

# Postgraduate Certificate Infrastructure Repair





## Postgraduate Certificate Infrastructure Repair

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

Website: [www.techtitute.com/pk/engineering/postgraduate-certificate/infrastructure-repair](http://www.techtitute.com/pk/engineering/postgraduate-certificate/infrastructure-repair)

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# 01

# Introduction

The Infrastructure Repair sector is a key sector in the civil engineering field, due to the large amount of aging infrastructure that exists worldwide. For this reason, TECH offers a high level of training that will enable the student to carry out the repair work, and that will elevate them to the forefront of civil engineering. Don't think twice and give your career a boost by joining our alumni community.





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*Infrastructure Repair is paramount in civil engineering. Don't think twice and train yourself in this area. Your effort will allow the use of these spaces in complete safety"*

The Postgraduate Certificate in Infrastructure Repair is very useful for civil engineering professionals, since it provides them with a deep insight into this sector and the job opportunities it currently comprises.

Specifically, students will be trained in the skills necessary to develop Infrastructure Repair works, providing them with the necessary knowledge to handle the tools that will facilitate the tasks of infrastructure data collection, using drone technologies to detect different types of pathologies and, once the data is collected in the field, students will be trained in the knowledge of the tools for data processing.

This sector has a wide range of pathologies in bridges and tunnels, so we will study in depth the pathologies that can be found during the development of the engineer's professional life and how to approach the repair of each of the damages.

In addition to Infrastructure Repair, this part of the profession specializes in monitoring failures in each specific infrastructure. For its correct follow-up, the student will be trained in the knowledge of infrastructure monitoring, using the latest existing technologies in the field of monitoring and follow-up of infrastructures. Finally, the appropriate machinery and construction processes for the execution of the work required for Infrastructure Repair will be explained.

In short, TECH takes the student through theoretical and practical knowledge to a higher level of teaching, and shows him another way of studying and learning, more organic, simpler and more efficient. TECH will work to keep him motivated and to create in him a passion for learning. And it will push you to think and develop critical thinking.

This program is designed to give the student access to the specific knowledge of this discipline in an intensive and practical way. A great value for any professional.

It should be noted that since it is a 100% online program, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

This **Postgraduate Certificate in Infrastructure Repair** contains the most complete and up-to-date educational program on the market. The most important features include:

- ◆ The development of case studies presented by experts in infrastructure and civil engineering
- ◆ The graphic, schematic, and 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
- ◆ Special emphasis on innovative methodologies in safety, health and PACMA
- ◆ 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



*Completion of this Postgraduate program will place civil engineering professionals at the forefront of the latest developments in the industry"*

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*This program is the best investment you can make in selecting an up-to-date program in the field of civil engineering. We offer you quality and free access to content”*

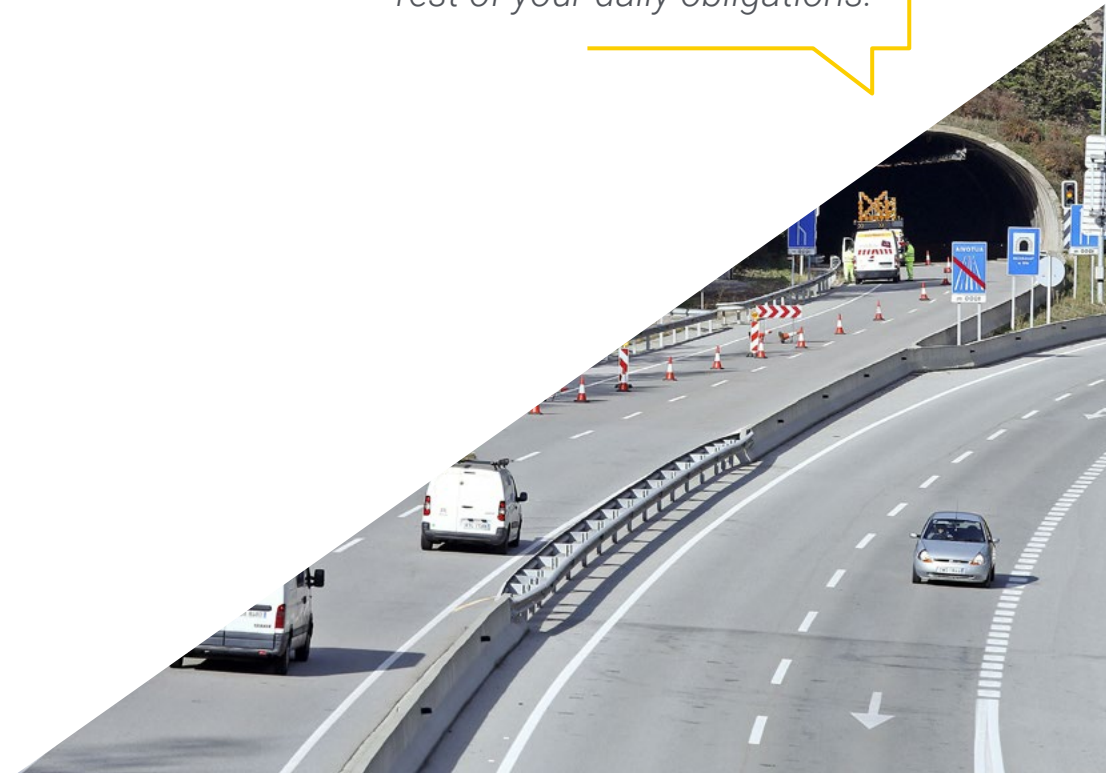
*This training comes with the best didactic material, providing you with a contextual approach that will facilitate your learning.*

*We offer you a 100% online program that will allow you to combine your study time with the rest of your daily obligations.*

It includes, in its teaching staff, professionals belonging to the field of civil engineering, who bring to this training the experience of their work, in addition to recognized specialists from prestigious reference societies and 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.

The design of this program focuses on Problem-Based Learning, which means the student must try to solve the different real-life situations of that arise throughout the academic program. To do so, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Infrastructure Repair.



02

# Objectives

The Postgraduate Certificate in Infrastructure Repair is aimed at facilitating the professional's performance so that the professional can acquire and know the main novelties in this field, which will allow them to practice their profession with the highest quality and professionalism.





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*Our goal is to make you the best professional in your sector. And for this we have the best methodology and content"*



## General Objectives

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- ◆ Acquire new knowledge in Civil Engineering and Infrastructures
- ◆ Acquire new skills in terms of new technologies, latest machinery and software, knowledge of next steps and recycling
- ◆ Extrapolate this knowledge to other sectors of the industry, focusing on those fields that require more trained and qualified personnel year after year
- ◆ Processing the data generated in Civil Engineering activities, through the BIM environment, a mandatory reality for the drafting, construction, management and operation of infrastructures

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*Improving your skills in the field of civil engineering will allow you to be more competitive. Continue your training and give your career a boost”*





## Specific Objectives

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- ◆ Knowledge of the infrastructure repair sector
- ◆ Know the necessary guidelines for carrying out inventories of infrastructures susceptible to repair, applying the latest technologies such as drones for the analysis of infrastructures
- ◆ Know which are the new IT tools for the decision-making process of action in some infrastructures or others
- ◆ Study the pathologies that can be found in bridges and tunnels
- ◆ Training in the monitoring of infrastructure failures. Both from the point of view of data collection in the field and from the point of view of data processing
- ◆ Know the methods for the execution of the repair work itself
- ◆ Take a tour around the equipment necessary for the development of this type of repair work

03

# Course Management

In our university we have professionals specialized in each area of study, who pour their expertise into our training courses. People of recognized prestige in their area of expertise who have joined forces to offer the best training in the market.



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

## Management



### Mr. Uriarte Alonso, Mario

- Civil Engineer from the University of Cantabria
- Professional Master's Degree in Oceanographic Engineering
- 17 years of experience in the field of construction execution, having worked as construction manager in works of highways, airports, ports, canals, railways and hydroelectric works
- In the engineering field, he is the CEO of CANDOIS INGENIEROS CONSULTORES SL, a business dedicated to the drafting of projects and construction management



### Mr. Torres Torres, Julián

- Civil Engineer, University of Granada
- Professional Master's Degree in Structures
- 14 years of experience in the field of construction execution, having worked as construction manager in road, urbanization and WWTP works
- In the engineering field, he has developed his work as an independent freelance and as technical director at CANDOIS INGENIEROS CONSULTORES SL.



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

04

# Structure and Content

The structure of the contents has been designed by the best professionals in the civil engineering sector, with extensive experience and recognized prestige in the profession, and aware of the benefits that the latest educational technology can bring to higher education.





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

## Module 1. Infrastructure Repair

- 1.1. Works Related to the Maintenance and Repair of Infrastructures
  - 1.1.1. Introduction to the State of Preservation of Infrastructures
  - 1.1.2. Importance of Infrastructure Maintenance
  - 1.1.3. And Maintenance
  - 1.1.4. Infrastructure Repair
- 1.2. Opportunities in the Bridge and Tunnel Repair Industry
  - 1.2.1. Status of the Bridge Network
  - 1.2.2. Status of the Tunnel Network
  - 1.2.3. Status of Work in this Sector
  - 1.2.4. The Future of the Infrastructure Maintenance and Repair Sector
- 1.3. Infrastructure Inventory
  - 1.3.1. Field Work
  - 1.3.2. Field Data Processor in Cabinet
  - 1.3.3. Analysis of Processed Data
  - 1.3.4. Coordination with the Customer of Priority Works
- 1.4. Bridge Pathology Analysis
  - 1.4.1. Analysis of Processed Data on Bridge Pathologies
  - 1.4.2. Types of Pathologies Detected
  - 1.4.3. Decision to Act
- 1.5. Tunnel Pathology Analysis
  - 1.5.1. Analysis of Processed Data on Tunnel Pathologies
  - 1.5.2. Types of Pathologies Detected
  - 1.5.3. Decision to Act
- 1.6. Infrastructure Monitoring
  - 1.6.1. Importance of Infrastructure Monitoring
  - 1.6.2. Infrastructure Monitoring Application Technology
  - 1.6.3. Monitoring Data Analysis
  - 1.6.4. Decision-Making for Action





- 1.7. Bridge Repair Work
  - 1.7.1. Preparation for Bridge Repair Work
  - 1.7.2. Frequent Pathologies
  - 1.7.3. Action According to the Pathology
  - 1.7.4. Documentation of the Proceedings
- 1.8. Repair Work in Tunnels
  - 1.8.1. Preparation for Tunnel Repair Work
  - 1.8.2. Frequent Pathologies
  - 1.8.3. Action According to the Pathology
  - 1.8.4. Documentation of the Proceedings
- 1.9. Equipment for Bridge Repair Work
  - 1.9.1. Personal Team in Charge of the Work
  - 1.9.2. Machinery for the Execution of Works
  - 1.9.3. New Technologies Applied to Bridge Repair
- 1.10. Equipment for Tunnel Repair Work
  - 1.10.1. Personal Team in Charge of the Work
  - 1.10.2. Machinery for the Execution of Works
  - 1.10.3. New Technologies Applied to Bridge Repair



*A comprehensive and multidisciplinary training program that will allow you to excel in your career, following the latest advances in the field of civil engineering"*

# 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.

“

*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.

## 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 Infrastructure Repair guarantees, 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 university certificate without  
travel or laborious paperwork"*

This **Postgraduate Certificate in Infrastructure Repair** 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 certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by job markets, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Infrastructure Repair**

Official N° of hours: **150 h.**



\*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.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

development languages

virtual classroom

**tech** technological  
university

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

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