

# Postgraduate Diploma Information Technology Management





## Postgraduate Diploma Information Technology Management

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

Website: [www.techtute.com/us/information-technology/postgraduate-diploma/postgraduate-diploma-information-technology-management](http://www.techtute.com/us/information-technology/postgraduate-diploma/postgraduate-diploma-information-technology-management)

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# 01

# Introduction

Companies are increasingly demanding professional profiles capable of coordinating IT projects. People who can generate a positive impact on digital transformation and customer management processes. This degree therefore offers the opportunity to become an IT expert with high project management skills. In addition, it emphasizes a very important element; the alignment of the IT strategy with the business strategy. To complement the syllabus, we also go deeper into distributed systems, which play a fundamental role in the implementation of digital platforms that support complex scenarios.





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*We live in the age of digital transformation.  
Becoming an IT expert will ensure your  
professional success”*

The degree of University Expert in Information Technology Management has a totally practical approach. Real projects and success stories will be analyzed, addressing processes, methodologies, stages, mechanisms, etc., as well as projects that did not end successfully in order to avoid the same mistakes.

A specific module will be reserved for IT Governance. Consisting of providing the company with a framework that ensures the return on IT investments. The ability to demonstrate and audit this return will facilitate the support of the company's governing bodies. The study of different Frameworks such as ITIL or COBIT has also been contemplated.

In the field of distributed systems, their characteristics, advantages, disadvantages, typologies, architecture, etc. will be defined. The objective is to understand the mechanisms that give this technology a greater capacity and speed of computation and storage. This section includes the use of Blockchain Technology as a distributed system.

100% of this degree is offered online, accessible from any internet-enabled device. In addition, the entire syllabus will be available from the first day, with no timetable of any kind. In this way, the student will be able to work according to his or her own schedule and to reconcile his or her personal and professional life.

This **Postgraduate Diploma in Information Technology Management** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ◆ The development of case studies presented by experts in Information Technology
- ◆ 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 the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Access to content from any fixed or portable device with an Internet connection

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*Blockchain technology is reaching high levels of popularity. In TECH we explain all its features”*

“

*Working correctly with distributed systems will give you the computing and storage capacity and speed your business needs”*

*Our program analyzes real success stories to give you first-hand knowledge of the elements that make an IT project successful.*

*We will provide you with the most innovative IT governance frameworks to keep you up to date with industry developments.*

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



# 02

# Objectives

The learning obtained by the student is mainly focused on IT project management. Analyzing the different methodologies, applying the appropriate software tools, identifying risks and mitigating their impact. In addition, the most common Frameworks in the field of IT governance will be studied. On the other hand, TECH is also committed to training in the field of distributed systems. Emphasizing the importance of modernizing their vision and move towards models that improve the user experience.





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*At TECH you will work with up-to-date frameworks to become a professional on top of market trends"*



## General Objectives

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- ◆ Generate specialized knowledge about an IT project, its life cycle and management methods
- ◆ Examine the project requirements and develop your business case
- ◆ Evaluate the different methodologies for managing an IT project by applying the most appropriate tools and techniques
- ◆ Identify project risks, mitigating their impact and managing communication during the monitoring and control of the project
- ◆ Apply the Softwaretools available on the market
- ◆ Present a holistic view of distributed systems
- ◆ Consolidate the knowledge of distributed systems with an up-to-date vision of these systems in view of their evolution in recent years
- ◆ Modernize the vision of distributed systems on aspects and fundamentals that are current in the market
- ◆ Examine the importance of moving towards distributed systems models for improved user experience
- ◆ Determine the functions of IT Governance and IT Management, identifying their differences
- ◆ Develop the main elements of IT Governance
- ◆ Analyze the most common Frameworks
- ◆ Present the Common IT Management Processes





## Specific Objectives

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### Module 1. IT Project Management and Administration

- ◆ Evaluating the difference between IT Projects and IT Processes
- ◆ Identify the success criteria of an IT project
- ◆ Analyze project scope and requirements to evaluate and defend your business case
- ◆ Identify the most appropriate management methodology for the project
- ◆ Apply the techniques and tools specific to the selected methodology
- ◆ Manage the phases of the Project, implementing the necessary monitoring and control mechanisms
- ◆ Apply effective communication techniques with partners and stakeholders involved in the project
- ◆ Present, evaluate and discuss real cases, preparing the report of lessons learned

### Module 2. Design and Management of Distributed Systems and Networks

- ◆ Determine the characteristics and advantages of digital solutions based on Distributed Systems
- ◆ Analyze the main types of Distributed Systems, their advantages, their main differences and their operation
- ◆ Develop the different types of architectures that make up the good design of a Distributed System for its correct implementation
- ◆ Examine the main components that make up and operate a Distributed System infrastructure

- ◆ Establish the types, characteristics and advantages of going to a Cloud First model as reference platforms for a Distributed System
- ◆ Learn in depth about the key aspects of a client-server model, the basis of communications for Distributed Systems
- ◆ Generate specialized knowledge on the main integration architectures, based on distributed systems models that are currently being implemented by important customers in different sectors
- ◆ Analyze Blockchain technology as the main disruptive exponent of a Distributed System today

### Module 3. ICT Governance and Management

- ◆ Establish the importance of IT Governance and Management functions
- ◆ Identify the different reference models and standards
- ◆ Develop the elements of IT Governance
- ◆ Propose actions for the implementation of an IT Government
- ◆ Analyze COBIT and ITIL Frameworks
- ◆ Identify the functions of IT Management
- ◆ Examine how new Cloud Computing and AI technologies are integrated into IT Governance

# 03

# Course Management

The TECH faculty has developed an extensive syllabus on information technologies and distributed systems. A comprehensive analysis of IT management, direction and governance; along with a review of distributed systems typologies, architectures, infrastructures and other related concepts. To this end, the student will be supported at all times by professionals in the sector who will answer any questions that may arise.





“

*Our teachers have extensive training and experience in the field of IT, distributed systems and blockchain technology”*

## Management



### Mr. Olalla Bonal, Martín

- ♦ Technical sales blockchain specialist en IBM
- ♦ Hyperledger and Ethereum blockchain architecture manager at Blocknitive
- ♦ Director of the blockchain area at PSS Tecnologías de la Información.
- ♦ Chief Information Officer en ePETID – Global Animal Health
- ♦ IT infrastructure architect at Bankia - wdIT (IBM - Bankia Join Venture)
- ♦ Project director and manager at Daynet servicios integrales
- ♦ Director of Technology at Wiron Modular Constructions
- ♦ Head of IT department at Dayfisa
- ♦ IT Department Manager at Dell Computer, Majsja and Hippo Viajes
- ♦ Electronic technician at IPFP Juan de la Cierva

## Professors

### Mr. Castro Robredo, Alejandro Enrique

- ◆ Head of the Digital Architecture Department at KPMG
- ◆ Head of the Innovation Lab in Digital Architecture at Everis
- ◆ Technical Manager in the Technology Unit of the Digital Architecture team at Everis
- ◆ Technical Business Manager en Ganetec
- ◆ Business Manager and Pre-Sales Manager at TCP Systems and Engineering
- ◆ Team Leader at Capgemini
- ◆ Degree in Technical Engineering in Computer Management from the University of Las Palmas de Gran Canaria

### Mr. Gómez Rodríguez, Antonio

- ◆ Cloud Solutions Engineer at Oracle
- ◆ Project Manager at Sopra Group
- ◆ Project Manager at Everis
- ◆ Project Manager at Empresa pública de Gestion de Programas Culturales  
Department of Culture of Andalusia
- ◆ Information Systems Analyst. Sopra Group
- ◆ Degree in Telecommunications Engineering from the Polytechnic University of Catalonia
- ◆ Postgraduate Degree in Information Technologies and Systems, Catalan Institute of Technology
- ◆ E-Business Master's Degree, La Salle Business School

### Dr. Goncalves Da Silva, Marlene

- ◆ Analyst Programmer at Megasoft
- ◆ Researcher at the Polytechnic University of Madrid
- ◆ Consultant in MEG Data Intelligence
- ◆ Doctor in Computing from the University Simón Bolívar
- ◆ Degree in Computing from the Central University of Venezuela
- ◆ Master's Degree in Computer Science from Universidad Simón Bolívar

# 04

# Structure and Content

The content of this degree covers everything related to information technologies and distributed systems. Three modules have been arranged for this purpose. The first deals with IT from a project point of view: management, governance, requirements, business cases, risks, monitoring, offices and Software Tools. In addition, it analyzes some management models such as Agile, Lean IT or Kanban. The second module covers distributed systems, their types, architecture, infrastructure, etc. Two topics have also been dedicated to Blockchain technology. Finally, the third module introduces the field of IT from a governance and management point of view. Analyzing terms such as the ITIL v4 framework or COBIT.





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*At TECH, we teach you everything related to information technology so that you can become an expert in the sector"*

## Module 1. IT Project Management and Administration

- 1.1. IT Project Management and Administration
  - 1.1.1. IT Project
  - 1.1.2. Project and Processes. Differences
  - 1.1.3. IT Projects Success Criteria
  - 1.1.4. Life Cycle of an IT Project
  - 1.1.5. IT Project Management and Administration Application
- 1.2. IT Project Requirements Management
  - 1.2.1. Requirements Management of a Project
  - 1.2.2. Requirements Management and Traceability
  - 1.2.3. Tools of Requirements Management
  - 1.2.4. IT Project Requirements Management. Application
- 1.3. Business Case Study of an IT Project
  - 1.3.1. Business Case Study of an IT Project
  - 1.3.2. Building the Business Case Study for the Project
  - 1.3.3. Project Success Criteria
  - 1.3.4. Financial Analysis and Monitoring of the Business Case Throughout the Life of the Project
  - 1.3.5. Business Case Study of an IT Project. Application
- 1.4. Classic IT Project Management and Direction
  - 1.4.1. Waterfall Project Management
  - 1.4.2. Tools of the Classical Management Methodology
  - 1.4.3. Phases of Classic Project Management: Initiation, Planning, Execution, Follow-up and Closure
  - 1.4.4. Classic IT Project Management and Administration Application
- 1.5. Agile Project Management and Administration
  - 1.5.1. Agile Project Management: Roles and Artifacts
  - 1.5.2. Scrum Planning
  - 1.5.3. Agile Estimates
  - 1.5.4. Sprints Planning and Execution
  - 1.5.5. Effective use of Scrum Application
  - 1.5.6. Agile Project Management and Administration. Application
- 1.6. Lean IT and Kanban Project Management and Leadership
  - 1.6.1. Lean IT and Kanban. Application
  - 1.6.2. Lean IT and Kanban. Advantages and Disadvantages
  - 1.6.3. Control Panels. Use
  - 1.6.4. Lean IT and Kanban Project Management and Leadership. Application
- 1.7. Risks in IT Project Management and Administration
  - 1.7.1. Risk Types of Risk: Probability
  - 1.7.2. Risk Mitigation. Common IT Techniques
  - 1.7.3. Risk Management and Risk Communication
  - 1.7.4. Risks in the Management and Direction of IT Projects. Application
- 1.8. IT Project Monitoring and Control
  - 1.8.1. Monitoring of Project Progress
  - 1.8.2. Project Cost Control
  - 1.8.3. Project Change Management
  - 1.8.4. Project Communications Management. Application
  - 1.8.5. Reporting and Tracking Metrics
  - 1.8.6. IT Project Monitoring and Control. Application
- 1.9. IT Project Office
  - 1.9.1. Projects, Project Portfolio and Programs
  - 1.9.2. Types of Project Offices: Functions
  - 1.9.3. Project Office Management Processes
  - 1.9.4. Management of a Project Office. Application
- 1.10. Software Tools for IT projects
  - 1.10.1. Requirements Management
  - 1.10.2. Configuration Management
  - 1.10.3. Planning and Monitoring Projects
  - 1.10.4. Change Management
  - 1.10.5. Cost Management
  - 1.10.6. Risk Management
  - 1.10.7. Communication Management
  - 1.10.8. Closure Management
  - 1.10.9. Examples of Tools. Templates

## Module 2. Design and management of distributed systems and networks

- 2.1. Distributed Systems
  - 2.1.1. Distributed Systems
  - 2.1.2. Distributed Systems Features
  - 2.1.3. Distributed Systems Advantages
- 2.2. Types of Distributed Systems
  - 2.2.1. Cluster
  - 2.2.2. Grid
  - 2.2.3. Cloud
- 2.3. Distributed System Architecture
  - 2.3.1. Functional Architecture (Business)
  - 2.3.2. Application Architecture
  - 2.3.3. Management Architecture (Government)
  - 2.3.4. Technological Architecture
- 2.4. Infrastructure in a Distributed System
  - 2.4.1. Hardware
  - 2.4.2. Communication
  - 2.4.3. Software
  - 2.4.4. Security/Safety
- 2.5. Cloud Computing in Distributed Systems
  - 2.5.1. Cloud Computing
  - 2.5.2. Systems Cloud Computing. Types
  - 2.5.3. Systems Cloud Computing. Advantages
- 2.6. Client-Server Communications
  - 2.6.1. Transmission Types
  - 2.6.2. Communication Models
  - 2.6.3. Event-Driven Communication
- 2.7. Integration Architectures
  - 2.7.1. APIs
  - 2.7.2. Microservice Architectures
  - 2.7.3. Event-Driven Architectures
  - 2.7.4. Reactive Architectures

- 2.8. Distributed Registration Technologies
  - 2.8.1. Distributed Registration Technologies
  - 2.8.2. Distributed Registration Technologies. Typology
  - 2.8.3. Distributed Registration Technologies. Advantages
- 2.9. Blockchain as a Distributed System
  - 2.9.1. Blockchain as a Distributed System
  - 2.9.2. Blockchain Networks Typology
  - 2.9.3. Tokens in Blockchain Networks. Typology
  - 2.9.4. Blockchain Technology
  - 2.9.5. Use Case
- 2.10. Blockchain. Decentralized Paradigm in Blockchain.
  - 2.10.1. Consensus Systems
  - 2.10.2. Mining
  - 2.10.3. Hashing
  - 2.10.4. Security/Safety

## Module 3. ICT Governance and Management

- 3.1. IT Governance and Management
  - 3.1.1. IT Governance and Management
  - 3.1.2. Advanced IT Governance
  - 3.1.3. IT Governance: Security and Risk
- 3.2. Reference Sources for IT Governance
  - 3.2.1. Frameworks and Models
  - 3.2.2. IT Governance Standards
  - 3.2.3. IT Governance Quality Systems
- 3.3. Government IT Structures and Management
  - 3.3.1. Role of IT Governance
  - 3.3.2. IT Governance Structures
  - 3.3.3. Implementation of IT Governance
- 3.4. Key Elements in IT Governance

- 3.4.1. Business Architecture
- 3.4.2. Data Governance
- 3.4.3. Relationship of IT Governance and AI
- 3.5. COBIT. Control Objectives for Information and Related Technologies
  - 3.5.1. COBIT. Control Objectives
  - 3.5.2. COBIT Framework
  - 3.5.3. Areas, Domains and Processes
- 3.6. ITIL v4 Framework
  - 3.6.1. ITIL v4 Framework
  - 3.6.2. Service Value System
  - 3.6.3. Dimensions and Principles
- 3.7. IT Governance Performance Measurement
  - 3.7.1. IT Governance Monitoring and Control Principles
  - 3.7.2. IT Governance Control Metrics
  - 3.7.3. Integral Control Panel
- 3.8. IT Management
  - 3.8.1. IT Management
  - 3.8.2. IT Service Provider Procurement and Management
  - 3.8.3. IT Performance Monitoring
  - 3.8.4. IT Quality Assurance
- 3.9. Acquisition and Development of Information Systems
  - 3.9.1. Project Management Structure
  - 3.9.2. System Development Methodologies
  - 3.9.3. Implementation and Operation of Information Systems
- 3.10. IT Governance and Management and Cloud Computing
  - 3.10.1. IT Governance and Management in Cloud Computing Environments
  - 3.10.2. Shared Security Management Model
  - 3.10.3. Enterprise Cloud Architectures





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*A program that covers everything you need to know to apply IT to your business in the right way"*

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.





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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"*

## 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.

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*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 Information Technology 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 has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. 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 course, students 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

Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching 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.



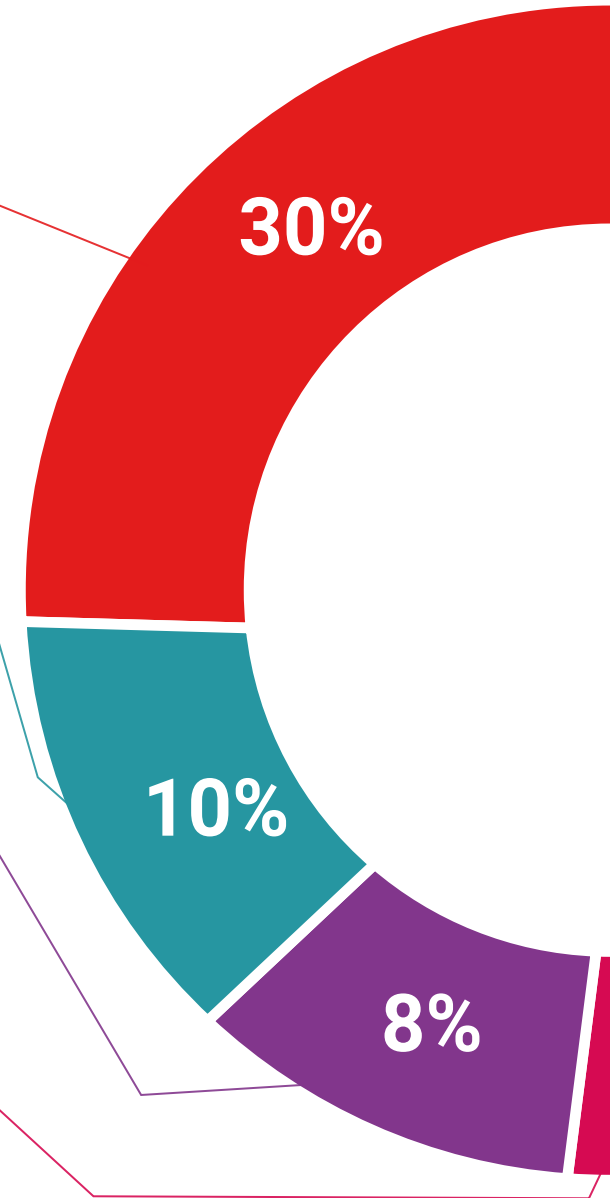
### Practising Skills and Abilities

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 Diploma in Information Technology Management guarantees, 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 Information Technology Management** contains the most complete and up-to-date scientific 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 from career evaluation committees.

Title: **Postgraduate Diploma in Information Technology Management**

Official N° of Hours: **450 hours**.



\*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



## Postgraduate Diploma Information Technology Management

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

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