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 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 multimedia content presentation training Exclusive system 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 your goals.



06

# Certificate

The Postgraduate Certificate in Construction and Demolition Waste Management 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 degree without travel or cumbersome paperwork”*

This program will allow you to obtain your **Postgraduate Certificate in Construction and Demolition Waste Management** 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 Construction and Demolition Waste Management**

ECTS: **6**

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 Global University will make the necessary arrangements to obtain it, at an additional cost.





**Postgraduate Certificate**  
Construction and Demolition  
Waste Management

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

# Postgraduate Certificate Construction and Demolition Waste Management

