

# Postgraduate Certificate Cloud Native Application Development



## Postgraduate Certificate Cloud Native Application Development

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

Website: [www.techtute.com/in/information-technology/postgraduate-certificate/cloud-native-application-development](http://www.techtute.com/in/information-technology/postgraduate-certificate/cloud-native-application-development)

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# 01

# Introduction

Commercial digitalization is the order of the day, and the conversion from a traditional style to virtual security environments is no longer directly linked to multinationals or large companies with high economic indexes. Due to the increase in start-ups in recent years, specialists in cloud application development are essential to design, build and configure the structure that each company or service needs. Thanks to this 100% online program, the IT professionals will be able to position themselves in the market as Cloud Native Applications Specialists to give a definitive boost to their professional career in the IT industry. TECH's teaching methodology makes it possible to combine this program with the most demanding professional or personal activity.



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*Innovation is directly related to the native development of Cloud applications, this is your opportunity to stand out in the industry”*

Today the creation of any type of company requires an IT department. This sector covers multiple functions, however, more and more companies and services are betting on more agile models that drive innovation. In this aspect, virtual environments require productive technological structures, and it is precisely the development of applications in Cloud format that allows organizations to improve their results.

60% of companies say that the implementation of these cloud infrastructures is difficult to achieve, due to the low specialization of the IT department. Most of them do not have an efficient model to ensure the security and evolution of applications in cloud environments. Different studies confirm that, by the end of 2023, more than 70% of companies will need and want to implement as multi-cloud platforms as part of managed cloud services.

This Postgraduate Certificate in Native Cloud Application Development will allow students to acquire the necessary knowledge to develop cloud applications following the parameters and requirements of each company.

The tools used, the methodology and teaching strategies, facilitate and boost the career of professionals in the sector, specializing them in a field that every day requires more technical specialists.

This 150-hour diploma is fully online, so students can adapt the pace of classes as needed without having to leave their work or daily routine. It is the perfect time to grow and improve employability in an increasingly competitive sector.

This **Postgraduate Certificate in Cloud Native Application Development** 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 Cloud Applications
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where 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
- ◆ Content that is accessible from any fixed or portable device with Internet connection



*This Postgraduate Certificate prepare you to develop native cloud applications and deal with any scenario”*

“

*You will acquire knowledge in Cloud Native Application Development from the first day, delving into Containerization, Serverless environments and deployment platforms”*

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

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

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

*This is your opportunity to take advantage of the gap in technical education of specialists in companies and apply as a qualified professional.*

*Opt for an innovative education imparted by the best professionals in the IT sector.*



# 02 Objectives

The format and design of this Postgraduate Certificate in Native Cloud Application Development will allow students who complete it to apply to the most technical and specialized job vacancies in the technology sector thanks to the most innovative and updated content on the market. Likewise, this syllabus will provide the necessary skills that meet the demands of the business market, making this education the cornerstone for the takeoff of any professional career in the IT field. The Postgraduate Certificate in Cloud Native Application Development will provide the necessary technical vocabulary to work with different providers, will provide the tools to differentiate the specialized knowledge about the cloud with traditional local solutions, and the techniques of analysis of the different approaches to the adoption of the cloud and its contexts.





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*No matter where you are, what matters is the now. It is your time to boost your career”*



## General Objectives

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- ◆ Analyze the different approaches to cloud adoption and their contexts
- ◆ Acquire specialized knowledge to determine the appropriate Cloud
- ◆ Develop a virtual machine in Azure
- ◆ Establish the sources of threats in application development and best practices to apply
- ◆ Evaluate the differences in the specific implementations of different public Cloud vendors
- ◆ Determine the different technologies applied to containers
- ◆ Identify the key aspects of a Cloud Native adoption strategy
- ◆ Fundamentals and evaluation of the programming languages most commonly used in Big Data, necessary for data analysis and processing





## Specific Objectives

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- ◆ Introduce technologies for continuous development and integration
- ◆ Demonstrate how Kubernetes works as an orchestration of services
- ◆ Analyze Cloud Native observability and security tools
- ◆ Evaluate deployment platforms
- ◆ Fundamentals of data management strategies in Cloud Native environments
- ◆ Identify common techniques in Cloud Native developments

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*TECH will accompany you during the learning process, with the support of the best teaching staff”*

# 03

# Course Management

This Postgraduate Certificate in Cloud Native Application Development is led by teachers with extensive professional experience. This is the best team of experts in the international technology scene, dedicated to researching new consumer trends and storage and security strategies in the cloud. Their resumés offer a guarantee of quality, as they not only teach theoretical content, but also apply their personal and professional experiences to foster students' skills in the subject. The sum of all these factors provides students with the necessary tools and keys to thrive in the field of digitization and specialize in the development of native applications.





“

*Learn and develop concepts and tools related to Data Persistence such as Data Lakes”*

## Management



### Mr. Bressel Gutiérrez-Ambrossi, Guillermo

- ◆ Specialist 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 OpenWebinar
- ◆ Powershell course at OpenWebinar



## Professors

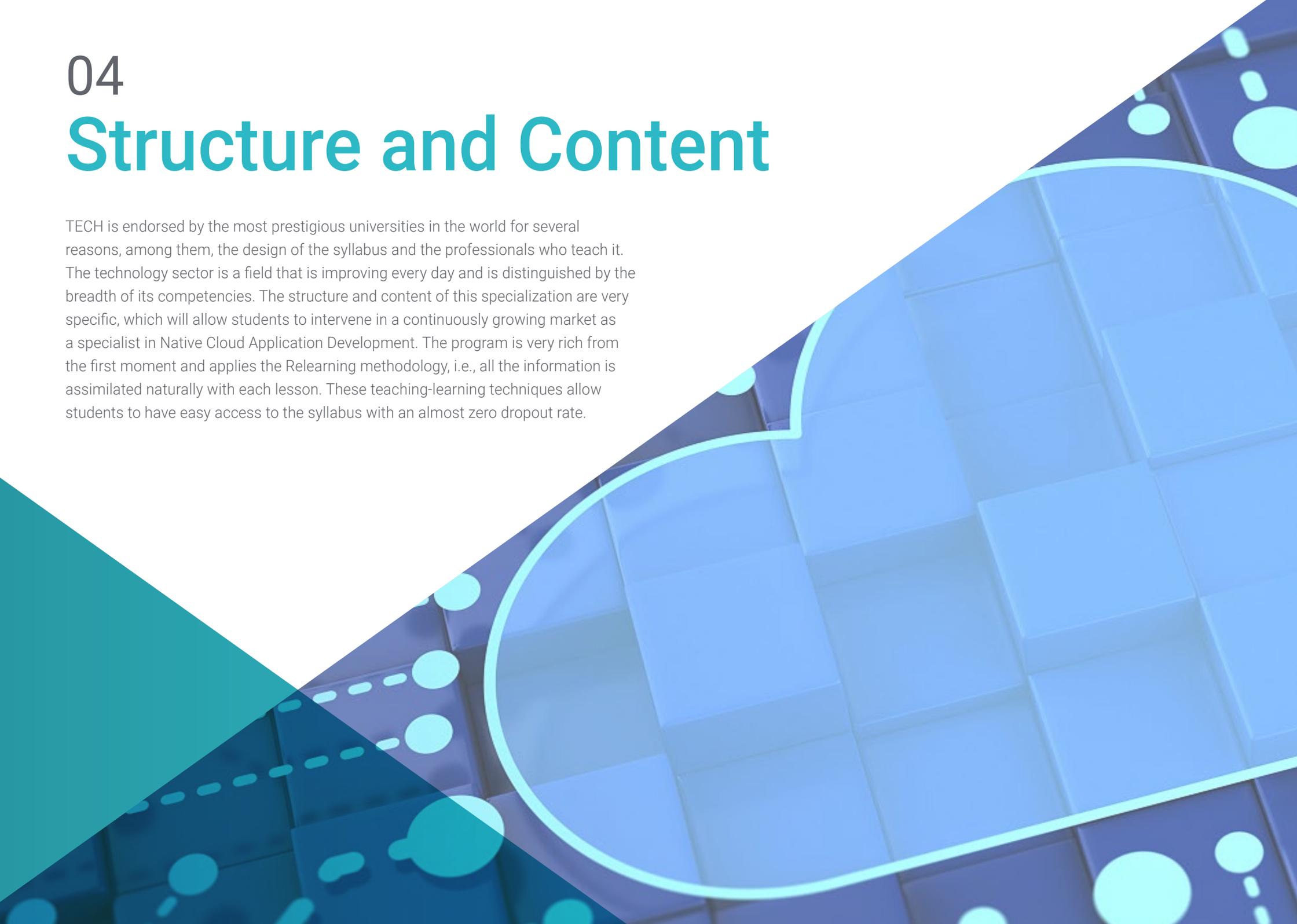
### D. Gómez Rodríguez, Antonio

- ◆ Principal Cloud Solutions Engineer for Oracle
- ◆ Co-organizer of Málaga Developer Meetup
- ◆ Specialist Consultant for Sopra Group and Everis
- ◆ Team Leader at System Dynamics
- ◆ Software Developer at SGO Software
- ◆ Master's Degree in E-Business from La Salle Business School
- ◆ Postgraduate Degree in Information Technologies and Systems, Catalan Institute of Technology
- ◆ Degree in Telecommunications Engineering from the Polytechnic University of Catalonia

# 04

# Structure and Content

TECH is endorsed by the most prestigious universities in the world for several reasons, among them, the design of the syllabus and the professionals who teach it. The technology sector is a field that is improving every day and is distinguished by the breadth of its competencies. The structure and content of this specialization are very specific, which will allow students to intervene in a continuously growing market as a specialist in Native Cloud Application Development. The program is very rich from the first moment and applies the Relearning methodology, i.e., all the information is assimilated naturally with each lesson. These teaching-learning techniques allow students to have easy access to the syllabus with an almost zero dropout rate.



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*Keep your knowledge up to date  
with the latest developments and  
learn from the best professionals”*

## Module 1. Native Cloud Application Programming

- 1.1. Cloud Native Technologies
  - 1.1.1. Cloud Native Technologies
  - 1.1.2. Cloud Native Computing Foundation
  - 1.1.3. Cloud Native Development Tools
- 1.2. Cloud Native Application Architecture
  - 1.2.1. Cloud Native Application Design
  - 1.2.2. Cloud Native Architecture Components
  - 1.2.3. Legacy Application Modernization
- 1.3. Containerization
  - 1.3.1. Container-Oriented Development
  - 1.3.2. Development with Microservices
  - 1.3.3. Tools for Teamwork
- 1.4. DevOps and Continuous Integration and Deployments
  - 1.4.1. Continuous Integration and Deployments: CI/CD
  - 1.4.2. Tools Ecosystem for CI/CD
  - 1.4.3. Creating a CI/CD Environment
- 1.5. Observability and Platform Analysis
  - 1.5.1. Cloud Native Application Observability
  - 1.5.2. Tools for Monitoring, Logging and Tracing
  - 1.5.3. Implementation of an Observability and Analysis Environment
- 1.6. Data Management in Cloud Native Applications
  - 1.6.1. Cloud Native Database
  - 1.6.2. Data Management Patterns
  - 1.6.3. Technologies to Implement Data Management Patterns
- 1.7. Communications in Cloud Native Applications
  - 1.7.1. Synchronous and Asynchronous Communications
  - 1.7.2. Technologies for Synchronous Communications Patterns
  - 1.7.3. Technologies for Asynchronous Communications Patterns





- 1.8. Resilience, Security and Performance in Cloud Native Applications
  - 1.8.1. Application Resilience
  - 1.8.2. Secure Development in Cloud Native Applications
  - 1.8.3. Application Performance and Scalability
- 1.9. Serverless
  - 1.9.1. Cloud Native Serverless
  - 1.9.2. Serverless Platforms
  - 1.9.3. Use Cases for Serverless Development
- 1.10. Deployment Platforms
  - 1.10.1. Cloud Native Development Environments
  - 1.10.2. Orchestration Platforms. Comparison
  - 1.10.3. Infrastructure Automation



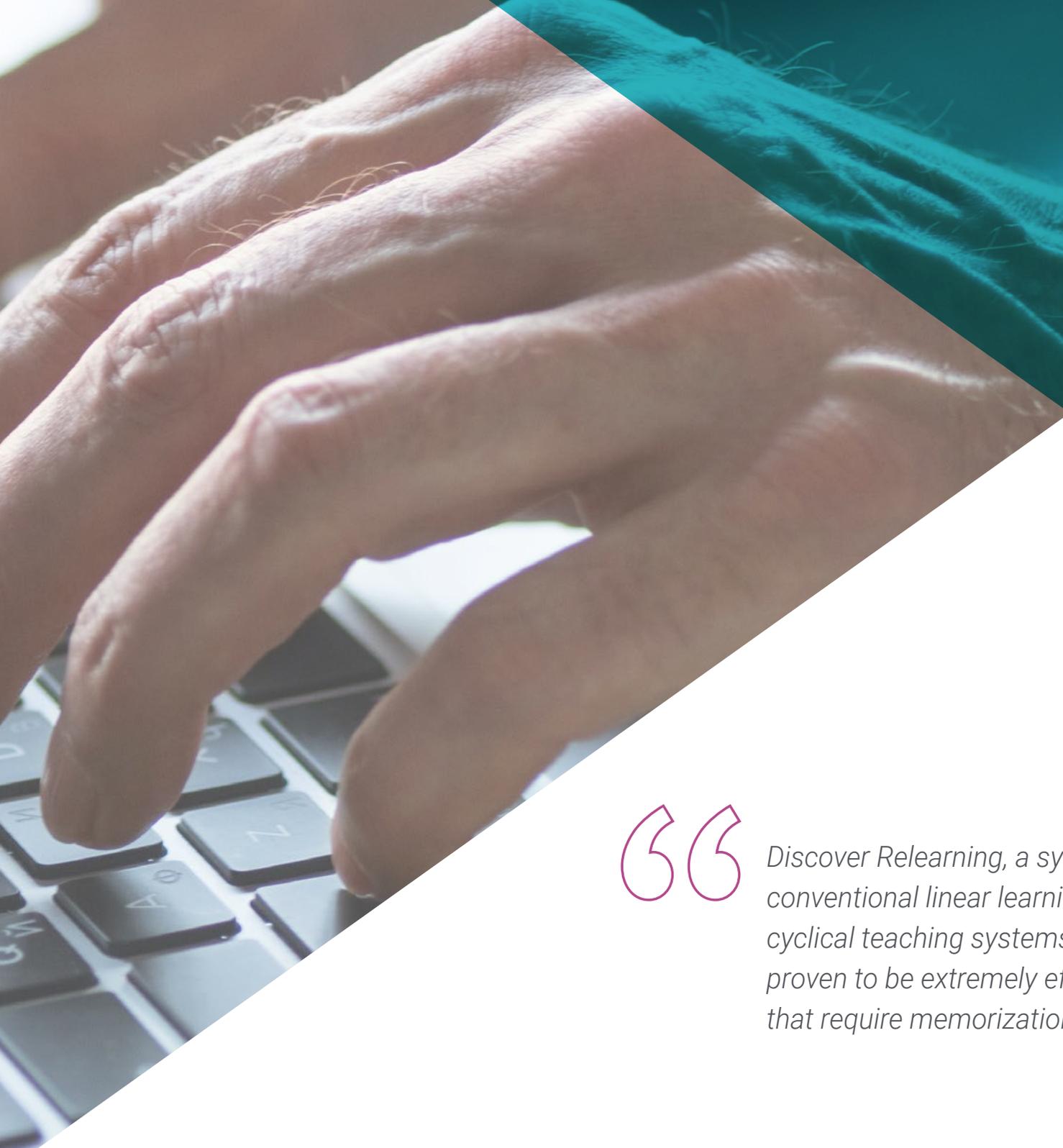
*Wherever you are, your future starts here"*

# 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.



A close-up photograph of a person's hands typing on a laptop keyboard. The image is partially obscured by a teal diagonal graphic element that runs from the top right towards the bottom left. The background is a solid teal color.

“

*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.

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*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.

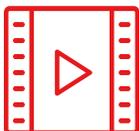
*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

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.



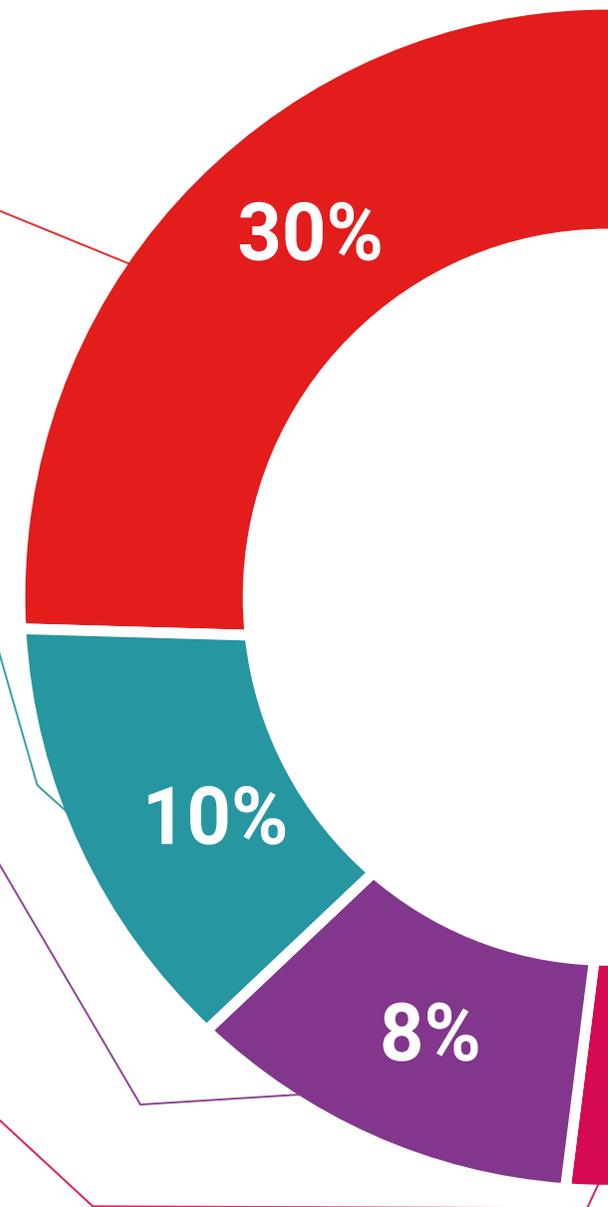
### Practising Skills and Abilities

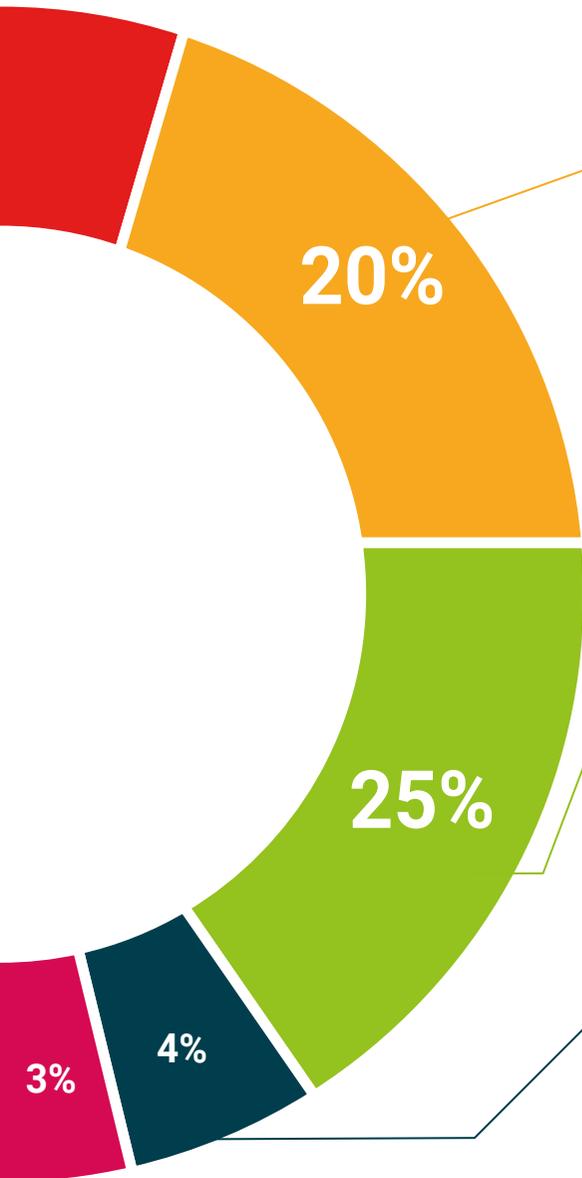
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 Certificate in Cloud Native Application Development guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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*Successfully complete this program and receive your postgraduate certificate without having to travel or fill out laborious paperwork”*

This **Postgraduate Certificate in Cloud Native Application Development** contains the most complete and up-to-date program on the market.

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

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

Title: **Postgraduate Certificate in Cloud Native Application Development**

Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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