Postgraduate Diploma

Cloud Projects Architecture and Management

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Postgraduate Diploma
Cloud Projects Architecture and Management

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

Website: **www.techtitute.com/in/information-technology/postgraduate-diploma/postgraduate-diploma-cloud-projects-architecture-management**

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01
Introduction

Cloud programming continuously transforms the way businesses operate. In turn, this has accelerated innovations in the technology world, providing flexibility, efficiency and global access to IT resources. Keeping up to date with these advances is a challenge for computer scientists, who need to apply the most disruptive tools in the sector if they want to generate competitive web projects in line with user demands. At this juncture, TECH has developed this program where students will address the latest systems, architecture, and services that facilitate the design and management of cloud applications. All this from an interactive platform and a 100% online learning methodology that will allow content analysis at any time or place in the world.

This Postgraduate Diploma has updated theoretical and practical materials that will make you a true specialist in Serverless Computing and its implications for web programming in the Cloud"

In a very short time, the management and development of web projects in the Cloud has experienced an unprecedented evolution. For example, container technologies, such as Docker, and orchestration with tools such as Kubernetes, enabled deployment and scalability in different applications In addition, serverless services, such as AWS Lambda and Azure Functions, simplified scheduling by eliminating infrastructure concerns. On the other hand, integration with systems based on Artificial Intelligence and Machine Learning promoted greater accessibility.

Being up-to-date on all these advances can be a challenge for computer scientists, especially in a context where updated skills are required and based on the latest scientific and practical evidence. For this reason, TECH has created this 100% online syllabus. The Postgraduate Certificate has an intensive agenda that addresses, among other aspects, the potential of Edge Computing for data processing and the reduction of latency.

It also analyzes the latest mechanisms to ensure the security of cloud products through modern methods of identifying and detecting threats. In turn, the program delves into the databases in the Cloud and the work guarantees offered by Serverless Computing.

The program has the avant-garde and exclusive Relearning methodology so that students can assimilate complex concepts and competences in a fast and flexible way. At the same time, its contents are not subject to rigid schedules or continuous evaluation schedules. In this way, each graduate has the opportunity to personalize study time in accordance with their personal or professional obligations. This way, you will not have to abandon other academic programs or your current work, also avoiding unnecessary displacement. In short, all content will be accessible from any portable device 24 hours a day, 7 days a week.

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

- The development of practical cases presented by experts in Computers, Software and Systems
- The graphic, schematic and practical contents of the book provide theoretical and practical information on those disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its 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

Sign up for this course where you'll analyze service architectures and real web applications as a reference"

An intensive and exclusive program where you can examine the DevOps work model and its implications.

You will delve into the design of web architectures following good practices throughout this program with 6 months of duration.

"*This title allows you to view its contents remotely or download them to analyze them offline*"

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 education programmed to learn 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

Thanks to this Postgraduate Diploma, TECH graduates will develop in-depth and up-to-date knowledge of advanced web application architectures. At the same time, they will master key management and deployment strategies in cloud environments. This way, through three comprehensive modules, professionals will acquire essential skills to design and manage computer projects efficiently. All this, by applying the most advanced concepts and demanded by customers and the business context.
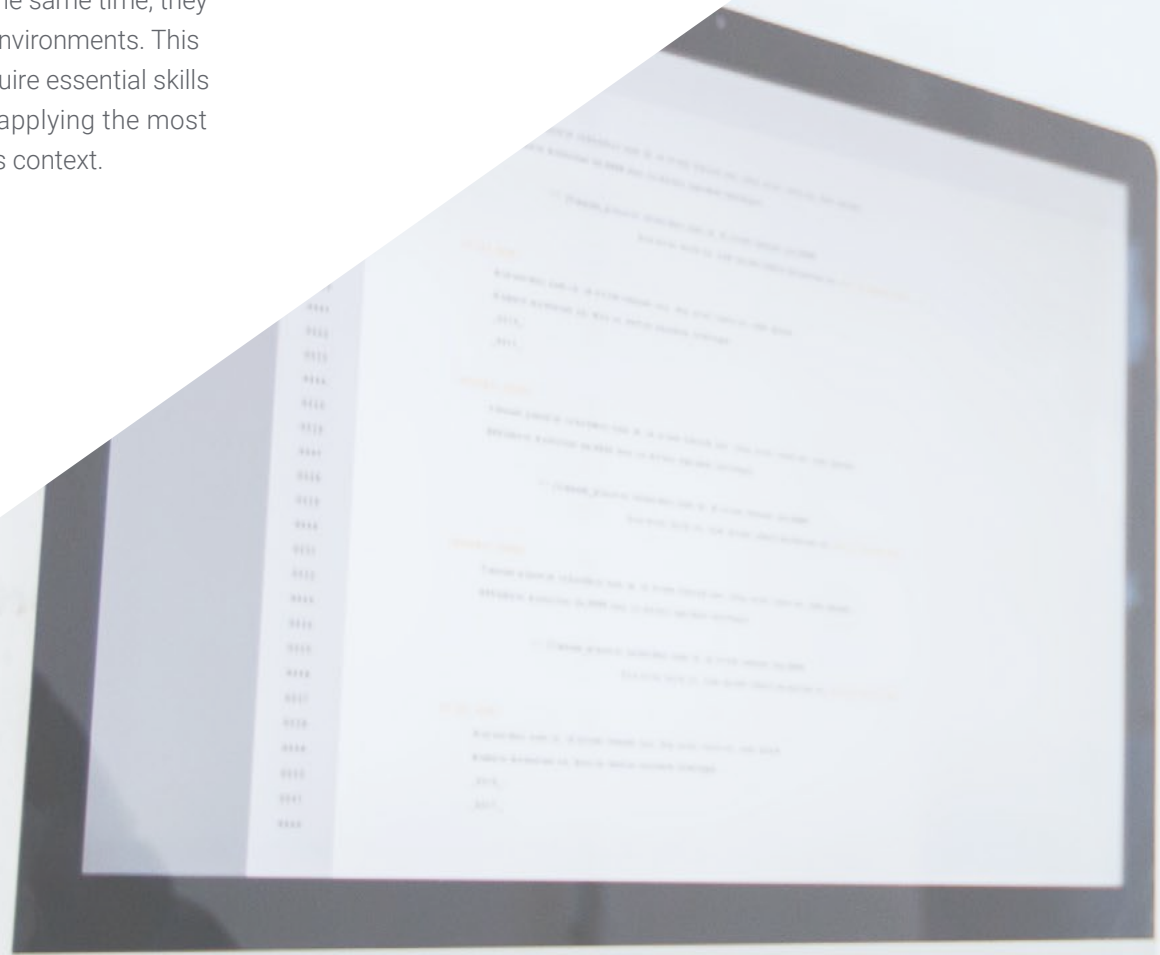
Cloud security and its operation are essential contents within this 100% online program"

General Objectives

- Generate specialized knowledge of Advanced Web architectures

- Address the development of the back-end part of the web application, reviewing available technologies, integration mechanisms such as APIs, message and event queues, and deployment and optimization processes

- Develop the necessary steps for the creation of the front-end of the web application, taking into account both programming aspects and accessibility requirements, multi-language and cross-platform support

- Create personalized experiences, monitor and monetize the use of the web

- Consolidate good practices in application design and development with project management that supports continuous iteration, integration and deployment

- To analyze the aspects related to the security of web applications in depth, with special focus on the most common attacks and the corresponding prevention, detection, and mitigation mechanisms

- Review safety recommendations and regulations

- Addressing security as one of the pillars of advanced web architectures

- Establish cloud computing as a booming alternative for web application development and deployment

- Review key features and suppliers, planning migration scenarios and incorporating new roles and processes in project management
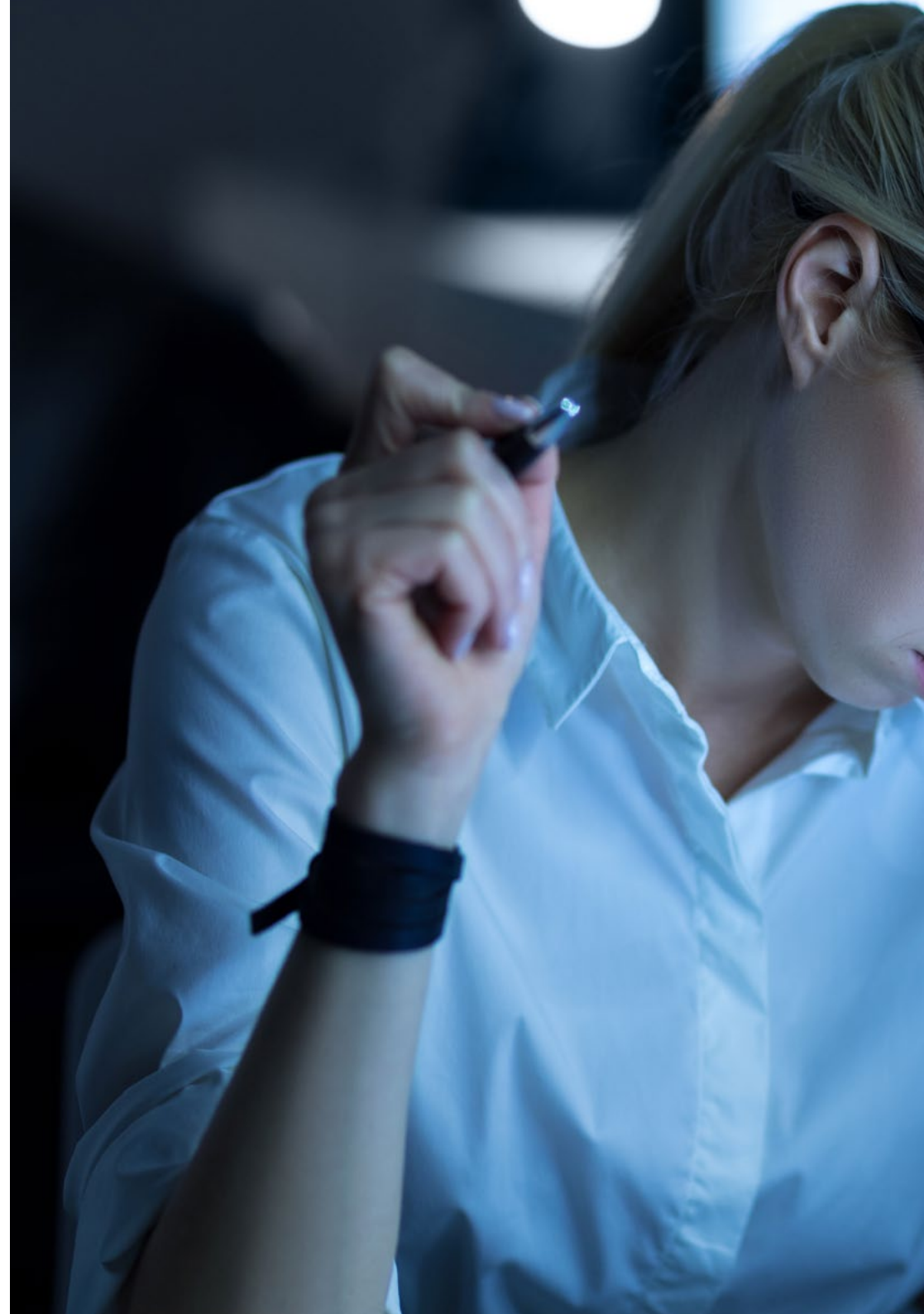
Specific Objectives

Module 1. Advanced Web Architecture

- Determine components and layers of web architectures
- Identify the main web communication protocols
- Examine the different types and patterns of web architectures
- Delve into the design of web architectures following good practices
- Assimilate the processes of continuous improvement and evolution of web architectures
- Analyze real web application and service architectures for reference

Module 2. Management and Organization of Web Projects

- Analyze the web application development process and its methodologies
- Examine the DevOps working model and its implications
- Develop mechanisms and solutions for code version control
- Formalize the process of integration and continuous deployment of applications
- Establish the tasks of quality control and maintenance of the application
- Delve into the cost management and releases in the web project

Module 3. Cloud web applications and services

- Analyze use cases and cloud computing options
- Develop the common serverless computing model in this type of deployments
- Browse and compare top cloud service providers
- Determine strategies and recommendations for migrating to the Cloud
- Identify and apply cost optimization mechanisms in the Cloud
- Incorporating Cloud Work into Team and Enterprise

03
Course Management

The teachers who teach this Postgraduate Diploma have been carefully chosen by TECH. The experts who have remained in the teaching staff stand out for their vast theoretical-practical experience and for their mastery of the characteristics of architecture and programming in the Cloud. These specialists actively collaborate with projects of various complexity that correspond to the management of advanced development tools. In addition, all of them have collaborated in shaping the study materials that will be integrated into the degree.

" The teachers of this program have actively participated in the elaboration of explanatory videos to give you the most rigorous update"

Management

Dr. Pantaleón García del Valle, Eduardo

- Solutions Architect at Amazon Web Services (AWS)
- Solutions Architect at Liferay, Inc
- Technical Manager at Jungheinrich AG
- Senior Software Engineer and Team Manager at Liferay
- Project Manager at Telefónica
- Organization and delivery of technical webinars online within the AWS Customer Proficiency Plan program
- Member of the Mentoring Alumni program of the Carlos III University of Madrid, for professional advice to students and recent graduates
- Degree in Telecommunications Engineering from the Carlos III University of Madrid
- PhD in Computers, Software and Systems from the Polytechnic University of Madrid
- Master's Degree in Computer System and Administration from the National University of Distance Education- UNED
- Executive Data Science Specialization by Johns Hopkins University

Professors

Ms. Portalatín Romero, Isabel

- IT Engineer
- Responsible for offers in the area of Informatics to different Public and Private Organizations
- Online teacher in different Professional Training programs
- Technical Engineering in Computer Management by the School University of Extremadura Polytechnic of Informatics

D. López Mendoza, Marvin Roberto

- Computers Systems Engineer
- Senior Agile Coach, Manager Projects and Agile Chapter Lead at Cognizant
- Senior IT Consultant, Scrum Master, Tech Evangelist in Minsait
- QA Lead, Senior Team Lead and Scrum Master in Control Risks
- Senior QA Engineer at Smartmatic
- Head of IT Projects at Blom Geospatial Systems
- Computer Systems Engineer from the Technological University of Panama
- Master in Agile Product, Business, and Technology Management from IEBS
- Master in Formulation and Evaluation of Investment Projects at the Latin University of Panama

Ms. Cupas Pitti, Carol Sugeili

- Project Coordinator at Cognizant
- Technology Articles Writer at OpenWebinars
- Data Analyst (intern) at NVIA
- Project Manager eDiscovery at Risk Control
- Associate Director of Operations at Risk Control
- QA Manager at Risk Control
- Business Intelligence Architect at BICSA
- Senior Systems Analyst at HSBC
- Support Analyst at Ultimus
- Computer Engineer at Panamerican Semiconductors Inc
- Degree in Computer Systems Engineering from the Technological University of Panama
- Postgraduate Degree in Senior Management at the Latin University of Panama
- Master's Degree in Business Administration with emphasis in Business Management from Latin University of Panama
- Master in Big Data and Business Intelligence from Next International Business School

04
Structure and Content

Throughout this program, students will analyze the leading cloud service platform providers, such as AWS, Microsoft Azure and Google Cloud Platform. At the same time, they will examine the main strategies for migrating application programming to these virtual environments. Another aspect of great relevance within the agenda is the approach to Serveless Computing, given its potential to execute code in response to events without the need to manage the underlying infrastructure. 100% online and with the support of the disruptive Relearning methodology, the graduates of this program will have optimized skills for their daily practice.

"

Do you need to update your skills without neglecting other personal and professional obligations? TECH guarantees you all of this with this program"

Module 1. Advanced Web Architecture

1.1. Advanced Web Architecture
- 1.1.1 Service-oriented architectures and web-oriented architectures
- 1.1.2 Functional and non-functional aspects of web architectures
- 1.1.3 Trends and future of web architectures

1.2. Web Architecture Components
- 1.2.1 Components on the customer side
- 1.2.2 network components
- 1.2.3 Components on the Servers side

1.3. Communication Protocols in web architecture
- 1.3.1 OSI model and application layer
- 1.3.2 Hypertext Transfer Protocol (HTTP/S)
- 1.3.3 Other protocols (FTP, SMTP, Websockets)

1.4. Layers of a web architecture
- 1.4.1 Presentation Layer
- 1.4.2 Application Layer
- 1.4.3 data layer

1.5. Types of Web Architecture
- 1.5.1 monolithic architectures
- 1.5.2 Micro-services Oriented Architectures
- 1.5.3. Serverless architectures

1.6. Architecture Patterns from Web Applications
- 1.6.1 Model - View - Controller (MVC)
- 1.6.2 Model - View presented (MVP)
- 1.6.3 Model View- View - Models (MVVM)

1.7. Good practices in web architectures
- 1.7.1 Safety and testing by design
- 1.7.2 scalability and resilience
- 1.7.3 Reusability, extensibility and integrability

1.8. Design of Web Architecture
- 1.8.1 Business Requirements Analysis
- 1.8.2 Types of diagrams and tools
- 1.8.3 Documentation

1.9. Web Architecture Evolution
- 1.9.1 Continuous Improvement Process
- 1.9.2 integration with third parties
- 1.9.3 Support and maintenance of legacy systems

1.10. Reference Web Architectures
- 1.10.1 Static and dynamic websites
- 1.10.2 e-Commerce Service
- 1.10.3 Streaming platform

Module 2. Management and Organization of Web Projects

2.1. Process for Web Application Development
- 2.1.1 Phases in the Research Process
- 2.1.2 Roles and organization in Web Development Projects
- 2.1.3 Collaborative Web Development

2.2. Methodologies for collaborative development
- 2.2.1 Agile Values and Principles
- 2.2.2 Comparing Agile Methodologies: Scrum and Kanban
- 2.2.3 Web project management tools

2.3. Development and Operation Work Model (DevOps)
- 2.3.1 Responsibilities
- 2.3.2 Adoption of a DevOps working model
- 2.3.3 Other approaches: DevSecOps, DataOps, MLOps

2.4. Version Control
- 2.4.1 Version Control Benefits
- 2.4.2 Version control with Git
- 2.4.3 Version Control Solutions: Github, Gitlab

2.5. Infrastructure as-Code (IAC))
- 2.5.1 Infrastructures as-Code (IAC))
- 2.5.2 Patterns of management of infrastructure
- 2.5.3 IaaC tools and frameworks: Terraform

2.6. Continuous Integration and Deployment (CI/CD)
- 2.6.1 Integration Strategies
- 2.6.2 Deployment and rollback strategies
- 2.6.3 Solutions for CI/CD pipelines

2.7.   Quality Control
    2.7.1   test planning
    2.7.2   Types of Tests
    2.7.3   Automation and execution of tests
2.8.   Incident Maintenance and Resolution
    2.8.1   Service level objectives (SLOs) and service level indicators (SLIs)
    2.8.2   Incident management and post-incident analysis
    2.8.3   Incidence Management Tools
2.9.   Cost management in web projects
    2.9.1   Cost factors in web projects: infrastructure, development, operations
    2.9.2   Cost Estimation
    2.9.3   Costs Control and Optimization
2.10.   2.10. Releases management in web projects
    2.10.1   Steps before the release: MVP, Alfa, Beta
    2.10.2   Planning for start-up in production
    2.10.3   Generation of New Versions and Compatibilities

Module 3. Cloud web applications and services

3.1.   Web architectures in the Cloud
    3.1.1   Cloud Computing
    3.1.2   Cloud Security and Compliance
    3.1.3   Providers and modalities (IaaS, PaaS, SaaS)
3.2.   Cloud Web Application Deployment Models
    3.2.1   public and private clouds
    3.2.2   Multi-cloud and hybrid models
    3.2.3   Edge computing
3.3.   Serverless Computing
    3.3.1   Case Uses
    3.3.2   Serverless Application Design
    3.3.3   Functions as a Service (FaaS)
3.4.   Amazon Web Services
    3.4.1   Main Customer and Services
    3.4.2   Regional and global availability
    3.4.3   free offer

3.5.   Microsoft Azure
    3.5.1   Main Customer and Services
    3.5.2   Regional and global availability
    3.5.3   free offer
3.6.   Google Cloud Platform
    3.6.1   Main Customer and Services
    3.6.2   Regional and global availability
    3.6.3   free offer
3.7.   Other providers and platforms for cloud web applications and services
    3.7.1   IBM Cloud
    3.7.2   Oracle Cloud
    3.7.3   Web hosting: Heroku, Firebase, Cloudflare
3.8.   Migration to the Cloud
    3.8.1   Migration Strategies: 7R's Models
    3.8.2   Migration planning and phases
    3.8.3   Migration Tools.
3.9.   Cloud Costs Optimization
    3.9.1   Cost monitoring
    3.9.2   Sizing of resources
    3.9.3   Discount plans
3.10.   Cloud Application Management
    3.10.1   Deployment model and vendor selection criteria
    3.10.2   training and certification
    3.10.3   Integration into the Organization of the company Cloud Center of Excellence (CCoE)

100% online, without tight schedules and with a variety of multimedia resources: this is the TECH Postgraduate Diploma"

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 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

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

30%

10%

8%
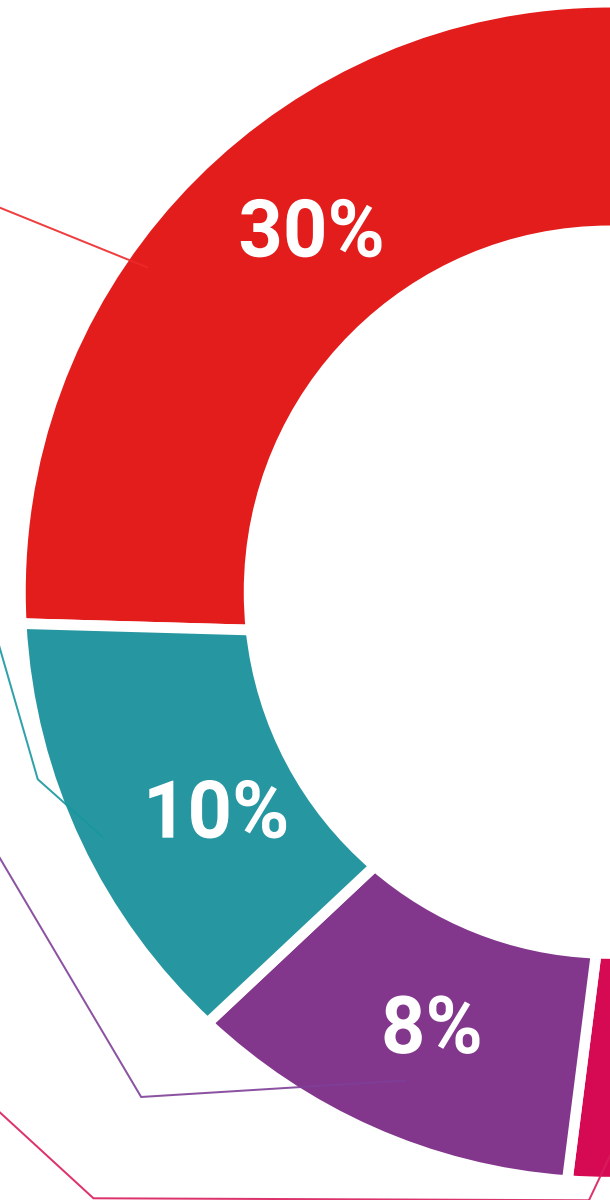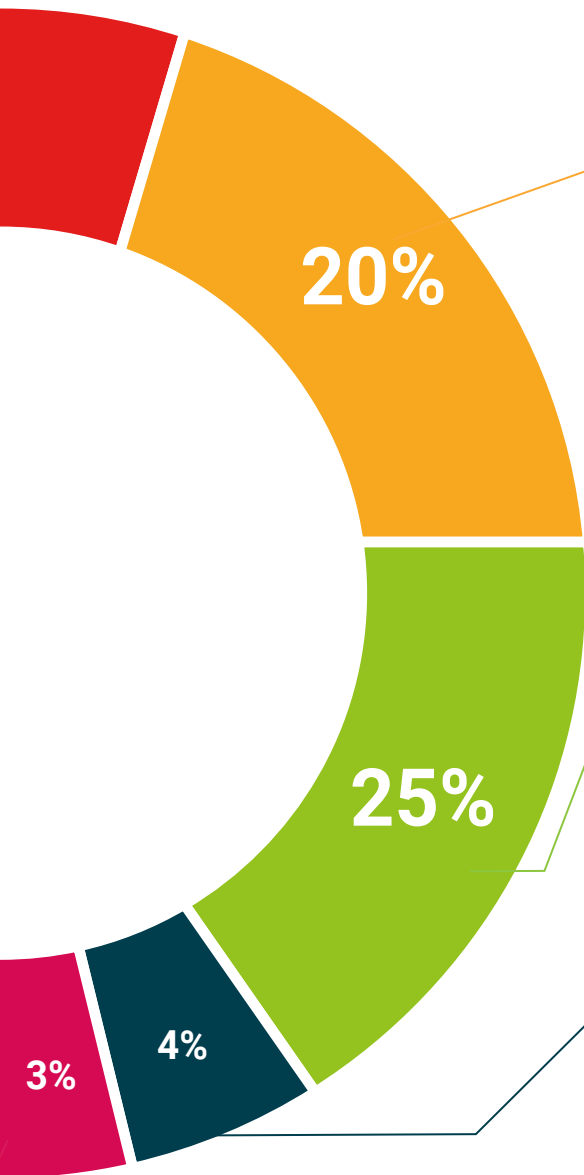
Case Studies

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.

20%

25%

3%

4%

06
Certificate

The Postgraduate Diploma in Cloud Projects Architecture and Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"
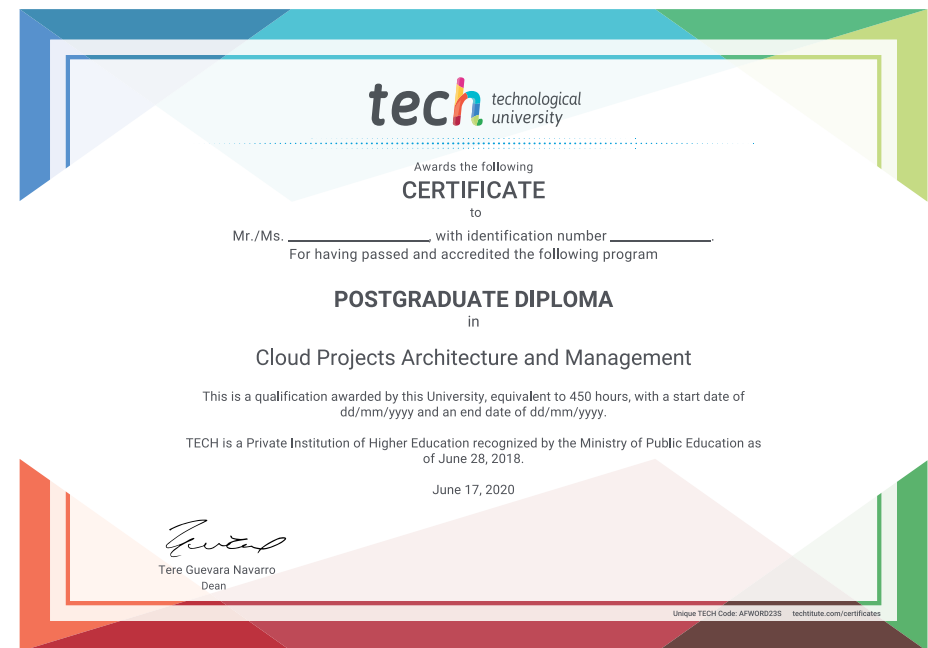
This **Postgraduate Diploma in Cloud Projects Architecture and Management** contains the most complete and up to date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery.

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

Title: **Postgraduate Diploma in Cloud Projects Architecture and Management**

Official Nº of Hours: **450 h.**

tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Cloud Projects Architecture and Management

This is a qualification awarded by this University, equivalent to 450 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

Unique TECH Code: AFWORD23S   techtitute.com/certificates

*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.

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- » Exams: **online**

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