Postgraduate Diploma
Construction Project Management

tech technological university

tech technological university

Postgraduate Diploma

Construction Project Management

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

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-construction-project-management**

Index

01

Introduction

Project Management is a particularly critical area for companies since the person in charge of this task must plan and safeguard the successful execution of the steps to carry out a project. When we talk about construction projects, the importance of this professional role grows, that is why in this TECH program engineers will acquire the necessary skills to lead a given project taking into account both the management of the schedule and its scope. The skills that the professional will have after completing this training will position them as a reputable professional in the sector.

Become a prestigious engineer, capable of carrying out optimal Project Management work with this Postgraduate Diploma offered by TECH"

In this Postgraduate Diploma, special emphasis will be placed on the Project Manager's management of key aspects of project development such as scope management and schedule management. The importance of controlling and managing the scope of the project in compliance with all the stages established by the main international entities recognized in project management will be analyzed.

Regarding the schedule, a precise analysis will be made of the entire process of creating and controlling the schedule, as well as its subsequent follow-up. In this sense, important terms such as baseline, critical path, acceleration plan or recovery plan will be discussed in depth.

Thus, by studying this Postgraduate Diploma, the professional will be able to control the management of the schedule in all its phases, acquiring the necessary skills to make relevant decisions for the development of the project in time and form.

In addition, we will thoroughly address the project manager's management of key aspects of project development, such as purchasing management and project resource management.

The importance of purchasing control and management will be analyzed, as well as the benefits for the project of carrying out a good purchasing cycle. On the other hand, the resources in the project will be studied, as well as the importance of optimizing them to the maximum.

Know the role of the project manager's approach in one of the key aspects to be taken into account such as cost control. Important points to be taken into account will be discussed in detail, such as: project margin, *cash flow*, earned value and earned term. We will also teach the necessary steps to carry out an adequate project cost control in order to make the project self-financing.

All this, throughout a 100% online training that provides the student with the ease of being able to take it wherever and whenever they want. You will only need a device with internet access, and you will be able to access a universe of knowledge that will be the main basis for engineers to position themselves in a sector that is increasingly demanded by companies in various sectors.

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

- Practical cases presented by experts in Civil Engineering and Geotechnics
- The graphic, schematic, and eminently 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
- 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

You will have access to not only the best didactic material, but also the best teaching staff on the international scene"

Study wherever and whenever you want, establishing your own schedule and objectives. The academic flexibility that TECH offers is unique on the market”

The skills you will acquire will enable you to manage EPC projects and position yourself as a prestigious professional"

This 100% online program will allow you to combine your studies with your professional work. You choose where and when to train.

The program’s teaching staff includes professionals from the sector who contribute their work experience to this specialization 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 engineering experts.

02

Objectives

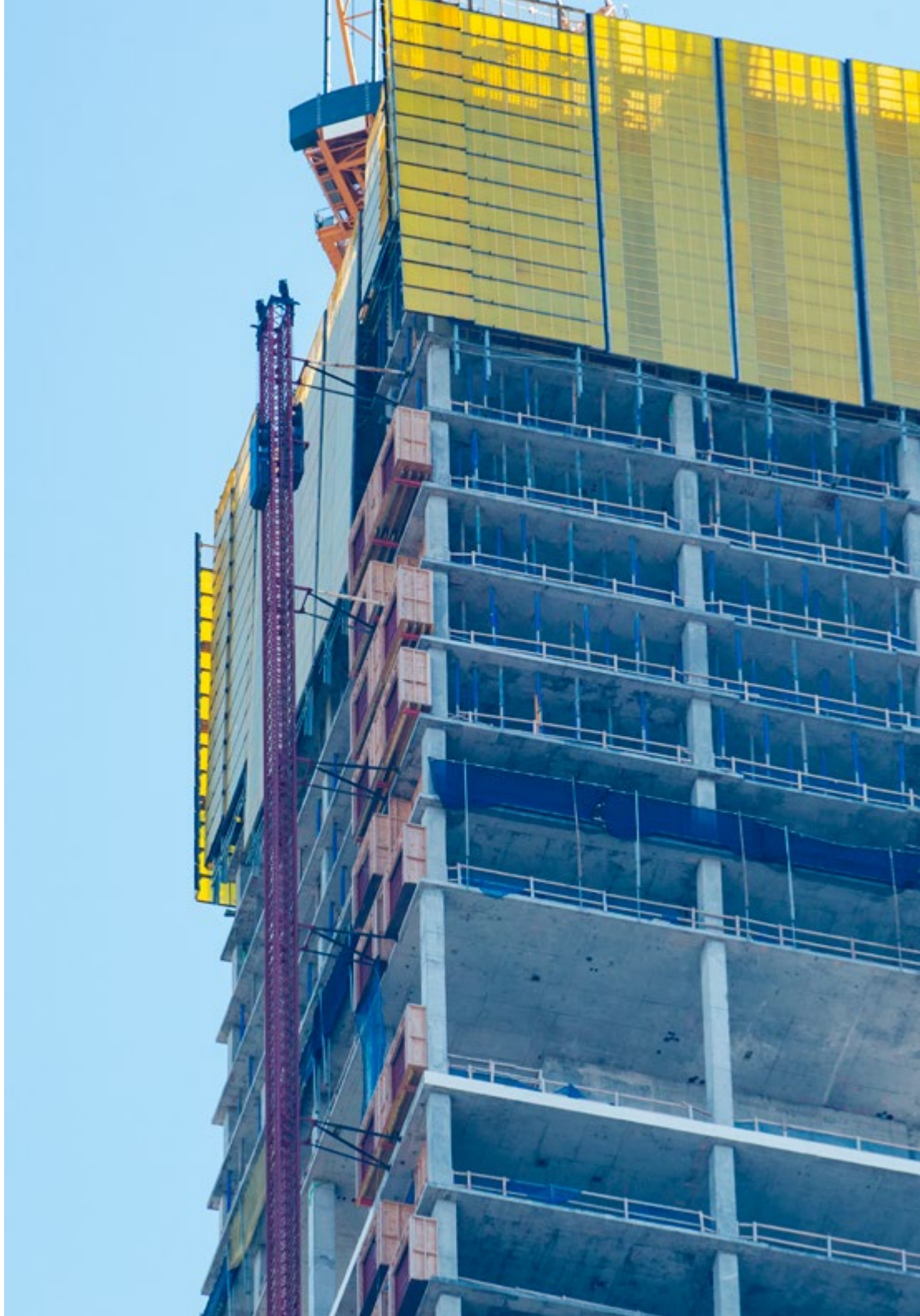
Through this training, engineering professionals will acquire the necessary knowledge to work on large construction projects, taking into consideration all the necessary aspects to perform a job efficiently and optimizing the resources. All this, with the security and efficiency of a Postgraduate Diploma created to boost professionals in the Project Management. From a global perspective, it includes everything from conceptual, basic and detailed engineering, to the final tests of the installation, training of personnel and delivery of the final result to the client.

If your objective is to position yourself as a prestigious engineer and Project Manager, then this is the program for you"

General Objectives

- Carry out an exhaustive analysis of EPC projects
- Manage the different stages of EPC projects
- Manage the contracts of large-scale projects
- Perform an in-depth breakdown of guarantees, disputes and insurance in the construction industry
- Master project management on a global basis
- Carry out cost, time and resources analysis
- Gain solid knowledge of the integration phases of a project
- Manage a project with a global, interdepartmental vision
- Be able to analyze the earned value of projects

Your goals are our goals.
If you grow, we will too"



Specific Objectives

Module 1. Project Management: Scope and Schedule Management

- Capacity to control the scope of a project
- Analysis of requirements management
- In-depth knowledge of scope management
- Ability to control the schedule
- Analysis of the schedule
- In-depth knowledge to elaborate a schedule
- Capacity to know the critical route
- In-depth knowledge and analysis of a recovery plan
- In-depth knowledge and analysis of an acceleration plan

Module 2. Project Management: Communication and Quality Management

- Ability to manage the quality of a project
- In-depth knowledge of the importance of quality
- Analysis of possible nonconformities
- Ability to control stakeholders
- Analysis of the importance of controlling stakeholders
- In-depth knowledge on integration management
- In-depth knowledge on integration control

Module 3. Project Management: Procurement and Resource Management

- Ability to manage project purchases
- Knowledge of the importance of making a good procurement cycle
- Analysis of necessary resources
- Ability to optimize resources

Module 4. Project Management: Costs Management

- Ability to manage project costs
- Analysis of the stages for cost control
- Mastery of financial terms such as *cash flow*, project margin and earned value.
- Detailed knowledge of the S curve
- Ability to create and analyze the S curve
- In-depth financial knowledge of the specific parameters of the project such as: NPV, IRR and PayBack

03

Course Management

TECH applies a criterion based on high quality in all its programs. This guarantees students that by studying here they will find the best didactic content taught by the best professionals in the sector In this sense, this Postgraduate Diploma in Construction Project Management is taught by highly prestigious professionals in this field, who bring the experience of their years of work to the training, as well as the knowledge acquired from research in the field. All to provide the engineer with a high-level program, which will enable them to practice in national and international environments with greater guarantees of success.

When you study first-hand with help from the best professionals of the sector, professional success is practically guaranteed"

Management

Mr. Ruiz Cid, Martin Joaquín

- Technical Director EPC Project Group - EPC Project Manager Leader at Soltec Energías
- Industrial Technical Engineer specializing in Mechanics/Structures from the Polytechnic University of Cartagena
- Industrial Engineer in Electricity from the Polytechnic University of Cartagena
- Master's Degree in Power Electronics and Adaptive Control
- MBA in Strategic Company Management from UNED (National Distance Learning University)
- Master's Degree in Renewable Energies and the Environment
- Professional Project Manager Course
- EPC Turnkey Project Management Course
- Industrial Instrumentation Course

04

Structure and Content

The syllabus has been built based on the intensive and high-impact specialization requirements of this Postgraduate Diploma. Through a complete course, which incorporates all the key aspects in order to carry out the successful management of construction projects, the student will develop their theoretical and practical knowledge, achieving a professional and personal growth that will allow them to intervene in this field of work with confidence. You will achieve this through top-notch content designed by the best professionals in the industry.

By studying here you will have access to the most complete and up-to-date library of contents on the market"

Module 1. Project Management: Scope and Schedule Management

1.1. Scope Control
- 1.1.1. Scope of the Project
- 1.1.2. Base Line of the Scope of the Project
- 1.1.3. The Importance of the Control Account

1.2. Requirement Management
- 1.2.1. Requirement Management
- 1.2.2. Categories
- 1.2.3. Management Process

1.3. Scope Management
- 1.3.1. Scope Management Planning
- 1.3.2. Gather Requirements
- 1.3.3. Particularities of the Scope

1.4. Study of the Scope
- 1.4.1. Creating the WBS
- 1.4.2. Validation of the Scope
- 1.4.3. Scope Control

1.5. Schedule Control
- 1.5.1. Project Schedule
- 1.5.2. Base Line of the Schedule
- 1.5.3. Analysis of the Critical Route

1.6. Creating the Schedule
- 1.6.1. Gantt Chart
- 1.6.2. Predecessor and Successor Activities
- 1.6.3. Restrictions Between Activities

1.7. Schedule Management
- 1.7.1. Planning of Schedule Management
- 1.7.2. Activities Description
- 1.7.3. Activities Sequencing

1.8. Study and Analysis of the Schedule
- 1.8.1. Estimation of the Duration of Activities
- 1.8.2. Development of the Schedule
- 1.8.3. Schedule Control

1.9. Acceleration Plan in a Construction Project
- 1.9.1. Acceleration Plan Analysis
- 1.9.2. Timeline
- 1.9.3. Resources

1.10. Recovery Plan in a Construction Project
- 1.10.1. Recovery Plan Analysis
- 1.10.2. Timeline
- 1.10.3. Resources

Module 2. Project Management: Communication and Quality Management

2.1. Communication Management
- 2.1.1. Communication in a Project
- 2.1.2. Project Communication Dimensions
- 2.1.3. Communication Skills

2.2. Communication in a Project
- 2.2.1. Communication in Meetings
- 2.2.2. Project Communication Channels
- 2.2.3. Formal Ways of Communcation

2.3. Communication Management
- 2.3.1. Planning of Communication Management
- 2.3.2. Project Communication Management
- 2.3.3. Control

2.4. Project Quality Management
- 2.4.1. Quality in the Project
- 2.4.2. Project Quality Cost
- 2.4.3. Importance of Quality

2.5. Project Quality Management

2.5.1. Planning of Quality Management
2.5.2. Quality Management
2.5.3. Control
2.6. Quality: Non-Conformities in the Project
2.6.1. The Importance of NC
2.6.2. Non-Conformities of the Client
2.6.3. Non-Conformities of the Contractor
2.7. Project Stakeholder Management
2.7.1. Stakeholder Expectation Management
2.7.2. Interpersonal and Teamwork Skills
2.7.3. Conflict Management
2.8. Project Stakeholder Analysis
2.8.1. Identifying Stakeholders
2.8.2. Engagement Planning
2.8.3. Engagement Management and Monitoring
2.9. Project Integration Management
2.9.1. Development of the Project Charter
2.9.2. Development of the Project Management Plan
2.9.3. Management and Administration of Project Work
2.10. Project Integration Control
2.10.1. Project Knowledge Management
2.10.2. Work Control
2.10.3. Integrated Change Control and Project Closure

Module 3. Project Management: Procurement and Resource Management

3.1. Control of Purchases
3.1.1. Purchases in the Project
3.1.2. The Buyer
3.1.3. The Provider
3.2. Procurement Cycle in Projects
3.2.1. Analysis of the Procurement Cycle
3.2.2. Description of Stages
3.2.3. Study of Stages
3.3. Purchasing Contract
3.3.1. Elements of the Contract
3.3.2. Contractual Terminology in the Contract
3.3.3. Control of Claims and Litigation
3.4. Procurement Management in Projects
3.4.1. Types of Providers
3.4.2. Category of Acquisitions
3.4.3. Types of Contracts
3.5. Procurement Analysis in Projects
3.5.1. Planning of Procurement Management
3.5.2. Implementation of Purchases
3.5.3. Control of Purchases
3.6. Resource Management
3.6.1. Project Resources
3.6.2. Conflict Management Capacity
3.6.3. Levels of Conflict and Resolution
3.7. Management of Resources by Objectives
3.7.1. Management by Objectives (MBO)
3.7.2. Different Roles in the Projects
3.7.3. Types of Leadership

3.8. Project Resource Management
- 3.8.1. Planning of Resource Management
- 3.8.2. Estimation of the Resources of Activities
- 3.8.3. Procurement of Necessary Resources

3.9. Analysis of Project Resources
- 3.9.1. Development of Resources Team
- 3.9.2. Team Management
- 3.9.3. Team Control

3.10. Analysis of the Resource Interview Process from the PM
- 3.10.1. Interview Process
- 3.10.2. Analysis by the Project Manager
- 3.10.3. Factors to Consider for a Successful Result

Module 4. Project Management: Costs Management

4.1. Cost Control: Project Margin
- 4.1.1. Project Costs
- 4.1.2. Calculation of the Initial Margin
- 4.1.3. Financial Control

4.2. Cost Control: *Cash Flow*
- 4.2.1. Analysis of the Project's *Cash-Flow*
- 4.2.2. Creation
- 4.2.3. Factors

4.3. Estimation of Costs
- 4.3.1. Techniques for the Estimation of Costs
- 4.3.2. Factors in Favor of and Against the Estimation of Costs
- 4.3.3. Aspects to Consider in the Estimation of Costs

4.4. Control and Management of Earned Value in Projects
- 4.4.1. Fundamentals of Earned Value
- 4.4.2. Processes
- 4.4.3. Control and its Importance in a Project

4.5. Control and Management of Earned Time in Projects
- 4.5.1. Fundamentals of Earned Time
- 4.5.2. Processes
- 4.5.3. Control and its Importance in a Project

4.6. Project Cost Management
- 4.6.1. Plan
- 4.6.2. Estimation of Costs
- 4.6.3. Budget Determination

4.7. Project Cost Analysis
- 4.7.1. Cost Control
- 4.7.2. Production Control
- 4.7.3. Cost Analysis vs. Production

4.8. Project S Curve Management
- 4.8.1. Fundamentals of the S Curve
- 4.8.2. Management Process
- 4.8.3. Importance of the S Curve

4.9. S Curve Control and Creation in a Project
- 4.9.1. Creation
- 4.9.2. Monitoring
- 4.9.3. Control and Deviations

4.10. Financial Study of a Project
- 4.10.1. NPV- Net Present Value
- 4.10.2. IRR - Internal Rate of Return
- 4.10.3. *PayBack*- Recovery Period

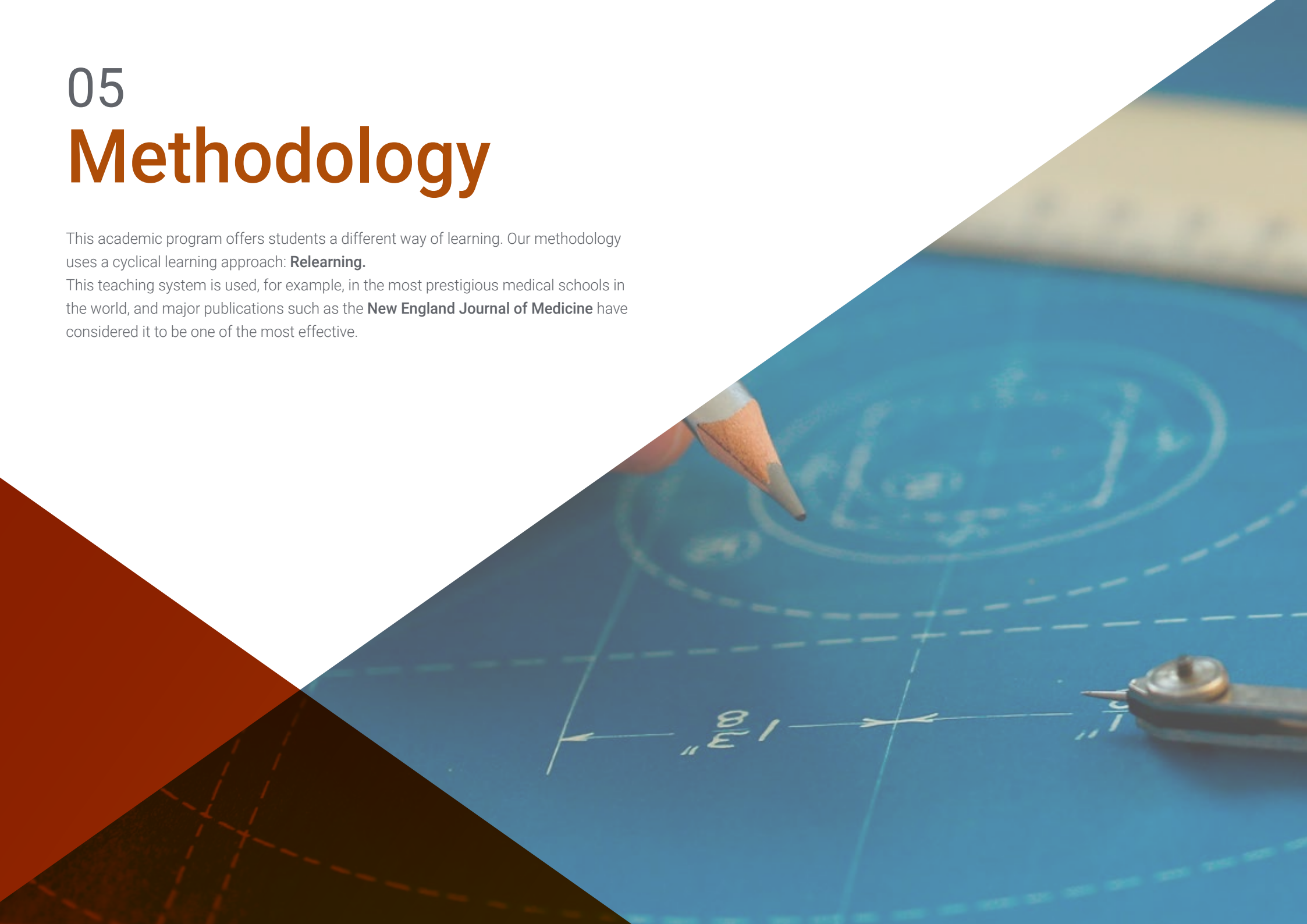
Become a successful Project Manager in construction today with this complete Postgraduate Diploma"

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

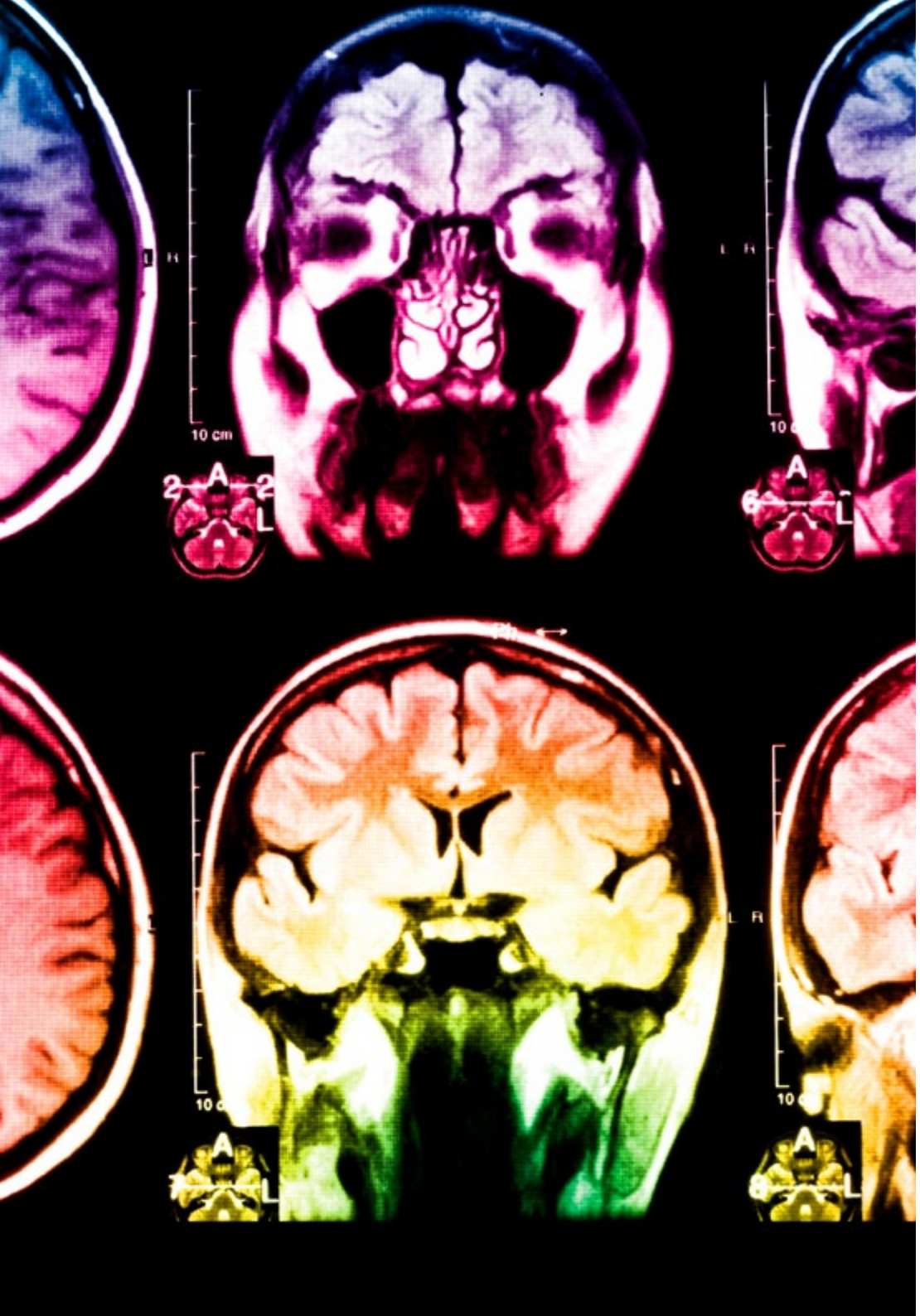
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

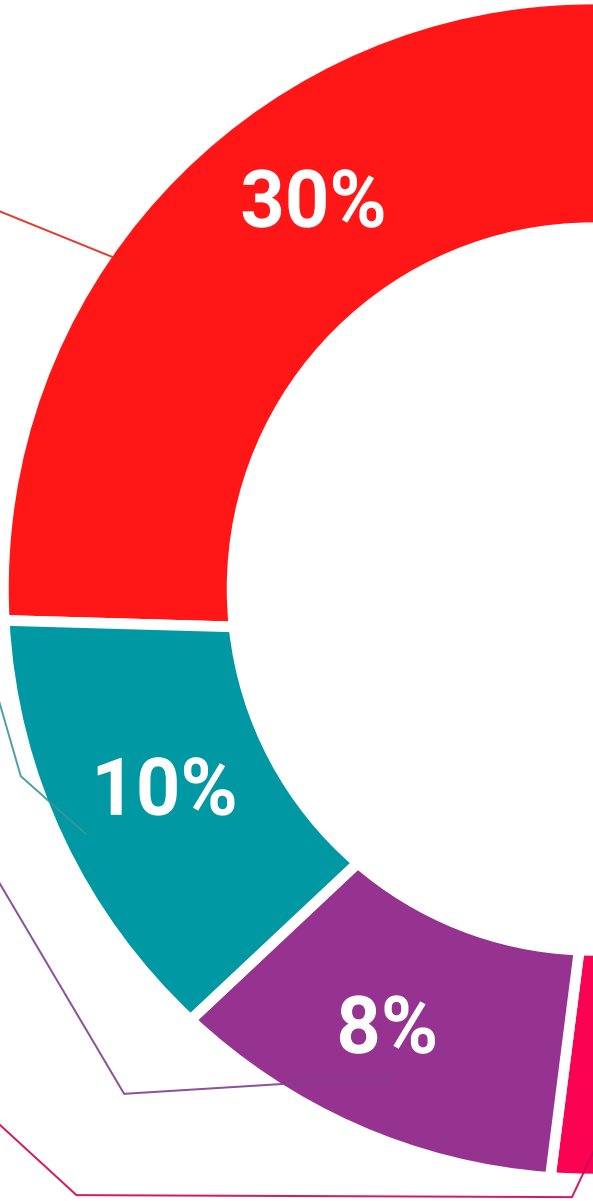
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

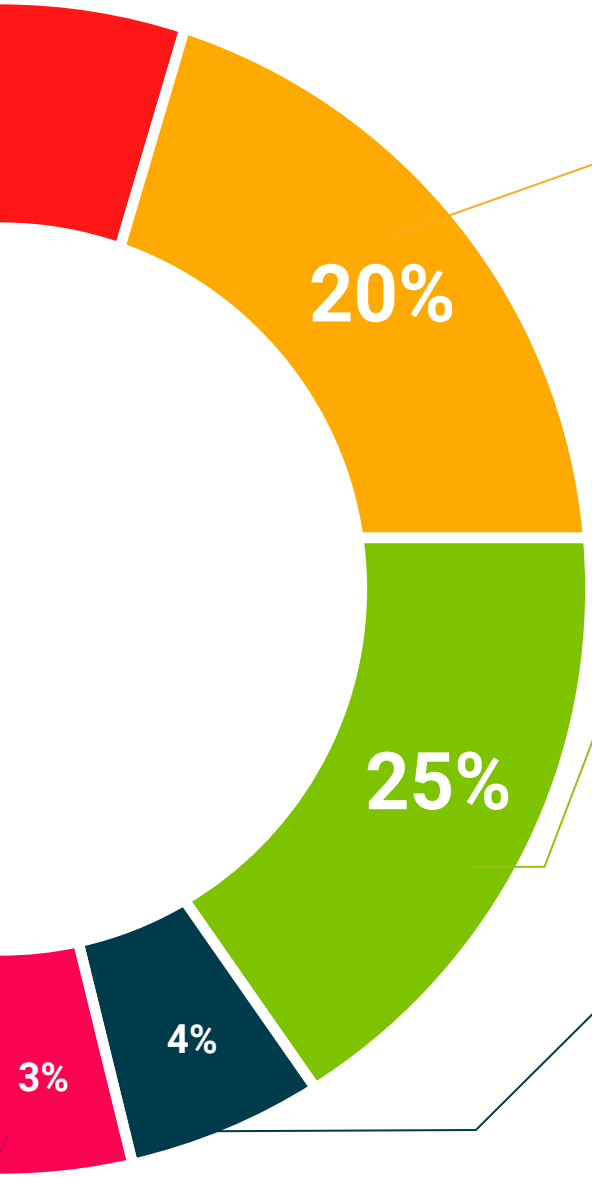
Practising Skills and Abilities

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

This Postgraduate Diploma in Construction Project Management guarantees you, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma issued by TECH Technological University.

Successfully complete this training program and receive your university certificate without travel or laborious paperwork"

This **Postgraduate Diploma in Construction Project Management** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Diploma in Construction Project Management**

Official Nº of Hours: **600 h.**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Construction Project Management

This is a qualification awarded by this University, equivalent to 600 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

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


tech technological university
Postgraduate Diploma
Construction Project Management
» Modality: online
» Duration: 6 months
» Certificate: TECH Technological University
» Dedication: 16h/week
» Schedule: at your own pace
» Exams: online

Postgraduate Diploma
Construction Project Management

tech technological university