Postgraduate Diploma
Cloud Software

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Postgraduate Diploma

Cloud Software

- 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-software

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01

Introduction

Software installation CDs are a thing of the past, and those that exist do so in a residual way. Currently, to install Photoshop or an antivirus program, you only need to access their website, pay for the program and download the software. In fact, most modern laptops do not even include a disk slot. Another striking example is occurring in the video game industry. In the old days, games were treated almost as collector's items, with great value being placed on the disc and the box. However, nowadays many people choose to download them directly from the online store. For this reason, we have developed this degree based on the latest market trends. Analyzing the reasons for this paradigm shift and providing you with the keys to develop software in the cloud. All this, through a 100% online modality and without schedules, which enhances the ability to assimilate the contents.

In the next few years, the CD will become obsolete. Get ahead of the change and learn how to develop software *in the cloud thanks to this Postgraduate Diploma"*

Setting an end date for the use of CDs is very complicated. As in other fields such as journalism, it is to be expected that the physical and digital formats will coexist for many years to come. However, the trend is clear and cloud software will eventually prevail. In fact, some companies such as the supermarket chain Tesco, the industry leader in the UK, Ireland, Hungary, Malaysia and Thailand, have already stopped selling CDs and DVDs.

To respond to this trend, TECH has created a program that delves into all areas of cloud software. Highlighting benefits such as scalability, which allows increasing or decreasing capacity according to demand; or availability and resilience, with fault-resistant architectures.

Specific fields such as native development, monitoring, interaction with Command Line Interface, interaction based on APIs or code integration with scripting will also be discussed. Always accompanied by experts who will solve the most technical doubts.

Students should be aware that this degree is offered online, without timetables and with all the contents available from the first day. All you need is a device with an internet connection. In addition, an innovative and proven methodology has been proposed that presents the contents in different formats with the possibility of selecting the one preferred.

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

- The development of case studies presented by cloud software experts
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning.
- 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

In the first module you will learn how to work with different cloud deployment options such as Multi-Cloud or Hybrid Cloud"

Android and iOS are the two largest generators of mobile cloud software. Therefore, a comparison between the two has been carried out covering several topics"

In TECH you will learn about the possibilities offered by high-performance cloud computing.

Security is one of the biggest challenges of cloud software. Our trainers will teach you the best ways to protect your applications.

The program's teaching staff includes professionals from 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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

02

Objectives

The graduate of this Postgraduate Diploma will have a global vision of the cloud computing paradigm. Delving into processes as important as high-performance computing or the creation of the software itself. The student will also acquire specialized knowledge in project management methodologies and architectures. In addition, you will be trained in development for mobile devices.

Learn about the different alternatives offered by wireless communications thanks to this Postgraduate Diploma"

General Objectives

- Analyze the Cloud Computing Paradigm
- Identify the different approaches based on the degree of automation and service
- Examining the main pieces of a cloud architecture
- Establishing the differences with an on-premise architecture
- Develop the software creation process
- Determine the different technologies for each sector
- Analyze work methodologies
- Evaluate the knowledge acquired
- Evaluate the different alternatives within wireless communications
- Analyze the different current technologies with greater presence in the market
- Examine the different alternatives for the development of mobile applications
- Identify best practices to ensure mobile device security
- Develop the main trends in the development of mobile applications

Learn to identify the different programming methodologies in the topic dedicated to software engineering"

Specific Objectives

Module 1. Cloud Computing in Computer and Information Systems Engineering

- Determine the different cloud deployment options: Multi-cloud, Hybrid Cloud, etc.
- Deepen the benefits inherent in cloud computing
- Analyze the principles of cloud computing economics: shift from CAPEX to OPEX
- Examine commercial offerings from different cloud providers
- Evaluate cloud supercomputing capabilities
- Analyzing security in cloud computing

Module 2. Software Engineering

- Acquire specialized knowledge in project management methodologies
- Analyze the life cycle of an application
- Explore the different architectures
- Identify programming methodologies

Module 3. Technology and Development in Mobile Devices

- Identify the most important features of the main wireless communication protocols with the greatest presence and use today
- Analyze the evolution of mobile devices from their emergence to the present day
- Develop the main features of the essential components of mobile devices
- Establish the main differences between the two major operating systems for mobile applications. iOS vs Android
- Determine the main tools for Android-based mobile application development
- Evaluate the main tools for the development of iOS-based mobile applications
- Examine the key aspects of security in terms of communications, users, applications and operating systems

03

Course Management

The Postgraduate Diploma in Cloud Software has a large faculty with professional experience in the field of the cloud. The student will learn, for example, the particularities of cloud computing, native development or container management. All this, accompanied by professors with a broad curriculum that will answer all doubts and provide practical and applicable advice.

Working in the Cloud is reaching high levels of popularity thanks to the advantages it offers. Our teachers will teach you what they are and how to implement them"

Management

Mr. Olalla Bonal, Martín

- Technical sales blockchain specialist en IBM
- Blockchain Hyperledger and Ethereum Architecture Manager at Blocknitive
- Director of the Blockchain area at PSS Information Technologies
- Director de Información en ePETID - Global Animal Health
- IT Infrastructure Architect at Bankia - wdoIT (IBM - Bankia Join Venture)
- Project director and manager at Daynet integral services
- Director of Technology at Wiron Construcciones Modulares
- Head of IT Department at Dayfisa
- Head of IT Department at Dell Computer, Majsa and Hippo Viajes
- Electronics Technician in IPFP Juan de la Cierva

Professors

Mr. Gómez Gómez, Borja

- Business Development Manager at Oracle
- Head of Blockchain and pre-sales architecture solutions at Paradigma Digital
- Senior IT Architect at Atmira
- SOA Architect and TCP SI Consultant
- Analyst and consultant at Everis
- Degree in Computer Engineering from the Complutense University of Madrid
- Master's Degree in Science Computer Engineering at the Complutense University of Madrid

Mr. Villamizar Lamus, Christian Alfonso

- Senior Digital Architect at Banco Santander
- Digital architect at KPMG in a cloud banking platform project
- Lead Digital Project Specialist at Deloitte Greece
- Technical architect at Everis and NTT Data with projects at Telefónica de España, Securitas Direct, Grupo Santillana, Bankia, Banco Bilbao Vizcaya, FCC and ASISA
- Telecommunications Engineer, University Santo Tomás, Bucaramanga, Colombia
- Specialist in declarative programming and programming engineering from the Polytechnic University of Valencia

Mr. Castro Robredo, Alejandro Enrique

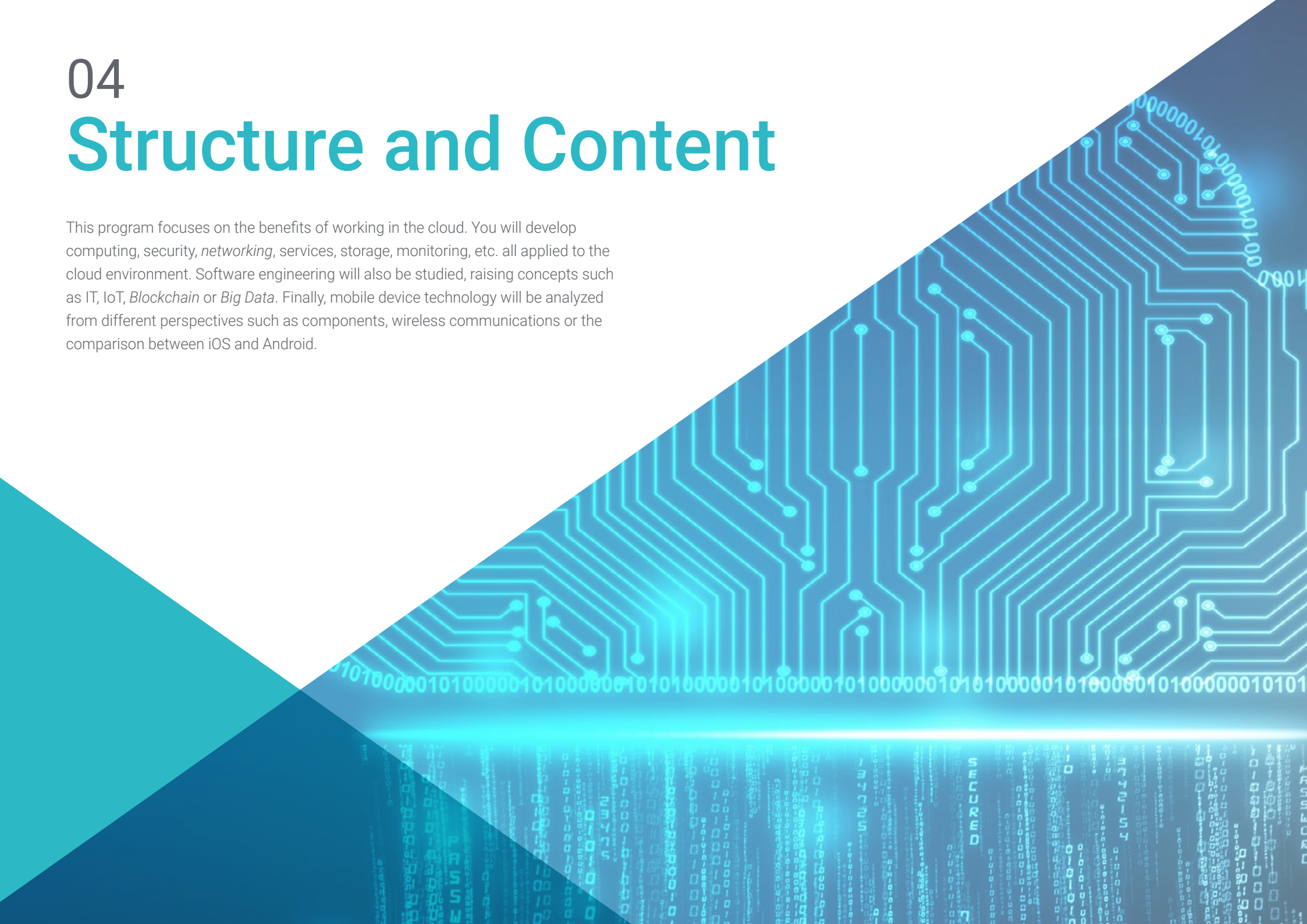
- Head of the Digital Architecture Department at KPMG
- Head of the Innovation Lab in Digital Architecture at Everis
- Technical Manager in the Technology Unit of the Digital Architecture team at Everis
- Techincal Business Manager at Ganetec
- Business Manager and Pre-Sales Manager at TCP Sistemas e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

Learn from leading professionals the latest advances in Cloud Software"

04

Structure and Content

This program focuses on the benefits of working in the cloud. You will develop computing, security, *networking*, services, storage, monitoring, etc. all applied to the cloud environment. Software engineering will also be studied, raising concepts such as IT, IoT, *Blockchain* or *Big Data*. Finally, mobile device technology will be analyzed from different perspectives such as components, wireless communications or the comparison between iOS and Android.



In this Postgraduate Diploma you will learn how to create software-defined virtual networks. As well as its components and connections to other systems"

Module 1. Cloud Computing in Computer and Information Systems Engineering

1.1. Cloud Computing
- 1.1.1. State of the Art of the IT Landscape
- 1.1.2. Cloud
- 1.1.3. Cloud Computing

1.2. Security and Resilience in the Cloud
- 1.2.1. Regions, Availability and Failure Zones
- 1.2.2. Tenant or Cloud Account Management
- 1.2.3. Cloud Identity and Access Control

1.3. Cloud Networking
- 1.3.1. Software-Defined Virtual Networks
- 1.3.2. Network Components of Software-Defined Network
- 1.3.3. Connection with Other Systems

1.4. Cloud Services
- 1.4.1. Infrastructure as a Service
- 1.4.2. Platform as a Service
- 1.4.3. Serverless Computing
- 1.4.4. Software as a Service

1.5. High-Performance Computing
- 1.5.1. High-Performance Computing
- 1.5.2. Creation of a High-Performance Cluster
- 1.5.3. Application of High-Performance Computing

1.6. Cloud Storage
- 1.6.1. Block Storage in the Cloud
- 1.6.2. File Storage in the Cloud
- 1.6.3. Cloud Object Storage

1.7. Block Storage in the Cloud
- 1.7.1. Cloud Monitoring and Management
- 1.7.2. Interaction with the Cloud: Administration Console
- 1.7.3. Interaction with Command Line Interface
- 1.7.4. API-Based Interaction

1.8. Cloud-Native Development
- 1.8.1. Cloud-Native Development
- 1.8.2. Containers and Container Orchestration Platforms
- 1.8.3. Continuous Cloud Integration
- 1.8.4. Use of Events in the Cloud

1.9. Infrastructure as Code in the Cloud
- 1.9.1. Management and Provisioning Automation in the Cloud
- 1.9.2. Terraform
- 1.9.3. Scripting Integration

1.10. Creation of a Hybrid Infrastructure
- 1.10.1. Interconnection
- 1.10.2. Interconnection with Datacenter
- 1.10.3. Interconnection with other Clouds

Module 2. Software Engineering

2.1. Software Applications in Information Technology
- 2.1.1. Software Applications
- 2.1.2. Life Cycle
- 2.1.3. Architecture
- 2.1.4. Methods

2.2. Project Management and IT Methodologies
- 2.2.1. Project Management
- 2.2.2. Agile Methodologies
- 2.2.3. Tools

2.3. Front end Development and Mobile Applications
- 2.3.1. Front end Development and Mobile Applications
- 2.3.2. HTML, CSS
- 2.3.3. JavaScript, jQuery
- 2.3.4. Angular
- 2.3.5. React

2.4. Backend Development of Software Applications
- 2.4.1. Backend Development of Software Applications
- 2.4.2. Backend Architecture of Software Applications
- 2.4.3. Backend Programming Languages
- 2.4.4. Application Servers in Software Architecture

2.5. Data Storage, Databases and Caching
- 2.5.1. Data Management of Software Applications
- 2.5.2. File System
- 2.5.3. Relational Databases
- 2.5.4. Non-Relational Databases
- 2.5.5. Caché

2.6. Container Management in Cloud Computing
- 2.6.1. Container Technology
- 2.6.2. Containers with Docker and Docker-Compose Technology
- 2.6.3. Container Orchestration with Kubernetes
- 2.6.4. Containers in Cloud Computing

2.7. Testing and Continuous Integration
- 2.7.1. Testing and Continuous Integration
- 2.7.2. Unit Tests
- 2.7.3. Test e2e
- 2.7.4. Test Driven Development (TDD)
- 2.7.5. Continuous Integration

2.8. Software-Oriented Blockchain
- 2.8.1. Software-Oriented Blockchain
- 2.8.2. Cryptocurrencies
- 2.8.3. Types of Blockchain

2.9. Big Data Software, Artificial Intelligence, IoT
- 2.9.1. Big Data, Artificial Intelligence, IoT
- 2.9.2. Big Data
- 2.9.3. Artificial Intelligence
- 2.9.4. Neural Networks

2.10. IT Software Security
- 2.10.1. IT Software Security
- 2.10.2. Servers
- 2.10.3. Ethical Aspects
- 2.10.4. European Data Protection Regulation (GDPR)
- 2.10.5. Risk Analysis and Management

Module 3. Technology and Development in Mobile Devices

3.1. Mobile Devices
- 3.1.1. Mobility
- 3.1.2. Management
- 3.1.3. Operability

3.2. Types of Mobile Devices
- 3.2.1. Smartphones
- 3.2.2. Tablets
- 3.2.3. Smart Watches

3.3. Mobile Device Components
- 3.3.1. Screens
- 3.3.2. Touch Keypads
- 3.3.3. Processors
- 3.3.4. Sensors and Connectors
- 3.3.5. Batteries

3.4. Wireless Communication
- 3.4.1. Wireless Communication
- 3.4.2. Wireless Communication Advantages
- 3.4.3. Wireless Communication Limitations

3.5. Wireless Communication Classification
- 3.5.1. Personal Networks
- 3.5.2. Local Networks
- 3.5.3. Powerful Networks
- 3.5.4. Standards

3.6. Mobile Application Development
- 3.6.1. Hybrid and Native Applications
- 3.6.2. Environment
- 3.6.3. Programming Languages
- 3.6.4. Distribution and Business

3.7. Android Application Development
- 3.7.1. Android Application Development
- 3.7.2. Android System Kernel
- 3.7.3. Android Software Tools

3.8. IOS Application Development
- 3.8.1. IOS Application Development
- 3.8.2. IOS Application Core
- 3.8.3. IOS Application Tools

3.9. Security on Mobile Devices
- 3.9.1. Safety Layers
- 3.9.2. Communication
- 3.9.3. Users
- 3.9.4. Applications
- 3.9.5. Operating System

3.10. Mobile Application Development. Tendencies Use Cases
- 3.10.1. Augmented Reality
- 3.10.2. Artificial Intelligence
- 3.10.3. Payment Solutions
- 3.10.4. Advantages of Blockchain

In TECH you will learn how to manage the security of mobile devices by working with layers"

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.

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.

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.

The student will learn, through collaborative activities and real cases, how to solve complex situations in real business environments.

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 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

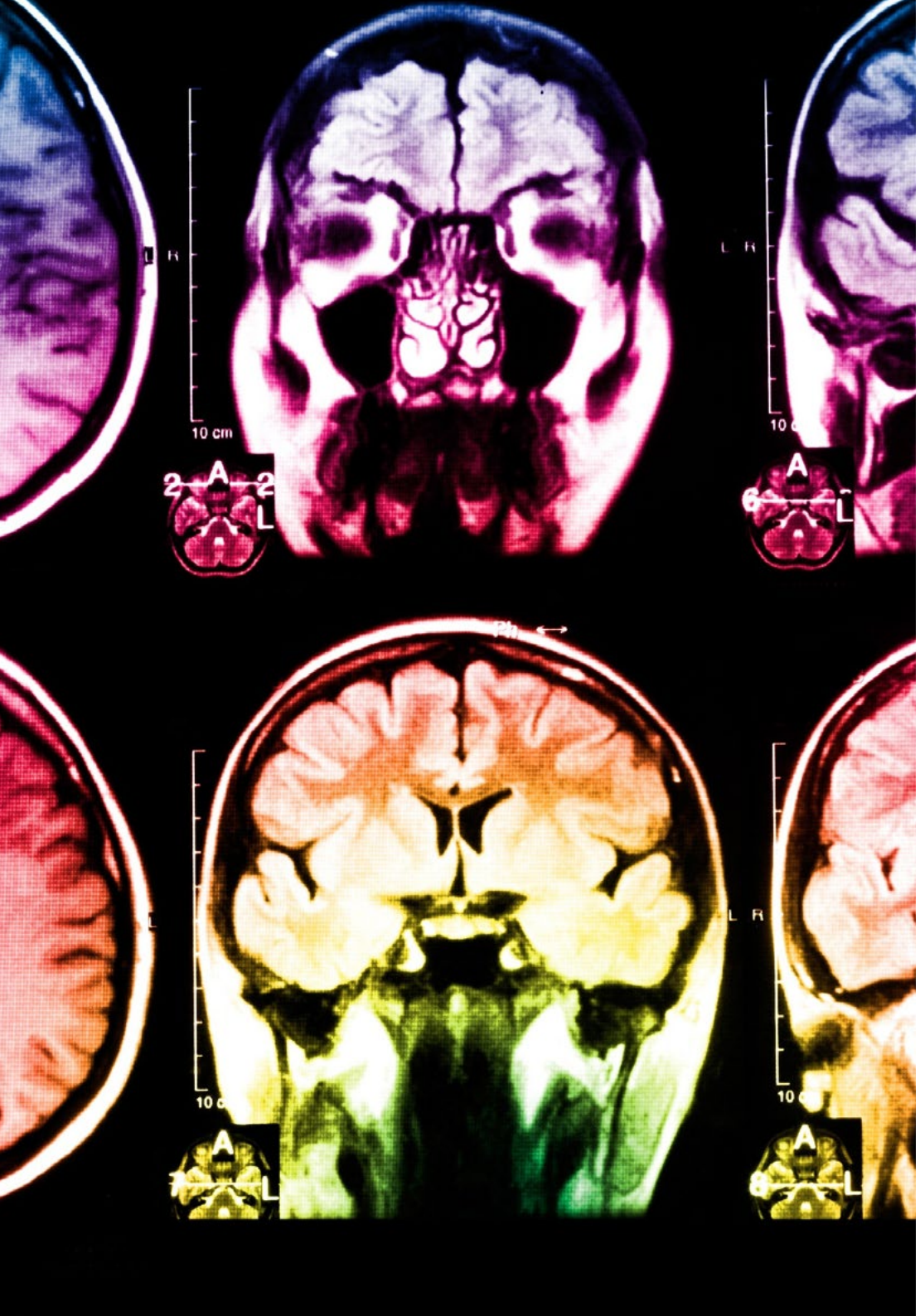
Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

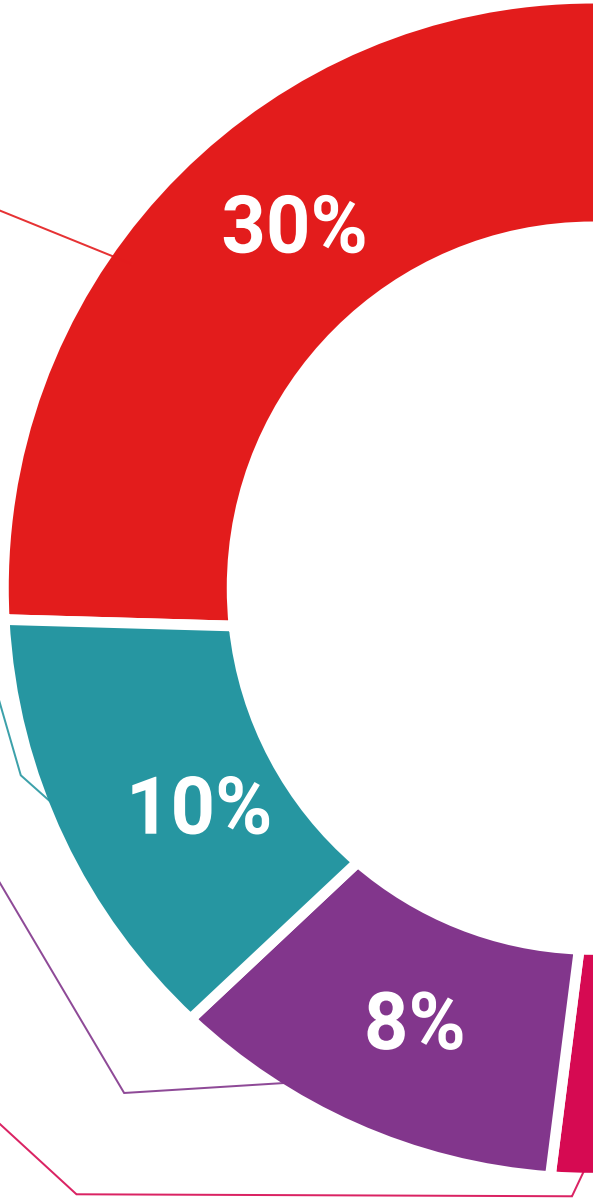
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

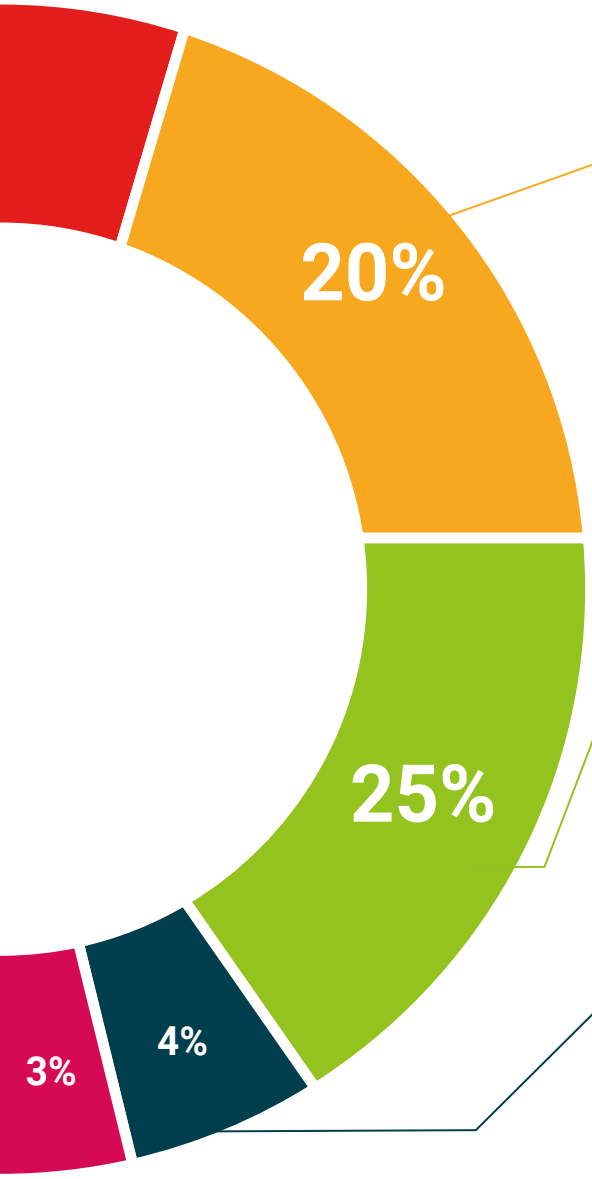
Practising Skills and Abilities

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 Cloud Software guarantees, in addition to the most rigorous and update training, access to a Postgraduate Diploma issued by TECH Technological University.

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

This **Postgraduate Diploma in Cloud Software** contains the most complete and updated program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** by 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 Cloud Software**

Official Nº of Hours: **450 hours.**


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 Software

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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper 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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