Professional Master's Degree
Advanced Systems Computing

tech *technological university*

Professional Master's Degree
Advanced Systems
Computing

- » Modality: **online**
- » Duration: **12 months**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/in/information-technology/professional-master-degree/master-advanced-systems-computing**

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01
Introduction

Today's world is driven by increasingly advanced information systems. Both in highly technical environments and in the development of applications on devices, the capacity and experience requirements are becoming increasingly high. This job profile, required by many companies in the sector, requires a deepening that goes beyond the academic field. For this reason, TECH has created this university program with the help of numerous IT specialists with extensive experience in all types of projects. This quality is palpable in the contents, which emanate both the most current theory and the unique practical vision of the entire teaching team.

> *Aspire to lead IT projects as ambitious as those of digital banking with this Professional Master's Degree in TECH"*

Project management, distributed systems design or software engineering are just some of the fields where specialization is no longer an advantage, but a sine qua non requirement to reach positions of responsibility and greater prestige. For this reason, the work of updating and specialization of IT professionals must be continuous, promoting their knowledge of the most advanced and innovative systems.

Focusing on optimal project management strategies, cloud computing and adaptation of classical computing into physical information systems, this university program offers comprehensive training in the Advanced Systems that the professional needs to master to further advance his or her career.

The teaching staff, composed of professionals with recognized experience in the field of Systems Engineering, have integrated their own personal experience into the contents of the entire syllabus. This guarantees that the Professional Master's Degree is not only limited to a theoretical aspect, but covers the most efficient and current practice used in all kinds of projects.

This is a great advantage for the IT professional, as he/she will not only be able to acquire top-level theoretical knowledge, but will also learn the practical keys to direct his/her career towards IT project management, development of mobile applications or control of security systems and Big Data, among many other professional opportunities provided by such an advanced degree.

All this with the flexibility needed to not have to sacrifice any aspect of your personal or professional life. In TECH there are no presential classes or fixed schedules, but it is the student himself who establishes his own study time and teaching load. The entire syllabus is available for download from the first day of the degree, and can be studied from any device with an internet connection.

This **Professional Master's Degree in Advanced Systems Computer** contains the most complete and up-to-date scientific program on the market. Its features are:

- The development of case studies presented by experts in Advanced Systems Informatics Advanced Systems

- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice

- Practical exercises where the self-assessment process can be carried out to improve learning

- Its special emphasis on innovative methodologies

- Theoretical lectures, questions to the expert and individual reflection assignments

- Access to content from any fixed or portable device with an Internet connection

Enroll now in the Professional Master's Degree that will take your IT career to the next level of knowledge and career success"

Choose where, when and how. You decide the distribution of your course load, giving you the flexibility you need to combine this degree with your daily professional and work activities"

It delves into the most sought-after professional skills in the advanced computing sector, including information systems security, solutions for uploading data and applications to the cloud or management of distributed systems.

You will be supported by the technical and teaching staff of the world's largest online academic institution, TECH.

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

This Professional Master's Degree in Advanced Systems Computing is aimed at developing the most important technical, theoretical and practical skills in this sector. Therefore, the IT professional will delve into issues such as the identification and design of Distributed Systems in Networks, modern computing alternatives, cloud provider services and a special focus on specific cases of Advanced Systems in Digital Banking.

You will incorporate innovative IT management methods into your daily practice even before the end of the program"

General Objectives

- Generate specialized knowledge about an IT project, its life cycle and management methods

- Examine project requirements and develop your business case

- Evaluate the different IT project management methodologies by applying the most appropriate tools and techniques

- Apply the software tools available on the market

- Consolidate the knowledge of distributed systems with an updated vision of them in view of their evolution in recent years

- Modernize the vision of distributed systems on aspects and fundamentals that are current in the market

- Analyze the Cloud Computing Paradigm

- Examining the main pieces of a cloud architecture

- Develop the software creation process

- Determine the different technologies for each sector

- Analyze the different current technologies with greater presence in the market

Specific Objectives

Module 1. IT Project Management and Direction

- Evaluate the difference between IT projects and processes
- Identify the success criteria of an IT project
- Analyze project scope and requirements to evaluate and defend your business case
- Identify the most appropriate management methodology for the project
- Apply the techniques and tools specific to the selected methodology
- Present, evaluate and discuss real cases, preparing the lessons learned report

Module 2. Design and Management of Distributed Systems and Networks

- Determine the characteristics and advantages of digital solutions based on distributed systems
- Analyze the main types of distributed systems, advantages, main differences between them, as well as the operation of each one of them.
- Establish the types, characteristics and advantages of going to a Cloud First Model, as reference platforms for a distributed system
- Deepen the key aspects of a client-server model, the basis of communications for distributed systems
- Generate specialized knowledge on the main integration architectures, based on distributed systems models that are currently being implemented by important customers in different sectors
- Analyze Blockchain technology as the main disruptive exponent of a distributed system today

Module 3. Cloud Computing in Computer and Information Systems Engineering

- Determine the different Cloud deployment options: multi-cloud, Hybrid Cloud, etc.
- Delve into 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 4. Software Engineering

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

Module 5. IoT Technologies Architecture

- Generate specialized knowledge on IoT
- Defining the criteria for building an IoT solution
- Develop consultative capabilities in the application of IoT use cases
- Determining the operating model of an IoT solution
- Justify the importance of IoT technology in society and in the coming years

Module 6. 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

Module 7. Artificial Intelligence in Systems Engineering and Computer Science

- Generate specialized knowledge on the Application and Advanced Techniques of Intelligent Systems and their Practical Application
- Formalize and design automatic reasoning systems
- Implement and apply machine learning techniques in prediction problems
- Generate specialized knowledge on artificial intelligence

Module 8. Security Systems

- Define security requirements
- Develop a security plan
- Determine the security systems to be deployed for the execution of a security plan
- Identify the operations necessary for the prevention mechanisms
- Establish guidelines for a logging and monitoring system
- Propose incident response actions
- Analyze the process of designing a security strategy when deploying corporate services
- Identify security areas
- Analyze the services and tools in each of the security areas

Module 9. Big Data Applied in Systems Engineering and Computer Science

- Identify the benefits of analyzing and exploiting data for decision-making
- Analyze the course of the data from its origin to its exploitation
- Define the different forms of storage in which the information can be stored, taking into account the way in which it will be subsequently exploited
- Assess the importance of data analytics, as well as the generation of predictive models that provide efficient results
- Establish the minimum requirements in terms of privacy that are necessary in the area of access to and use of information
- Identify the different elements that make up the platform architecture and the necessary interaction between them
- Analyze the different sources of data that can be the sources of information for the process

- Define the different forms of storage in which the information can be stored, taking into account the way in which it will be subsequently exploited

- Establish the minimum requirements in terms of privacy that are necessary in the area of access to and use of information

- Identify the different elements that make up the platform architecture and the necessary interaction between them

- Develop the differences between the different possibilities of analyzing the information according to the result to be obtained

- Identify the traceability of the data to analyze its usability in those areas where it is present

Module 10. IT (Information Technology) Governance and Management

- Determine the roles of IT governance and IT management, identifying their differences.
- Develop the main elements of IT governance
- Analyze the most common frameworks
- Present common IT management processes
- Establish the importance of IT governance and management functions.
- Identify the different reference models and standards
- Propose actions for the implementation of an IT Government.
- Analyze the COBIT, ITIL frameworks.
- Identify IT management functions
- Examine how new technologies such as Cloud Computing and AI are being integrated into IT governance

The teaching staff has put a lot of effort in the elaboration of all the contents, guaranteeing you the best quality to reach your most ambitious professional goals"

03
Skills

Through an exhaustive and thorough teaching, the IT professional will acquire specialized knowledge in all the advanced techniques to Manage a Software Engineering Project, discussing the requirements with potential customers, analyzing the impact of their modification throughout the project life cycle, managing the artifacts and generating the different versions of them for their correct packaging, testing and subsequent distribution. In addition, it will focus on fields such as the use of data and the applicability of artificial intelligence, risk analysis and the development of strategic security plans. All of this is especially aimed at maximizing the most important competencies of any modern and up-to-date IT professional.

The skills you will develop throughout the program will be the key to your future career success as the manager of your own IT projects"

General Skills

- Identify project risks, mitigating their impact and managing communication during project monitoring and control
- Present a holistic view of distributed systems.
- Identify the different approaches based on the degree of automation and service.
- Establishing the differences with an on-premise architecture
- Analyze work methodologies
- Evaluate the suitability of the use of IoT solutions.
- Examine the different alternatives for the development of mobile applications
- Identify best practices to ensure mobile device security
- Master the technologies for the development of mobile applications with native and hybrid solutions.
- Identify security risks in a technological platform

This unique skill set will more than distinguish you ahead of other candidates into the most prestigious management and leadership positions"
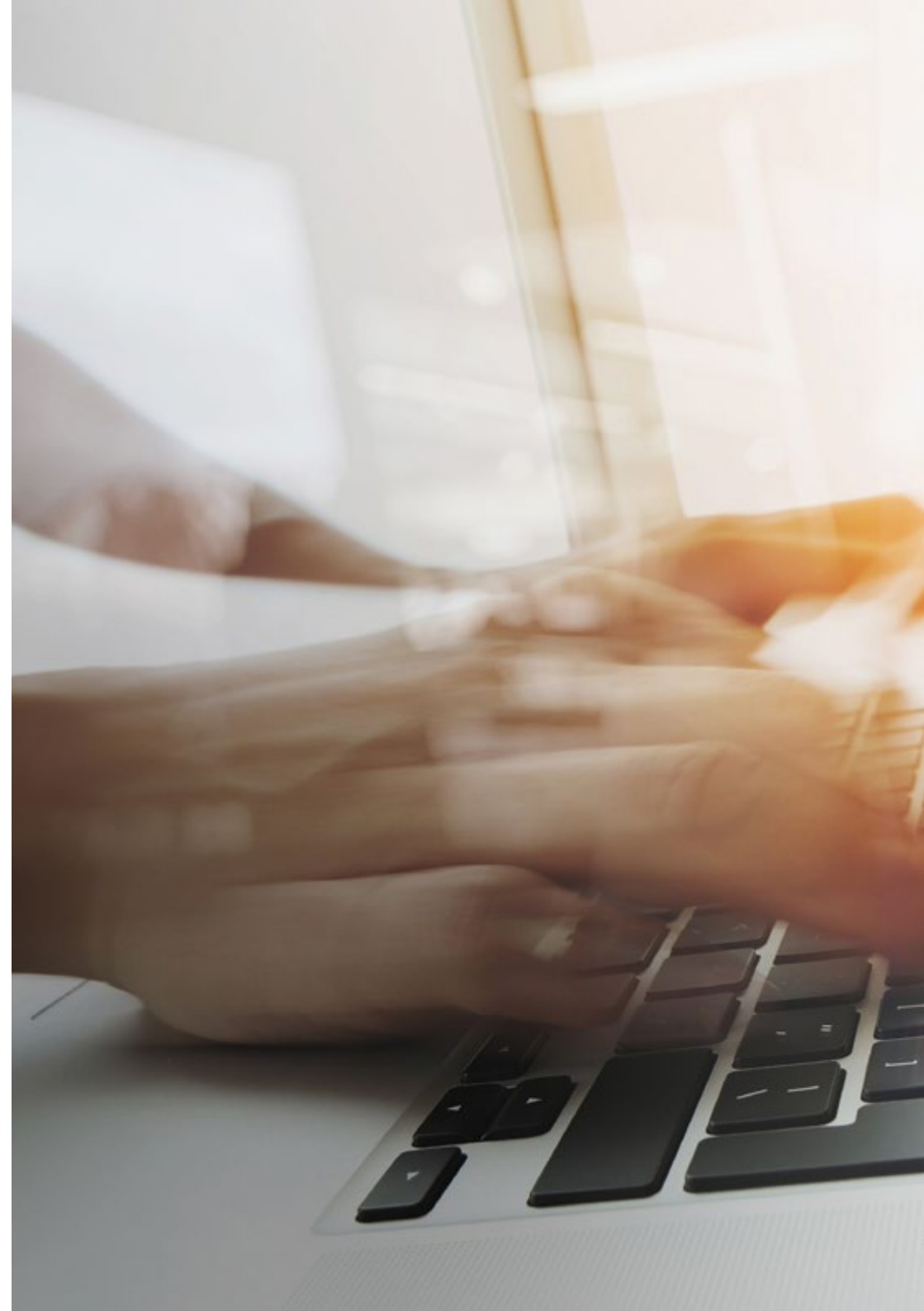
Specific Skills

- Apply effective communication techniques with project partners and stakeholders.

- Manage the phases of the project, implementing the necessary monitoring and control mechanisms and control mechanisms

- Examine the main components that make up a distributed system infrastructure and how they operate

- Develop the different types of architectures that make up a good design of a distributed system for its correct implementation.

- Analyze a basic IoT architecture

- Evaluating market solutions and their best application for each use case

- Identify which type of learning (supervised, unsupervised) is most appropriate for a given problem

- Identify the characteristics of an Intelligent System/Agent.

- Assess the importance of data analytics, as well as the generation of predictive models that provide efficient results

- Develop the elements of IT governance

04
Course Management

Since the contents of this Professional Master's Degree in Advanced Systems Computing require significant specialization and dedication, all the teachers responsible for the development of the program have vast and proven experience in the sector. From project management in digital banking to the implementation of *blockchain* technologies in different fields, all the didactic material benefits from a double theoretical and practical perspective that results in maximum efficiency in all the proposed contents.

"

You will have the personalized advice of a teaching staff committed to your professional improvement, giving you the keys and advice you need at all times"

Management

D. 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

D. Gómez Gómez, Borja

- Head of Blockchain and pre-sales architecture solutions at Paradigma Digital
- Business Development Manager at Oracle
- 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.

D. Castro Robredo, Alejandro Enrique

- Head of the Innovation Lab in Digital Architecture at Everis
- Head of the Digital Architecture Department at KPMG.
- 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

D. Gómez Rodríguez, Antonio

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

D. Nogales Ávila, Javier

- Enterprise Cloud and sourcing senior consultant. Quint
- Cloud and Technology Consultant. Indra
- Associate Technology Consultant. Accenture
- Graduate by Jaen University y University of Technology and Economics of Budapest (BME)
- Degree in Industrial Organization Engineering

D. 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

D. Calzada Martínez, Jesús

- Senior Software Engineer at Devo
- Desarrollador Full Stack en Blocknitive
- Front End Manager in Infinia
- Full Stack Developer at Resem
- Java Developer at Hitec
- Graduate in Computer Engineering

Ms. Gómez-Choco González, Rocío
- Data Engineer in the IT architecture department at Orange Bank
- Analytical consultant in the analysis and analytics department of Ernest and Young.
- Graduated in Communications Systems Engineering at Carlos III University.
- Postgraduate in Big Data & Analytics at Carlos III University
- Master's Degree in Big Data Architecture at Datahack School

D. Bernal de la Varga, Yeray
- Big Data Solutions Architect at Orange Bank
- Big Data Architect at Bankia
- Big Data Engineer at Hewlett-Packard
- Adjunct Professor in the Master of Big Data at the University of Deusto
- Degree in Computer Science from the Polytechnic University of Madrid.
- Expert in Big Data by U-TAD

Dr. Goncalves Da Silva, Marlene
- Analyst Programmer at Megasoft
- Researcher at the Polytechnic University of Madrid
- Consultant in MEG Data Intelligence
- D. in Computer Science from Universidad Simón Bolívar
- Degree in Computer Science from Universidad Central de Venezuela.
- Master's Degree in Computer Science from Simon Bolivar University

05
Structure and Content

To guarantee the maximum profitability of the teaching material, TECH uses a teaching methodology in which it is a pioneer: relearning. Through the gradual repetition of the most important terms and concepts throughout the program, the computer professional acquires a much more progressive and natural learning process. This saves you numerous hours of study time, which you can in turn devote to the many supplementary readings provided or practical exercises based on real cases.

You will be able to access a huge amount of high-quality audiovisual material, created by the teachers themselves to deepen or even summarize each of the proposed topics"

Module 1. IT Project Management and Direction

1.1. IT Project Management and Direction
  1.1.1. IT Project
  1.1.2. Project and Processes. Difference
  1.1.3. IT Project. Success Criteria
  1.1.4. IT Project Life Cycle
  1.1.5. IT Project Management and Direction. Application
1.2. IT Project Requirements Management
  1.2.1. Project Requirements Management
  1.2.2. Requirements Management and Traceability
  1.2.3. Requirements Management Tools
  1.2.4. IT Project Requirements Management. Application
1.3. IT Project Business Cases
  1.3.1. IT Project Business Cases
  1.3.2. Building the Business Case for the Project
  1.3.3. Project Success Criteria
  1.3.4. Financial Analysis and Monitoring of the Business Case Throughout the Life of the Project
  1.3.5. IT Project Business Cases. Application
1.4. IT Project Management and Direction
  1.4.1. Waterfall Project Management
  1.4.2. Tools of the Classic Management Methodology
  1.4.3. Phases of Classic Project Management: Initiation, Planning, Execution, Follow-up and Closure
  1.4.4. Classic IT Project Management and Direction. Application
1.5. AGILE Project Management and Direction
  1.5.1. Agile Project Management: Roles, Artifacts
  1.5.2. Scrum Planning
  1.5.3. Agile Estimation
  1.5.4. Planning and Execution of Sprints
  1.5.5. Effective use of Scrum. Application
  1.5.6. Agile Project Management and Leadership. Application

1.6. Lean IT and Kanban Project Management and Leadership
  1.6.1. Lean IT &Kanban. Application
  1.6.2. Lean IT and Kanban Advantages and Disadvantages
  1.6.3. Control Panels. Use
  1.6.4. Lean IT and Kanban Project Management and Leadership. Application
1.7. Risks in the Management and Direction of IT Projects
  1.7.1. Risk Types of Risk: Probability
  1.7.2. Risk Mitigation. Common IT Techniques
  1.7.3. Risk Management and Communication
  1.7.4. Risks in the Management and Direction of IT Projects. Application
1.8. IT Project Monitoring and Control
  1.8.1. Monitoring of Project Progress
  1.8.2. Project Cost Control
  1.8.3. Project Change Management
  1.8.4. Project Communications Management. Application
  1.8.5. Reporting and Tracking Metrics
  1.8.6. IT Project Monitoring and Control. Application
1.9. IT Project Office
  1.9.1. Projects, Project Portfolio and Programs
  1.9.2. Types of Project Offices: Functions
  1.9.3. Project Office Management Processes
  1.9.4. Management of a Project Office Application
1.10. Software Tools for IT Projects
  1.10.1. Requirements Management
  1.10.2. Configuration Management
  1.10.3. Project Planning and Monitoring
  1.10.4. Change Management
  1.10.5. Cost Management
  1.10.6. Risk Management.
  1.10.7. Communication Management
  1.10.8. Closure Management
  1.10.9. Examples of Tools. Templates

Module 2. Design and Management of Distributed Systems and Networks

2.1. Distributed Systems
- 2.1.1. Distributed Systems
- 2.1.2. Distributed Systems Features
- 2.1.3. Distributed Systems Advantages

2.2. Type of Distributed Systems
- 2.2.1. Cluster
- 2.2.2. Grid
- 2.2.3. Cloud

2.3. Distributed System Architectures
- 2.3.1. Functional Architecture (Business)
- 2.3.2. Application Architecture
- 2.3.3. Management Architecture (Government)
- 2.3.4. Technological Architecture

2.4. Infrastructure in a Distributed System
- 2.4.1. Hardware
- 2.4.2. Communication
- 2.4.3. Software
- 2.4.4. Security/Safety

2.5. Cloud Computing in Distributed Systems
- 2.5.1. Cloud Computing
- 2.5.2. Systems Cloud Computing. Types
- 2.5.3. Systems Cloud Computing. Advantages

2.6. Client-Server Communications
- 2.6.1. Transmission Types
- 2.6.2. Communication Models
- 2.6.3. Event-driven Communication

2.7. Integration Architectures
- 2.7.1. APIs
- 2.7.2. Microservice Architectures
- 2.7.3. Event-Driven Architectures
- 2.7.4. Reactive Architectures

2.8. Distributed Registration Technologies
- 2.8.1. Distributed Registration Technologies
- 2.8.2. Distributed Registration Technologies. Typology
- 2.8.3. Distributed Registration Technologies. Advantages

2.9. Blockchain as a Distributed System
- 2.9.1. Blockchain as a Distributed System
- 2.9.2. Blockchain Networks. Typology
- 2.9.3. Tokens and Redes Blockchain. Typology
- 2.9.4. Blockchain Technologies
- 2.9.5. Use Case

2.10. Blockchain Decentralized Blockchain Paradigm
- 2.10.1. Consensus Systems
- 2.10.2. Mining
- 2.10.3. Hashing
- 2.10.4. Security/safety

Module 3. Cloud Computing in Computer and Information Systems Engineering

3.1. Cloud Computing
- 3.1.1. State of the Art of the IT Landscape
- 3.1.2. Cloud
- 3.1.3. Cloud Computing

3.2. Security and Resilience in the Cloud
- 3.2.1. Regions, Availability and Failure Zones
- 3.2.2. Tenant or *Cloud* Account Management
- 3.2.3. Cloud Identity and Access Control

Module 4. Software Engineering

4.6. Container Management in Cloud Computing
    4.6.1. Container Technology
    4.6.2. Containers with Docker and Docker-Compose Technology
    4.6.3. Container Orchestration with Kubernetes
    4.6.4. Containers in Cloud Computing

4.7. Testing and Continuous Integration
    4.7.1. Testing and Continuous Integration
    4.7.2. Unit Tests
    4.7.3. Test e2e
    4.7.4. Test Driven Development (TDD)
    4.7.5. Continuous Integration

4.8. Software-Oriented Blockchain
    4.8.1. Software-Oriented Blockchain
    4.8.2. Cryptocurrencies
    4.8.3. Types of Blockchain

4.9. Big Data Software, Artificial Intelligence, IoT
    4.9.1. Big Data, Artificial Intelligence, IoT
    4.9.2. Big Data
    4.9.3. Artificial Intelligence
    4.9.4. Neural Networks

4.10. IT Software Security
    4.10.1. IT Software Security
    4.10.2. Servers
    4.10.3. Ethical Aspects
    4.10.4. European Data Protection Regulation (GDPR)
    4.10.5. Risk Analysis and Management

Module 5. IoT Technologies Architecture

5.1. The Art of the Internet of Things (IoT)
    5.1.1. Internet of Things IoT
    5.1.2. IoT Technologies
    5.1.3. Internet of Things. Advanced Concepts

5.2. IoT Solution Architecture
    5.2.1. IoT Solutions Architecture
    5.2.2. Design of an IoT Architecture
    5.2.3. Operation and Data Management of an IoT Solution

5.3. IoT and other Technology Trends
    5.3.1. Cloud Computing
    5.3.2. Machine/Deep Learning
    5.3.3. Artificial Intelligence

5.4. IoT Solution Platforms
    5.4.1. Development Platforms
    5.4.2. IoT Solutions
    5.4.3. IoT Solutions Platforms. Advanced Concepts

5.5. Smart Things
    5.5.1. Smart Buildings
    5.5.2. Smart Cities
    5.5.3. Intelligent Networks

5.6. Sustainability and IoT
    5.6.1. Sustainability and Emerging Technologies
    5.6.2. Sustainability in IoT
    5.6.3. Sustainable IoT use Cases

5.7. IoT. Use Cases
    5.7.1. Cases of use in the Healthcare Sector
    5.7.2. Use Cases in Industrial Environments
    5.7.3. Use Cases in the Logistics Sector
    5.7.4. Cases of use in the Agriculture and Livestock Sector
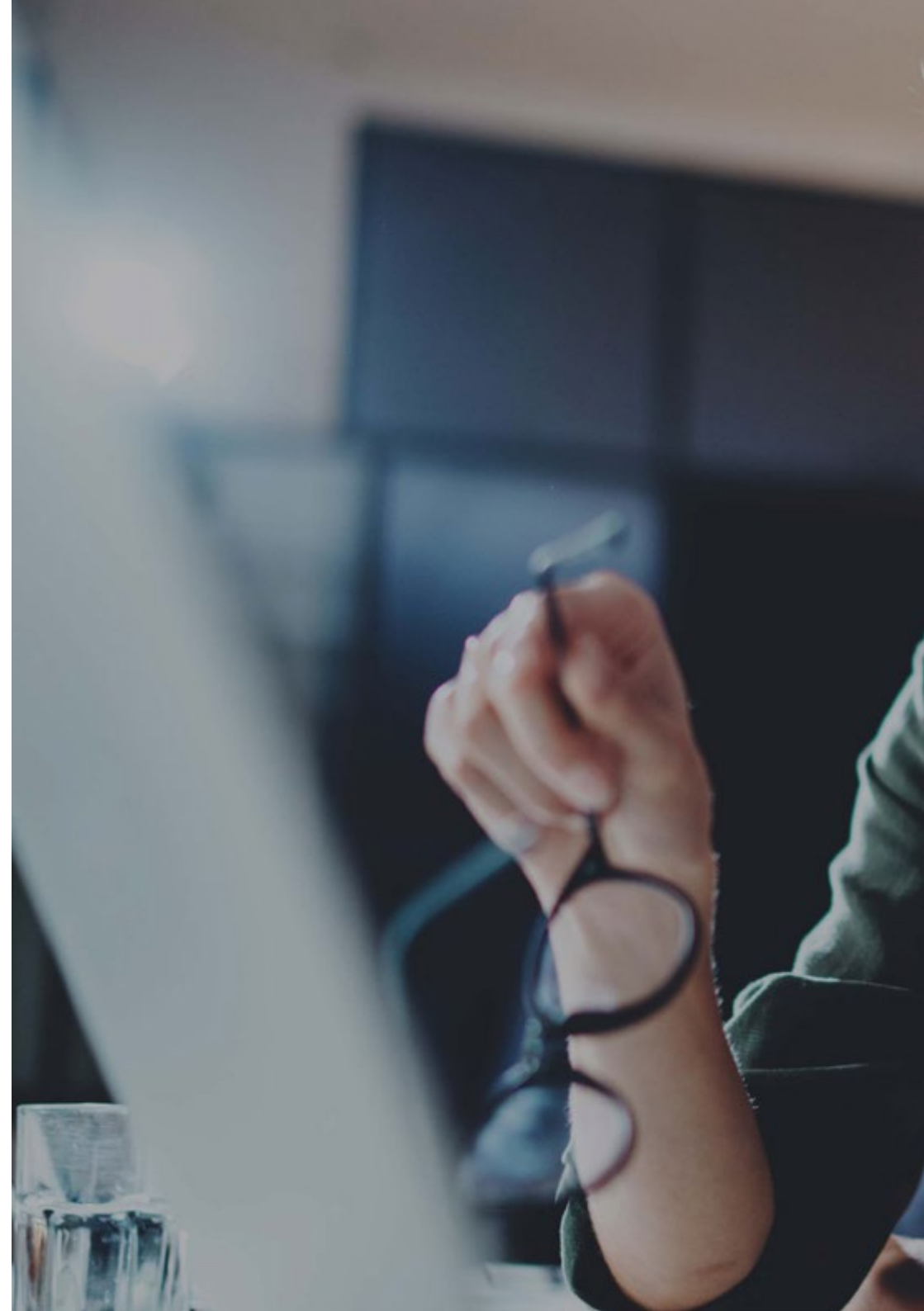   5.7.5. Other use Cases

Module 6. Technology and Development in Mobile Devices

Module 7. Artificial Intelligence in Systems Engineering and Computer Science

Module 8. Security Systems

8.5.   Identity and Permission Management Systems

    8.5.1.   Authentication Management Systems

    8.5.2.   Authorization Management System: Access Policies

    8.5.3.   Key Management Systems

8.6.   Data Security

    8.6.1.   Securitization of Storage Systems

    8.6.2.   Protection of Database Systems

    8.6.3.   Securing Data in Transit

8.7.   Operating Systems Security

    8.7.1.   Linux

    8.7.2.   Windows

    8.7.3.   Vulnerability Scanning and Patching

8.8.   Detection of Threats and Attacks

    8.8.1.   Auditing, Logging and Monitoring Systems

    8.8.2.   Event and Alarm Systems

    8.8.3.   SIEM Systems

8.9.   Incident Response

    8.9.1.   Incident Response Plan

    8.9.2.   Ensuring Business Continuity

    8.9.3.   Forensic Analysis and Remediation of Incidents of the Same Nature.

8.10.   Security in Cloud Environments

    8.10.1.   Security in Cloud Environments

    8.10.2.   Shared Management Model

    8.10.3.   Security Management Systems Application

Module 9. Big Data in Systems Engineering and Computer Science

9.1.   Big Data Applied to IT

    9.1.1.   Big Data Applied to IT

    9.1.2.   Big Data. Opportunities

    9.1.3.   Big Data. Application

9.2.   Information and Data

    9.2.1.   Information Sources

    9.2.2.   Quality

    9.2.3.   Transformation

9.3.   Processing Big Data.

    9.3.1.   Big Data Processing. Hadoop

    9.3.2.   Big Data Processing Spark

    9.3.3.   Streaming Processing

9.4.   Data Storage

    9.4.1.   Data Storage Databases

    9.4.2.   Data Storage Cloud

    9.4.3.   Data storage. Information Use

9.5.   Architecture Big Data

    9.5.1.   Big Data Architecture. Data Lake

    9.5.2.   Big Data Architecture. Process Monitoring

    9.5.3.   Big Data Architecture. Cloud Computing

9.6.   Data Analysis

    9.6.1.   Data Analysis. Predictive Modeling

    9.6.2.   Data Analysis. Machine Learning

    9.6.3.   Data Analysis. Deep Learning

9.7.   Data Visualization

    9.7.1.   Types

    9.7.2.   Visualization Tools

    9.7.3.   Reporting Tools

9.8.   Information Use

    9.8.1.   Business Intelligence

    9.8.2.   Business Analytics

    9.8.3.   Data Science

Module 10. IT (Information Technology) Governance and Management

This is the Opportunity You've Been Waiting For to Take Your IT Career to its Zenith. Don't wait any longer and finalize your registration today"

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.

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.

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

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.

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:
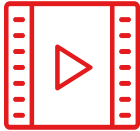
Study Material

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 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.

30%

10%

8%

20%

25%

4%

3%
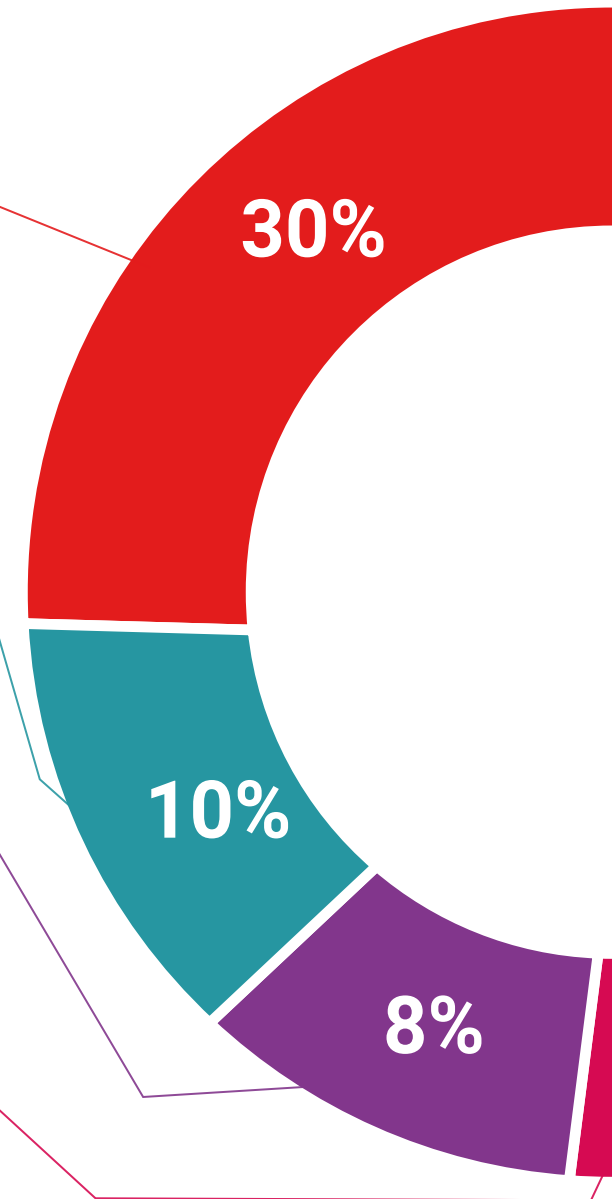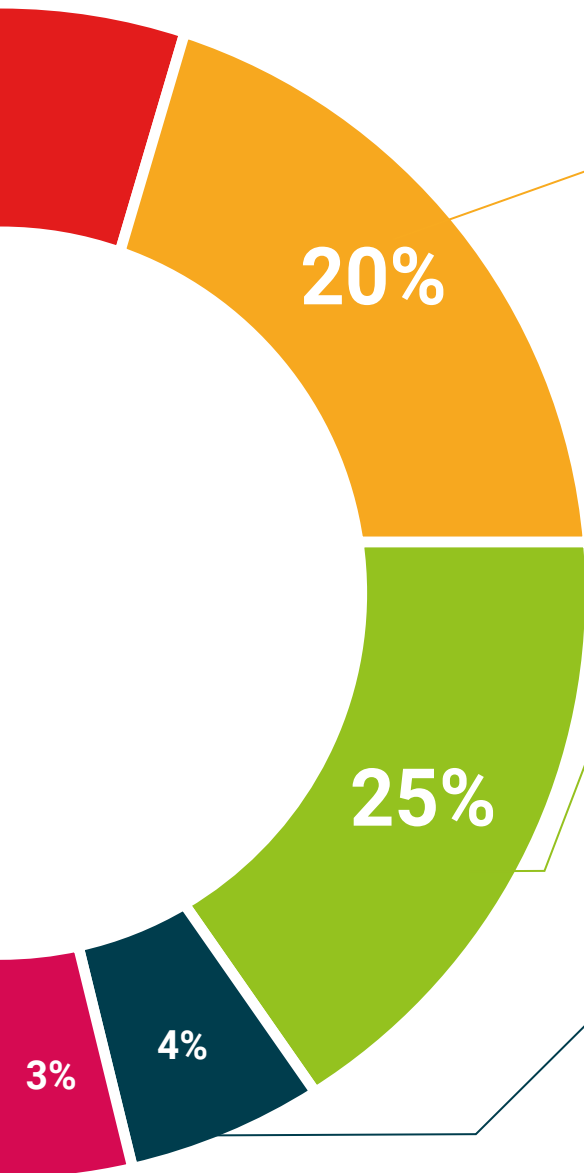
Case Studies

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.

Certificate

The Professional Master's Degree in Advanced Systems Computing guarantees, in addition to the most rigorous and up-to-date training, access to a Professional Master's Degree issued by TECH Technological University.

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

This **Professional Master's Degree in Advanced Systems Computing** contains the most complete and up-to-date scientific program on the market.

After passing the assessments, students will receive their corresponding **Professional Master's Degree** certificate issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by job exchanges, competitive examinations and professional career evaluation committees.
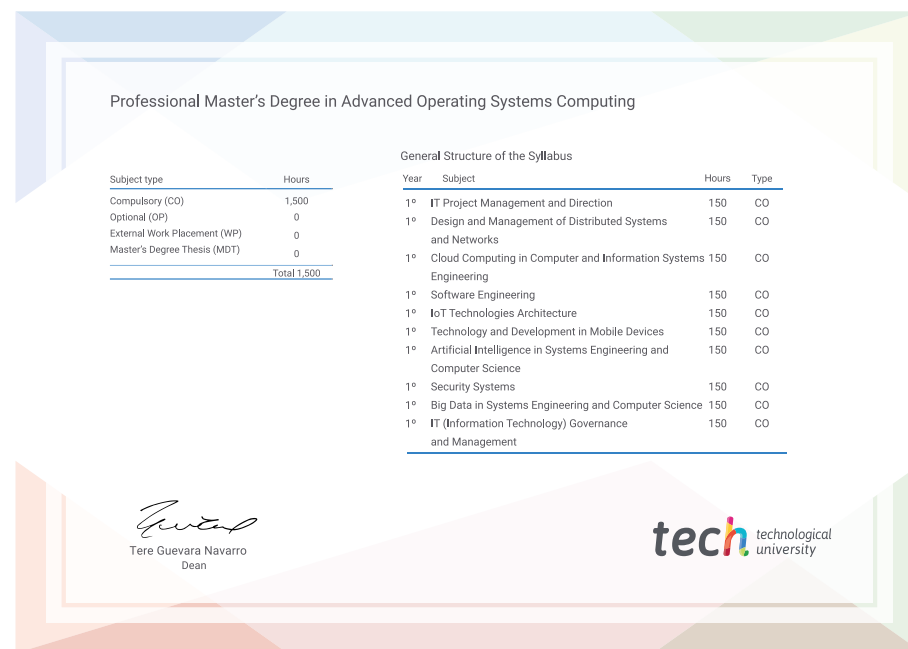
Title: **Professional Master's Degree in Advanced Operating Systems Computing**

Official Nº of Hours: **1,500 hours.**

tech technological university

Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE
in

Advanced Operating Systems Computing

This is a qualification awarded by this University, equivalent to 1,500 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

Professional Master's Degree in Advanced Operating Systems Computing

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
Total	1,500

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	IT Project Management and Direction	150	CO
1º	Design and Management of Distributed Systems and Networks	150	CO
1º	Cloud Computing in Computer and Information Systems Engineering	150	CO
1º	Software Engineering	150	CO
1º	IoT Technologies Architecture	150	CO
1º	Technology and Development in Mobile Devices	150	CO
1º	Artificial Intelligence in Systems Engineering and Computer Science	150	CO
1º	Security Systems	150	CO
1º	Big Data in Systems Engineering and Computer Science	150	CO
1º	IT (Information Technology) Governance and Management	150	CO

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*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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Professional Master's Degree
Advanced Systems Computing

» Modality: **online**
» Duration: **12 months**
» Certificate: **TECH Technological University**
» Dedication: **16h/week**
» Schedule: **at your own pace**
» Exams: **online**

Professional Master's Degree
Advanced Systems Computing

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