Postgraduate Diploma

DevOps Operation of Cloud Infrastructures

tech technological university

tech technological university

Postgraduate Diploma

DevOps Operation of Cloud Infrastructures

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

Website www.techtitute.com/pk/information-technology/postgraduate-diploma/postgraduate-diploma-devops-operation-cloud-infrastructures

Index

01 Introduction p. 4

02 Objectives p. 8

03 Course Management p. 12

04 Structure and Content p. 16

05 Methodology p. 20

06 Certificate p. 28

01

Introduction

DevOps is a constantly evolving framework that, together with *Cloud* Infrastructures, is an essential advance for systems and applications in most companies. This has caused the demand for professionals with the ability to master these tools and work methodologies to skyrocket. This is the reason why TECH has created a program that seeks to improve skills and provide new knowledge to students seeking to excel professionally in this area. In this way, a complete, updated and innovative program has been designed, that addresses important topics such as the Configuration of a Cloud Server, VDI Management or IAC Tools, among others. All this in a comfortable 100% online mode that gives total freedom to the students.

Become an expert in DevOps Operation of Cloud Infrastructures in just a few months"

In recent times, some of the highest costs for enterprises have come from changes to conventional physical structures and related operations. However, the cost-effective investment required to get the most out of *DevOps* practices in *Cloud* Infrastructures is invaluable. Thanks to this, many companies want to streamline their processes, reduce costs and increase efficiency immediately, which is something for which they need qualified professionals in this area.

For this reason, TECH has designed a Postgraduate Diploma in DevOps Operation of Cloud Infrastructures, with the aim of giving students the opportunity to acquire new and better skills with which to face a promising future in this work area. And this, through theoretical and practical content related to the Adoption of Services in *Cloud*Infrastructures, Configuration Parameters and Secrets or IAC Tools, as well as Management, Trends and Security in VDI, among many other equally relevant aspects.

All this, in a comfortable 100% online mode, which allows the students to combine their day-to-day obligations with their studies, without time constraints or access to the syllabus. So that you will have total availability of the most complete, updated and accurate contents of the academic market, without the need to move and with the possibility of accessing all the information from any device with Internet connection, whether tablet, computer or cell phone.

This **Postgraduate Diploma in DevOps Operation of Cloud Infrastructures** 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 DevOps Operation of Cloud Infrastructures
- The graphic, schematic, and practical contents with which they are created, provide practical information on the 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

Stand out in a sector with such a professional future as Cloud Infrastructures thanks to TECH"

Sign up for this Postgraduate Diploma and get to know all the future trends in IAC tools"

Learn new skills and put them to the test constantly, with the wide variety of practical activities that you will have at your disposal.

Learn more about Virtual Desktop Infrastructure, with no time limits and without leaving home.

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

02

Objectives

The objective of this Postgraduate Diploma in DevOps Operation of Cloud Infrastructures is for students to develop the skills and specialized knowledge that will enable them to manage, configure and get the most out of Cloud Infrastructures, incorporating the *DevOps* culture. All this, thanks to the most innovative teaching tools and the most complete and updated content.

Get the most up-to-date knowledge in DevOps culture and Cloud Infrastructures, in just 6 months"

General Objectives

- Develop specialized knowledge about what infrastructures are and what motivations exist for their transformation to the cloud
- Acquire the skills and knowledge necessary to implement and manage IaaS solutions effectively
- Acquire specialized knowledge to add or remove storage and processing capacity quickly and easily, enabling you to adapt to fluctuations in demand
- Examine the scope of *Network DevOps*, demonstrating that it is an innovative approach for network management in IT environments
- Understand the challenges faced by an enterprise in *Cloud* governance and how to address them
- Use security services in *Cloud*environments such, as Firewalls, SIEMS and threat protection, to secure applications and services
- Establish best practices in the use of Cloud Services and the main recommendations when using them
- Increase user efficiency and productivity: by enabling users to access their applications and data from anywhere and on any electronic device, VDI can improve user efficiency and productivity
- Gain specialized knowledge about Infrastructure as Code
- Identify key points to demonstrate the importance of investing in backup and monitoring in organizations

Specific Objectives

Module 1. Services Adoption in Cloud Infrastructures

- List the different computing services in each of the main *Cloud* providers
- Substantiate the advantages of interoperability between services
- Acquire the skills necessary to deploy the application in *Cloud* and provide it with additional features by incorporating new services
- Determine how to make an application resilient thanks to auto-scaling

Module 2. *Virtual Desktop Infrastructure* (VDI)

- Providing remote users with access to critical applications: VDI could be used to allow users to access critical applications from anywhere and on any electronic device, which could improve productivity and efficiency for remote users
- Facilitate collaborative work and communication: VDI could be used to enable users to share and collaborate on applications and data in real time, which could improve communication and collaborative work
- Reduce hardware and software costs - VDI could be used to reduce hardware and software costs by not having to install and maintain applications and operating systems on each electronic device individually
- Improve data security and privacy: VDI could be used to improve data security and privacy by storing information on a centralized server and protecting it through security meausre for storage and user
- Facilitate upgrade and maintenance: VDI could be used to facilitate operating system and application upgrade and maintenance by having the virtual desktop centralized on a server

Module 3. Infrastructure Operation-as-Code (IAC)

- Compile the main tools for Infrastructure-as-Code management and their main strengths
- Determine OS different approaches proposed by Infrastructure as Code depending on the way you try to define the resources
- Implement and manage test and production environments efficiently using Infrastructure as Code
- Use versioning and change control techniques for Infrastructure as Code

Enroll now and learn all the news about new technologies in the field of VDI or Cloud Service Configuration"

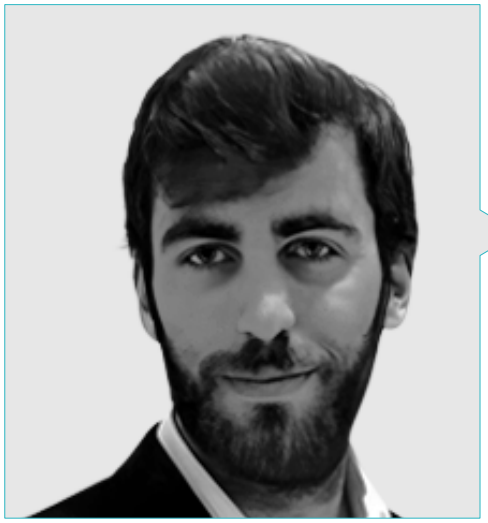
03

Course Management

With the aim of offering the best possible education, TECH has an excellent team of professionals for the student to acquire an accurate and updated knowledge in DevOps Operation of Cloud Infrastructures. In this way, the best experts in this have designed the program based on their knowledge and experience, in addition to offering their support during the development of the program.

The best team of experts in Cloud Infrastructures, who put their knowledge and experience at your disposal"

Management



Mr. Bressel Gutiérrez-Ambrossi, Guillermo

- Specalist in Systems Administration and Computer Networks
- Storage and SAN Network Administrator at Experis IT (BBVA)
- Network Administrator at IE Business School
- Graduate in Computer Systems and Network Administration at ASIR (ASIR)
- Ethical Hacking course at OpenWebinars
- Powershell course at OpenWebinar

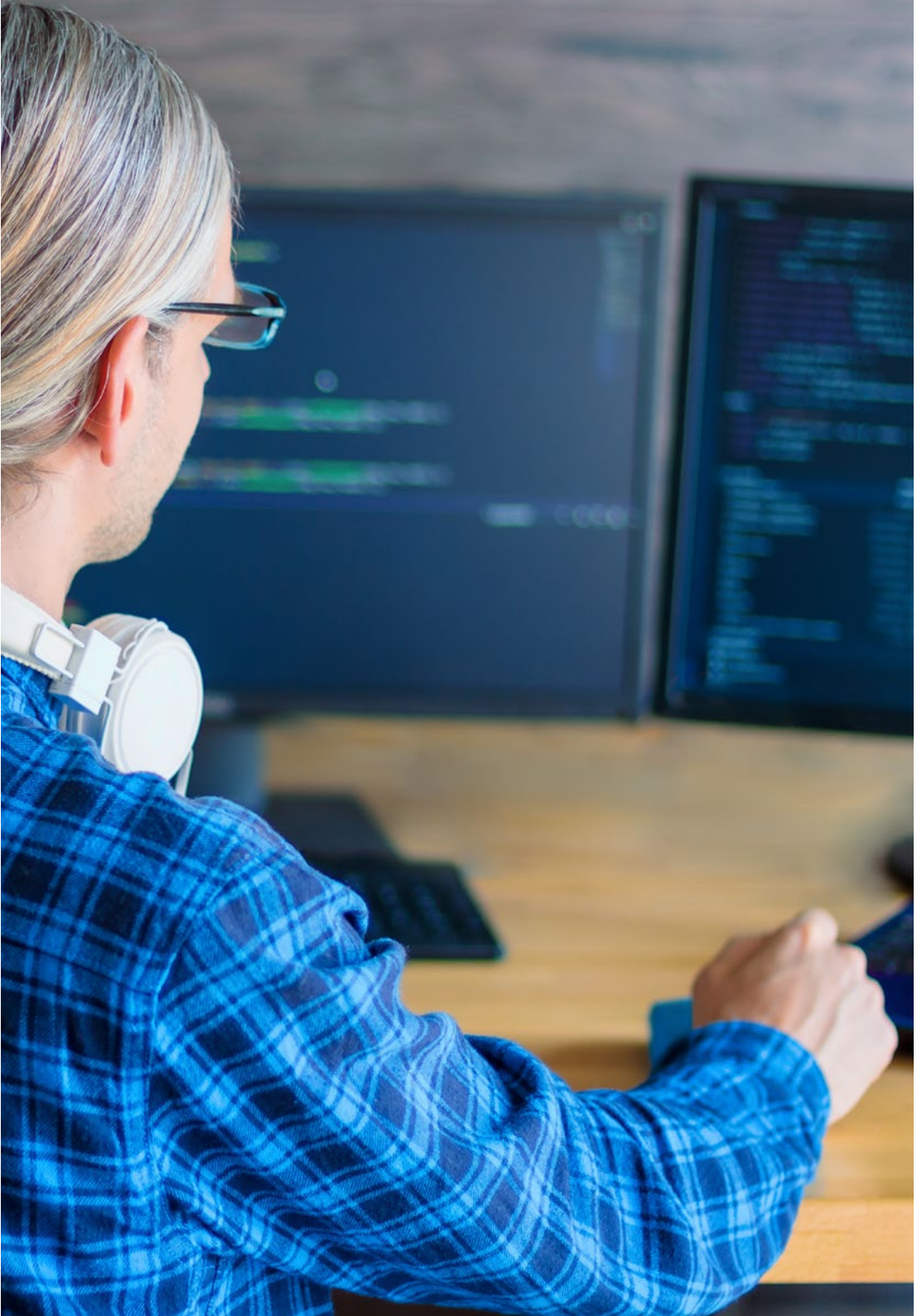
Professors

D. Intriago Narváez, Kevin

- Datacenter & Cloud Architect at Claro Ecuador
- IT Infrastructure Engineer at Claro Ecuador
- Senior IT Infrastructure Engineer at Credimatic
- Infrastructure Administrator at Solvesa
- Massive Front End Technical Support
- Computer Systems Engineer at the University of Guayaquil
- Bachelor's Degree in Networking and Operating Systems from Escuela Superior Politécnica del Litoral
- Master's Degree in Management Information Systems from Escuela Superior Politécnica del Litoral

D. Navarrete Aranda, Luis

- Cloud OPS, Devops Engineer Senior, Cloud Solutions Architect at Globant EC
- Microsoft Trainer
- Cloud Solutions Regional Specialist at Software One Ecuador
- Cloud Commercial Architect at Alfapeople Ecuador
- Master's Degree in IT Project Management at the University of La Rioja (UNIR)
- Systems Engineer with mention in New Technologies Administration from Ecotec University

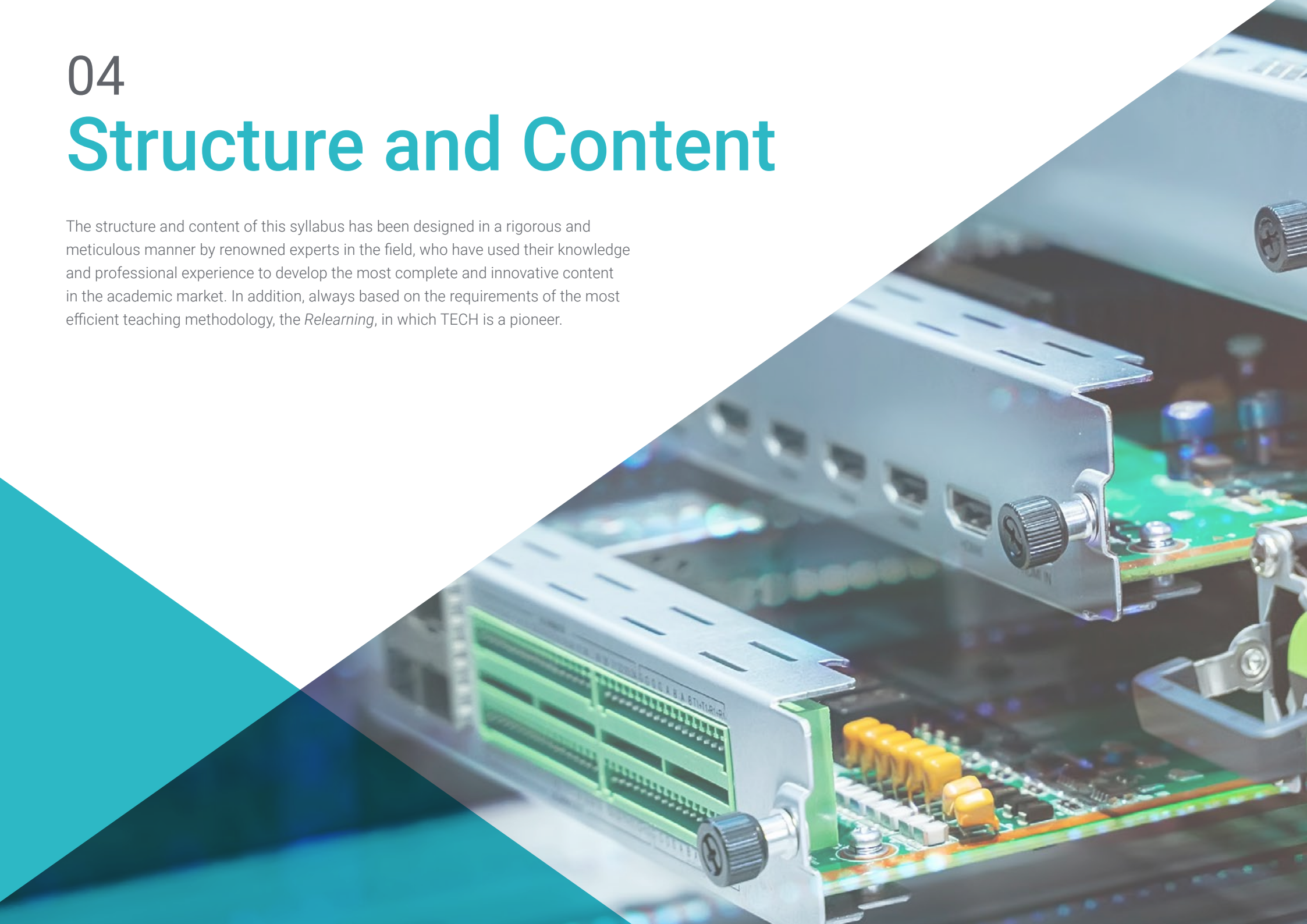


Take the opportunity to learn about the latest advances in this area to apply it to your daily practice”

04

Structure and Content

The structure and content of this syllabus has been designed in a rigorous and meticulous manner by renowned experts in the field, who have used their knowledge and professional experience to develop the most complete and innovative content in the academic market. In addition, always based on the requirements of the most efficient teaching methodology, the *Relearning*, in which TECH is a pioneer.



A comprehensive and up-to-date syllabus designed by experts in DevOps, Cloud, IAC and VDI"

Module 1. Services Adoption in *Cloud* Infrastructures

1.1. Configuration of a Cloud Server
- 1.1.1. *Hardware* Configuration
- 1.1.2. *Software* Configuration
- 1.1.3. Network and Security/Safety Configuration

1.2. Configuration of a Cloud Server
- 1.2.1. Assigning Permissions to my *Cloud* Server
- 1.2.2. Configuring Security Rules
- 1.2.3. Deployment of a Cloud Server

1.3. Administration of a *Cloud* Server
- 1.3.1. Management of Storage Units
- 1.3.2. Network Management
- 1.3.3. Security Copies Management

1.4. Persistence
- 1.4.1. Decoupling our *Cloud* Service
- 1.4.2. Persistence Service Configuration
- 1.4.3. Integration of the BB.DD. with our *Cloud* Service

1.5. Autoscaling
- 1.5.1. Image Generation of our Server
- 1.5.2. Creation of Autoscaling Groups
- 1.5.3. Definition of Auto Scaling Rules

1.6. Balancing Services
- 1.6.1. Balancing Services
- 1.6.2. Generation of a Load Balancer
- 1.6.3. Connecting the Balancer to our *Cloud* Service

1.7. Content Delivery Services
- 1.7.1. Content Delivery Services
- 1.7.2. Configuration of Content Delivery Services
- 1.7.3. Integration of the CDN to our *Cloud* Service

1.8. Configuration Parameters and Secrets
- 1.8.1. Configuration Parameters Management Services
- 1.8.2. Secrets Management Services
- 1.8.3. Integrating Configuration Services and Secrets with our *Cloud* Service

1.9. Queues Management Services
- 1.9.1. Decoupling Our Application
- 1.9.2. Configuring a Queueing Service
- 1.9.3. Integrating the Queue with Our *Cloud* Service

1.10. Notification Services
- 1.10.1. Notification Services in the Cloud
- 1.10.2. Configuration of a Notification Service
- 1.10.3. Adding Notifications to Our *Cloud* Service

Module 2. *Virtual Desktop Infrastructure* (VDI)

2.1. *Virtual Desktop Infrastructure* (VDI)
- 2.1.1. The VDI Operation
- 2.1.2. Advantages and Disadvantages of VDI
- 2.1.3. Common VDI Usage Scenarios

2.2. Hybrid and Cloud VDI Architectures
- 2.2.1. Hybrid VDI Architectures
- 2.2.2. Cloud VDI Implementation
- 2.2.3. Cloud VDI Management

2.3. Designing and Planning a VDI Implementation
- 2.3.1. Hardware and Software Selection
- 2.3.2. Network and Storage Infrastructure Design
- 2.3.3. Deployment and Scaling Planning

2.4. VDI Management
- 2.4.1. Installation and Configuration of the VDI
- 2.4.2. Desktop Image and Application Management
- 2.4.3. Security and Compliance Management
- 2.4.4. Availability and Performance Management

2.5. Integration of Applications and Peripherals in the VDI
- 2.5.1. Integration of Enterprise Applications
- 2.5.2. Integration of Peripherals and Devices
- 2.5.3. Integration of VDI with Videoconferencing and Instant Messaging Solutions
- 2.5.4. Integration of VDI with Online Collaboration Platforms

2.6. Optimization and Enhancement of VDI
- 2.6.1. Quality of Service and Performance Optimization
- 2.6.2. Improving Efficiency and Scalability
- 2.6.3. Improving End-User Experience

2.7. VDI Lifecycle Management
- 2.7.1. Hardware and Software Lifecycle Management
- 2.7.2. Infrastructure Migration and Replacement Management
- 2.7.3. Support and Maintenance Management

2.8. Safety in VDI: Infrastructure and User Data Protection
- 2.8.1. Security in the the VDI Network
- 2.8.2. Protection of Data Stored in the VDI
- 2.8.3. User Security. Privacy Protection

2.9. Advanced VDI Use Cases
- 2.9.1. Use of VDI for Secure Remote Access
- 2.9.2. Use of VDI for Virtualization of Specialized Applications
- 2.9.3. Use of VDI for Management of Mobile Devices

2.10. The Trends and Future of VDI
- 2.10.1. New Technologies and Trends in the Field of VDI
- 2.10.2. Predictions on the Future of VDI
- 2.10.3. Future Challenges and Opportunities for VDI

Module 3. Infrastructure Operation-as-Code (IAC)

3.1. Infrastructure as-Code (IAC)
- 3.1.1. IaC, Infrastructure as Code
- 3.1.2. Infrastructure Management Evolution
- 3.1.3. Advantages of IaC

3.2. Strategies for IaC Definition
- 3.2.1. Requirements Analysis
- 3.2.2. Imperative Definition
- 3.2.3. Declarative Definition

3.3. IAC Tools
- 3.3.1. IAC Objectives
- 3.3.2. Proprietary Tools
- 3.3.3. Third-party Tools

3.4. Evolution of Infrastructure as a Code
- 3.4.1. IaC in Kubernetes
- 3.4.2. *Platform as Code*
- 3.4.3. *Compliance as Code*

3.5. IAC in *Devops*
- 3.5.1. Flexible Infrastructures
- 3.5.2. Continuous Integration
- 3.5.3. *Pipelines as Code*

3.6. IAC - VPC - Proprietary tools
- 3.6.1. Design of a VPC
- 3.6.2. Deployment of the Solution
- 3.6.3. Validation and Analysis

3.7. IAC - *Serverless* - Proprietary Tools
- 3.7.1. Design of a *Serverless* Solution
- 3.7.2. Deployment of the Solution
- 3.7.3. Validation and Analysis

3.8. IAC - VPC - of Third-Party Tools
- 3.8.1. Design of a VPC
- 3.8.2. Deployment of the Solution
- 3.8.3. Validation and Analysis

3.9. IAC - *Serverless* - of Third-Party Tools
- 3.9.1. Design of a *Serverless* Solution
- 3.9.2. Deployment of the Solution
- 3.9.3. Validation and Analysis

3.10. IAC Comparison Future Trends
- 3.10.1. Assessment of Proprietary Solutions
- 3.10.2. Assessment of Third Solutions
- 3.10.3. Future lines

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 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

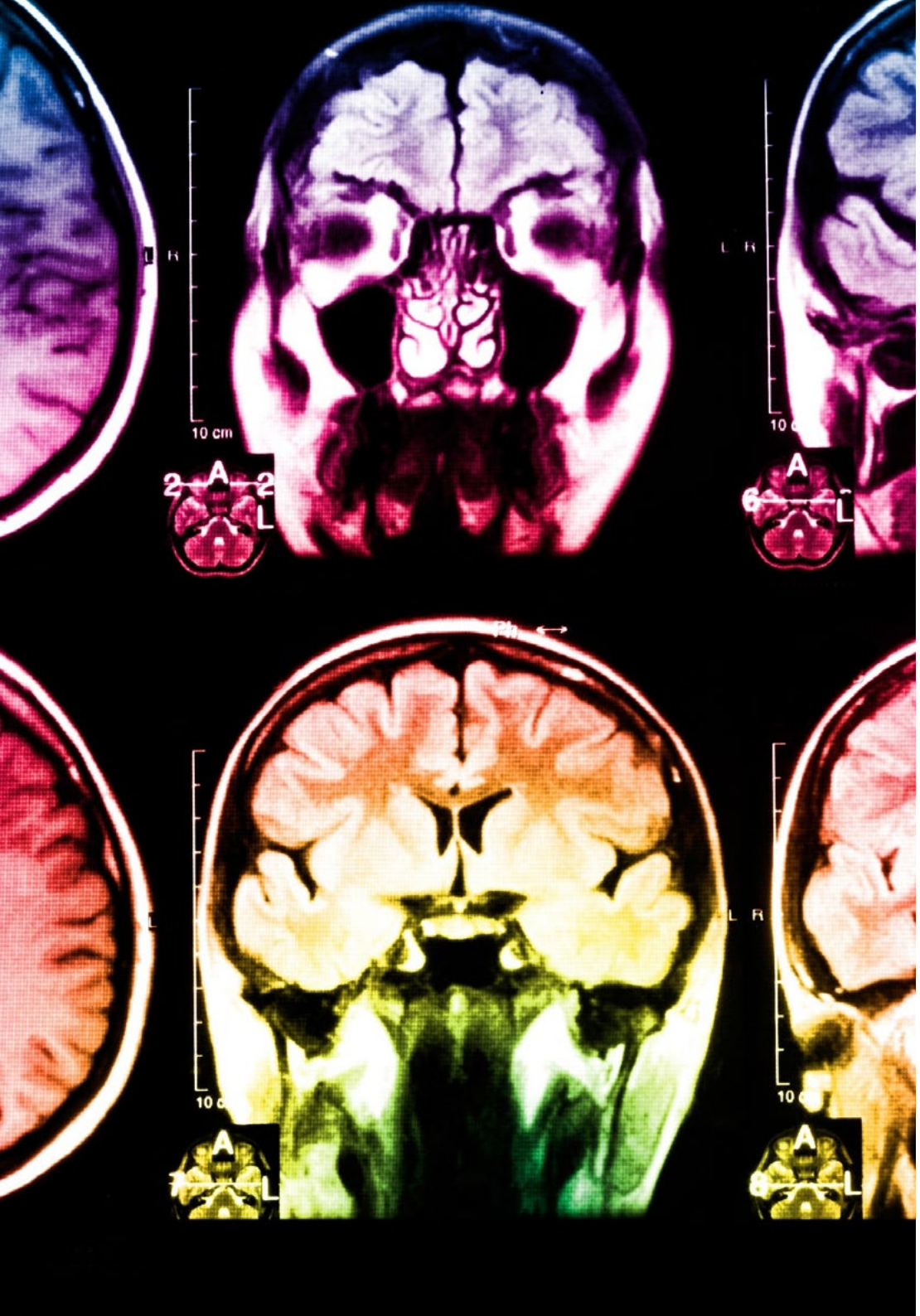
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.



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.

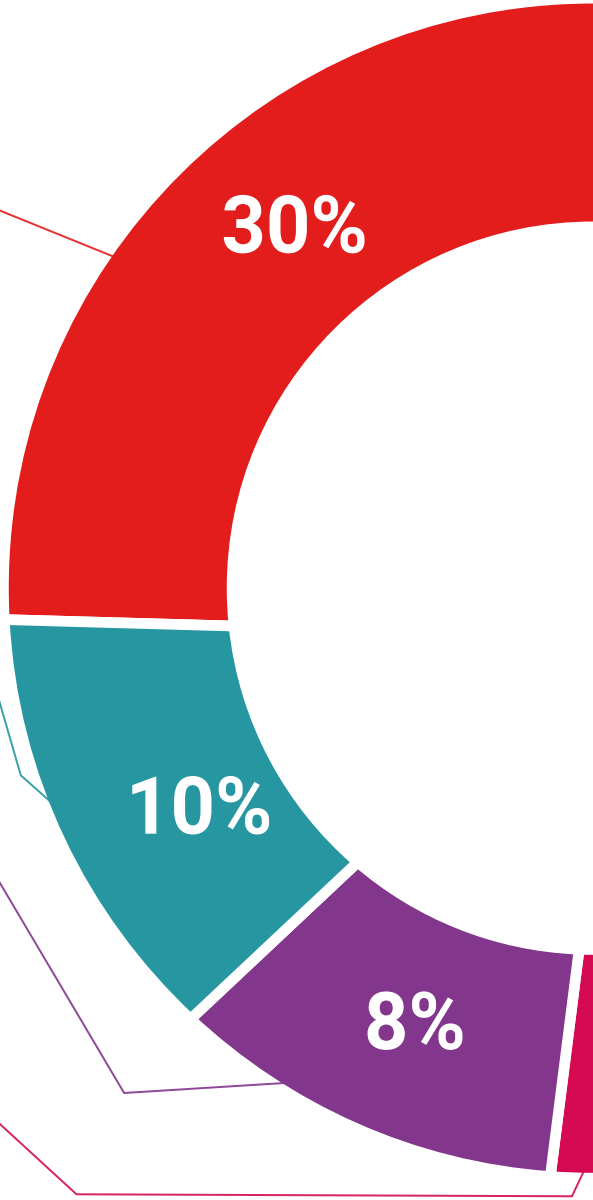
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

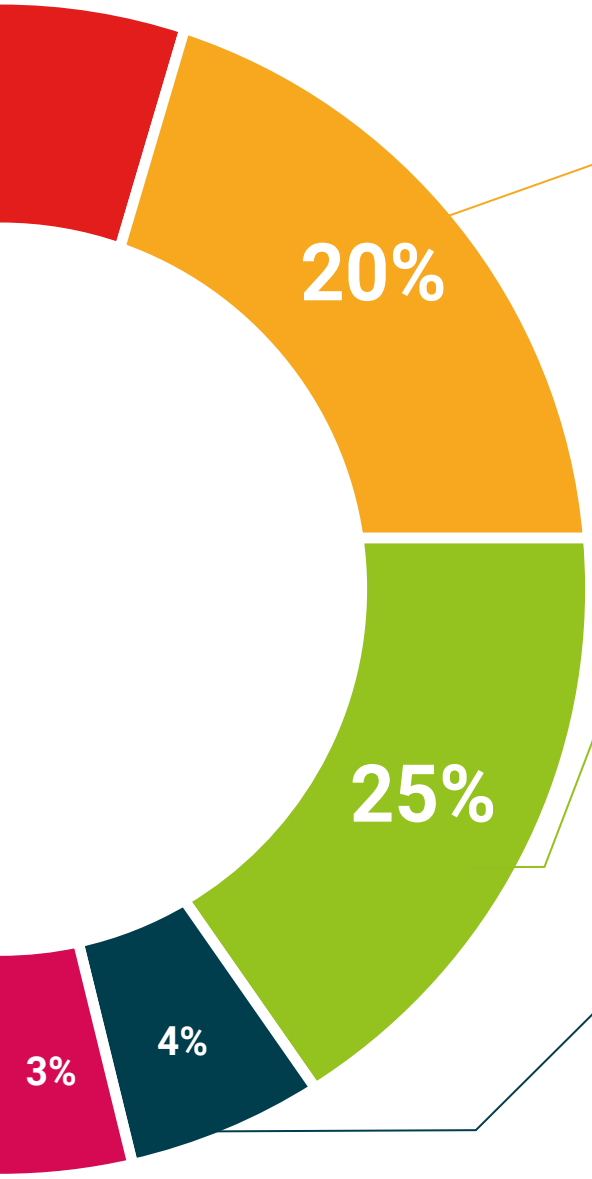
Practising Skills and Abilities

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 Diploma in DevOps Operation of Cloud Infrastructures guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

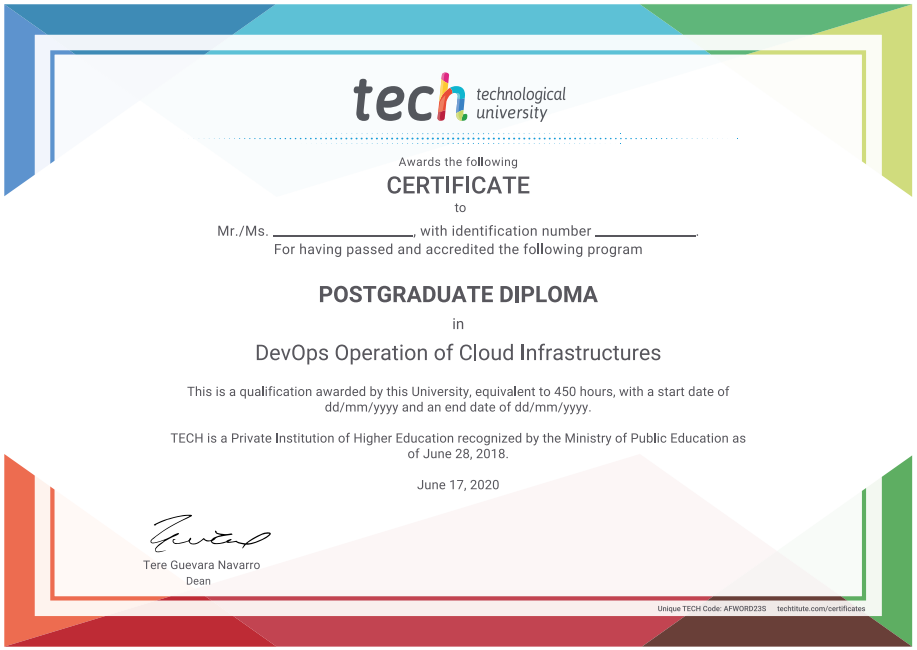
This **Postgraduate Diploma in DevOps Operation of Cloud Infrastructures** contains the most complete and up-to-date program on the market.

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 Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in DevOps Operation of Cloud Infrastructures**

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

DevOps Operation of Cloud Infrastructures

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.

tech technological university

Postgraduate Diploma

DevOps Operation of Cloud Infrastructures

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

Postgraduate Diploma

DevOps Operation of Cloud Infrastructures

tech technological university