Master's Degree

Advanced Systems Computing

Accreditation/Membership

Association
for Computing
Machinery

tech global university

tech global university

Master's Degree
Advanced Systems Computing

- Modality: **Online**
- Duration: **12 months.**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/information-technology/master-degree/master-advanced-systems-computing

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01

Introduction to the Program

Advanced Systems Computing drives the development of intelligent infrastructures capable of meeting the growing demands for processing, security, and efficiency in digital environments. Thanks to this advancement, an increasing number of sectors are incorporating automated solutions and distributed architectures. According to a report from the National Institute of Statistics, 83% of Spanish companies with more than 10 employees use cloud services to optimize their processes and data management. In response to this scenario, TECH offers an academic opportunity focused on mastering these emerging technologies. Its methodological approach, based on a 100% online structure and specialized teaching resources, will facilitate the acquisition of skills applicable to complex systems from a flexible and up-to-date perspective.

A comprehensive and 100% online program, exclusive to TECH, with an international perspective supported by our membership with the Association for Computing Machinery"

Currently, technological development has established new environments where process optimization, information security, and connectivity are essential for the competitiveness of any organization. In this context, Advanced Systems Computing enables the integration of complex solutions, the automation of processes, and data-driven decision-making. Thanks to this discipline, it is possible to build robust, adaptable, and scalable infrastructures.

Aware of this reality, TECH Global University will deepen current knowledge through an academic plan focused on IT project management and leadership, as well as the administration of distributed systems and networks. Additionally, cloud computing environments, essential for service virtualization, massive data storage, and on-demand technological solutions, will be precisely addressed. Through this approach, students will be guaranteed technical preparation aligned with market demands and the most globally used technological development models.

Through this university program, professionals will acquire tools to lead technological initiatives, coordinate multidisciplinary teams, and make strategic decisions in high-demand environments. They will also develop competencies to manage complex infrastructures, oversee cloud migration projects, and optimize technological resources sustainably. In fact, this academic path will expand professional horizons and open doors to key positions in companies that require profiles with a solid technical foundation and a global vision of computer systems.

On the other hand, TECH Global University's methodology adapts to the real needs of the professional environment. Moreover, its 100% online study system allows students to progress at any time of the day, seven days a week, and from any device with an internet connection. This model incorporates the Relearning method, a strategy that enhances knowledge retention through contextualized repetition and active experience, promoting a deeper and more lasting mastery of the content.

Furthermore, thanks to TECH's membership in the **Association for Computing Machinery (ACM)**, students will have access to exclusive and up-to-date resources, such as scientific publications, specialized courses, and international conferences. Additionally, they will have the opportunity to expand their network by connecting with experts in technology, artificial intelligence, data science, and other key disciplines in the sector.

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

- The development of practical cases presented by experts in Advanced Systems Computing
- 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 self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in Computing
- Theoretical lessons, questions for experts, discussion forums on controversial issues and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection

You will gain comprehensive knowledge of the technical and security standards that govern current development.

You will deepen your understanding of the fundamentals and applications of Computer Systems, addressing everything from advanced architecture to the management of complex infrastructures"

You will enhance your competencies in IT project management, effectively overseeing each phase.

You will perfect your skills in the use of cloud computing, adapting its technological solutions to the most demanding standards.

The program includes faculty members from the field of Advanced Systems Computing, who bring their work experience to this program, along with 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 an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.

Study at the largest online university in the world and ensure your professional success. The future begins at TECH"

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

This innovative academic path, which complements this university program, will address key concepts in Advanced Systems Computing. It will also delve into the design of architectures for IoT technologies, incorporate the analysis of large data volumes through Big Data, and allow exploration of innovative solutions in mobile devices. Additionally, it will focus on the implementation of security systems, essential to ensuring the integrity of information in distributed environments. This thematic structure, articulated with an applied approach, will enhance the development of technical competencies necessary to lead technological projects in highly specialized sectors.

You will manage modern Big Data tools to handle large data volumes"

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. *Sprints* Planning and Execution
- 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 Direction
- 1.6.1. Lean IT and Kanban. Application
- 1.6.2. Lean IT and Kanban Advantages and Disadvantages
- 1.6.3. Control Panels. Usage
- 1.6.4. Lean IT and Kanban Project Management and Direction. 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. Characteristics
- 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. Communications
- 2.4.3. *Software*
- 2.4.4. Security

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 Communication
- 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 in Blockchain Networks. Types
- 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

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. The 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

3.3. Cloud Networking
- 3.3.1. Software-Defined Virtual Networks
- 3.3.2. Network Components of a Software-Defined Network
- 3.3.3. Connection with other Systems

3.4. Cloud Services
- 3.4.1. Infrastructure as a Service
- 3.4.2. Platform as a Service
- 3.4.3. Serverless Computing
- 3.4.4. Software as a Service

3.5. High-Performance Computing
- 3.5.1. High-Performance Computing
- 3.5.2. Creation of a High-Performance Cluster
- 3.5.3. Application of High-Performance Computing

3.6. Cloud Storage
- 3.6.1. Block Storage in the Cloud
- 3.6.2. Block Storage in the Cloud
- 3.6.3. Block Storage in the Cloud

3.7. Block Storage in the Cloud
- 3.7.1. Cloud Monitoring and Management
- 3.7.2. Interaction with the Cloud: Administration Console
- 3.7.3. Interaction with Command Line Interface
- 3.7.4. API-Based Interaction

3.8. Cloud-Native Development
- 3.8.1. Native Development in the Cloud
- 3.8.2. Containers and Container Orchestration Platforms
- 3.8.3. Continuous Cloud Integration
- 3.8.4. Use of Events in the Cloud

3.9. Infrastructure as Code in the Cloud
- 3.9.1. Management and Provisioning Automation in the Cloud
- 3.9.2. *Terraform*
- 3.9.3. Scripting Integration

3.10. Creation of a Hybrid Infrastructure
- 3.10.1. Interconnection
- 3.10.2. Interconnection with Datacenter
- 3.10.3. Interconnection with other Clouds

Module 4. Software Engineering

4.1. Software Applications in Information Technology
- 4.1.1. Software Applications
- 4.1.2. Life Cycle
- 4.1.3. Architecture
- 4.1.4. Methods

4.2. Project Management and IT Methodologies
- 4.2.1. Project Management
- 4.2.2. Agile Methodologies
- 4.2.3. Tools

4.3. Front-End Development and Mobile Applications
- 4.3.1. Front-End Development and Mobile Applications
- 4.3.2. HTML, CSS
- 4.3.3. JavaScript, jQuery
- 4.3.4. Angular
- 4.3.5. React

4.4. Back-End Development of Software Applications
- 4.4.1. Backend Development of Software Applications
- 4.4.2. Back-End Architecture of Software Applications
- 4.4.3. Back-End Programming Languages
- 4.4.4. Application Servers in Software Architecture

4.5. Data Storage, Databases and Caching
- 4.5.1. Data Management of Software Applications
- 4.5.2. File System
- 4.5.3. Relational Databases
- 4.5.4. Non-Relational Databases
- 4.5.5. Cache

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. Architecture of IoT Technologies

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

5.2. IoT Solution Architecture
- 5.2.1. IoT Solution 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 Solution Platforms. Advanced Concepts

5.5. *Smart Things*
- 5.5.1. *Smartbuildings*
- 5.5.2. *Smartcities*
- 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 (Internet of Things). 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

5.8. IoT Business Ecosystem
- 5.8.1. Solution Providers
- 5.8.2. IoT Consumers
- 5.8.3. IoT Ecosystem

5.9. The Role of the IoT Engineer
- 5.9.1. IoT Engineer Role. Competences
- 5.9.2. The Role of the IoT Specialist in Companies
- 5.9.3. Recognized Certifications in the Market

5.10. IoT Challenges
- 5.10.1. IoT Adoption Targets
- 5.10.2. Main Barriers to Adoption
- 5.10.3. LoT Applications Future of IoT

Module 6. Technology and Development in Mobile Devices

6.1. Mobile Devices
- 6.1.1. Mobility
- 6.1.2. Management
- 6.1.3. Operability

6.2. Types of Mobile Devices
- 6.2.1. Smartphones
- 6.2.2. Tablets
- 6.2.3. Smart Watches

6.3. Mobile Device Components
- 6.3.1. Screens
- 6.3.2. Touch Keypads
- 6.3.3. Processors
- 6.3.4. Sensors and Connectors
- 6.3.5. Batteries

6.4. Wireless Communication
- 6.4.1. Wireless Communication
- 6.4.2. Wireless Communication. Advantages
- 6.4.3. Wireless Communication. Limitations

6.5. Wireless Communication Classification
- 6.5.1. Personal Networks
- 6.5.2. Local Networks
- 6.5.3. Powerful Networks
- 6.5.4. Standards

6.6. Mobile Application Development
- 6.6.1. Hybrid and Native Applications
- 6.6.2. Environment
- 6.6.3. Programming Languages
- 6.6.4. Distribution and Business

6.7. Android Application Development
- 6.7.1. Android Application Development
- 6.7.2. Android System Kernel
- 6.7.3. Android Software Tools

6.8. IOS Application Development
- 6.8.1. IOS Application Development
- 6.8.2. IOS Application Core
- 6.8.3. IOS Application Tools

6.9. Security on Mobile Devices
- 6.9.1. Safety Layers
- 6.9.2. Communications
- 6.9.3. Users
- 6.9.4. Applications
- 6.9.5. Operating System

6.10. Mobile Application Development. Tendencies Use Cases
- 6.10.1. Augmented Reality
- 6.10.2. Artificial Intelligence
- 6.10.3. Payment Solutions
- 6.10.4. Advantages of Blockchain

Module 7. Artificial Intelligence in Systems Engineering and Computer Science

7.1. Artificial Intelligence
- 7.1.1. Intelligence in Systems Engineering
- 7.1.2. Artificial Intelligence
- 7.1.3. Artificial Intelligence. Advanced Concepts

7.2. Importance of Data
- 7.2.1. Data Ingestion
- 7.2.2. Analysis and Profiling
- 7.2.3. Data Refinement

7.3. Machine Learning in Artificial Intelligence
- 7.3.1. *Machine Learning*
- 7.3.2. Supervised Learning
- 7.3.3. Unsupervised Learning

7.4. Machine Learning in Artificial Intelligence
- 7.4.1. Deep Learning vs. Machine Learning
- 7.4.2. Neural Networks

7.5. Robotic Process Automation (RPA) in Artificial Intelligence
- 7.5.1. RPA in Artificial Intelligence
- 7.5.2. Process Automation. Good Practices
- 7.5.3. Process Automation. Continuing Improvement

7.6. Natural Language Processing (NLP) in Artificial Intelligence
- 7.6.1. NLP in Artificial Intelligence
- 7.6.2. NPL Applied to Software
- 7.6.3. NLP. Application

7.7. Image Recognition in Artificial Intelligence
- 7.7.1. Models
- 7.7.2. Algorithms
- 7.7.3. Applications

7.8. Neural Networks in Artificial Intelligence
- 7.8.1. Models
- 7.8.2. Learning Algorithms
- 7.8.3. Applications Neural Networks in Artificial Intelligence

7.9. Artificial Intelligence (AI) Model Life Cycle
- 7.9.1. Development of the Artificial Intelligence Model
- 7.9.2. Education
- 7.9.3. Putting into Production

7.10. New Application of Artificial Intelligence
- 7.10.1. Ethics in IA systems
- 7.10.2. Bias Detection
- 7.10.3. New Artificial Intelligence Applications

Module 8. Security Systems

8.1. Information Technology Security Systems
- 8.1.1. Information Systems Security Challenges
- 8.1.2. Types of Threats
- 8.1.3. Network and Internet Systems

8.2. Information Security Governance and Management
- 8.2.1. Security Governance. Safety Regulations
- 8.2.2. Risk Analysis
- 8.2.3. Security Planning

8.3. Cryptography and Certificate Technologies
- 8.3.1. Cryptographic Techniques
- 8.3.2. Cryptographic Protocols
- 8.3.3. Digital Certificates. Applications

8.4. Network and Communications Security
- 8.4.1. Security in Communication Systems
- 8.4.2. Firewall Security
- 8.4.3. Intrusion Detection and Prevention 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. Big Data Processing
- 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. The Cloud
- 9.4.3. Data Storage. Information Use

9.5. Big Data Architecture
- 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*

9.9. Privacy and Data Protection
- 9.9.1. Sensitive Data
- 9.9.2. Consent
- 9.9.3. Anonymization

9.10. Data Governance
- 9.10.1. Data Governance
- 9.10.2. *Data Lineage*
- 9.10.3. Data Catalog

Module 10. IT (Information Technology) Governance and Management

10.1. IT Governance and Management
- 10.1.1. IT Governance and Management
- 10.1.2. Advanced IT Governance
- 10.1.3. IT Governance: Security and Risk

10.2. Reference Sources for IT Governance
- 10.2.1. Frameworks and Models
- 10.2.2. IT Governance Standards
- 10.2.3. IT Governance Quality Systems

10.3. IT Governance. Structures and Management
- 10.3.1. Role of IT Governance
- 10.3.2. IT Governance Structures
- 10.3.3. Implementation of IT Governance

10.4. Key Elements in IT Governance
- 10.4.1. Enterprise Architecture
- 10.4.2. Data Governance
- 10.4.3. Relationship of IT Governance and AI

10.5. COBIT. Control Objectives for Information and Related Technologies
- 10.5.1. COBIT. Control Objectives
- 10.5.2. COBIT Framework
- 10.5.3. Areas, Domains and Processes

10.6. ITIL v4 Framework
- 10.6.1. ITIL v4 Framework
- 10.6.2. *Service Value System*
- 10.6.3. Dimensions and Principles

10.7. IT Governance Performance Measurement
- 10.7.1. IT Governance Monitoring and Control Principles
- 10.7.2. IT Governance Control Metrics
- 10.7.3. Integral Control Panel

10.8. IT Management
- 10.8.1. IT Management
- 10.8.2. IT Service Provider Procurement and Management
- 10.8.3. IT Performance Monitoring
- 10.8.4. IT Quality Assurance

10.9. Acquisition and Development of Information Systems
- 10.9.1. Project Management Structure
- 10.9.2. Product Development Methodology
- 10.9.3. Implementation and Exploitation of Information Systems

10.10. IT Governance, Management, and Cloud Computing
- 10.10.1. IT Governance and Management in Cloud Computing Environments
- 10.10.2. Shared Security Management Model
- 10.10.3. Enterprise Cloud Architectures

You will drive progress in Systems Engineering through adaptive solutions"

04

Teaching Objectives

The main purpose of this university program is to equip professionals with the necessary competencies to lead complex technological environments through the mastery of tools related to cloud computing and software-defined virtual networks. In fact, the development of skills focused on automation, scalability, and security in digital infrastructures will be promoted. Additionally, the ability to design efficient architectures, respond to the challenges of digital transformation, and take on strategic roles in organizations that demand high-performance technological solutions will be reinforced.

You will strengthen your technical knowledge in cloud computing through the use of virtualized environments and scalable solutions oriented to performance"

General Objectives

- Develop competencies to lead IT projects using agile methodologies and strategic approaches
- Integrate distributed systems and networks with efficiency and scalability criteria
- Implement cloud computing solutions adapted to complex environments
- Apply software engineering principles in designing robust applications
- Design IoT architectures oriented to smart connectivity
- Create functional, secure, and user-friendly mobile solutions
- Incorporate artificial intelligence techniques into technological processes
- Manage IT infrastructures with a focus on security, data analysis, and technology governance

Apply problem analysis and solution methodologies in critical IT infrastructures, ensuring their efficiency at all times"

Specific Objectives

Module 1. IT Project Management and Direction

- Master classic and agile methodologies for planning, executing, and monitoring technological projects
- Implement specialized tools for managing requirements, costs, risks, and communication in IT environments
- Design sustainable business cases applying financial analysis and success criteria throughout the project lifecycle
- Manage IT project offices by coordinating portfolios, processes, and strategic resources

Module 2. Design and Management of Distributed Systems and Networks

- Understand functional, technological, and management architectures applied to the design of distributed systems
- Implement solutions based on microservices, APIs, and reactive models for distributed environments
- Integrate distributed ledger technologies, including Blockchain, as support for decentralized infrastructures
- Evaluate client-server communication types and their impact on the efficiency of distributed networks

Module 3. Cloud Computing in Computer and Information Systems Engineering

- Design hybrid architectures that integrate cloud services with traditional data centers and other platforms
- Configure software-defined virtual networks to optimize connectivity and security in cloud environments
- Manage cloud-native environments using containers, orchestration, and automation with infrastructure as code
- Monitor cloud resources and services through graphical interfaces, APIs, and command lines to ensure operationality

Module 4. Software Engineering

- Implement robust software architectures using agile methodologies and IT project management tools
- Develop frontend interfaces and mobile applications using technologies like HTML, CSS, JavaScript, Angular, and React
- Integrate storage systems with relational and non-relational databases, including caching mechanisms
- Apply automated testing and continuous integration strategies in controlled backend and frontend development environments

Module 5. Architecture of IoT Technologies

- Design functional architectures for IoT solutions that integrate data management, development platforms, and smart connectivity
- Implement IoT use cases applied to sectors like healthcare, industry, logistics, and agriculture, considering sustainability criteria
- Employ emerging technologies like artificial intelligence, machine learning, and cloud computing in IoT environments
- Evaluate the strategic role of the IoT engineer in organizations and their adaptation to the current challenges of the business ecosystem

Module 6. Technology and Development in Mobile Devices

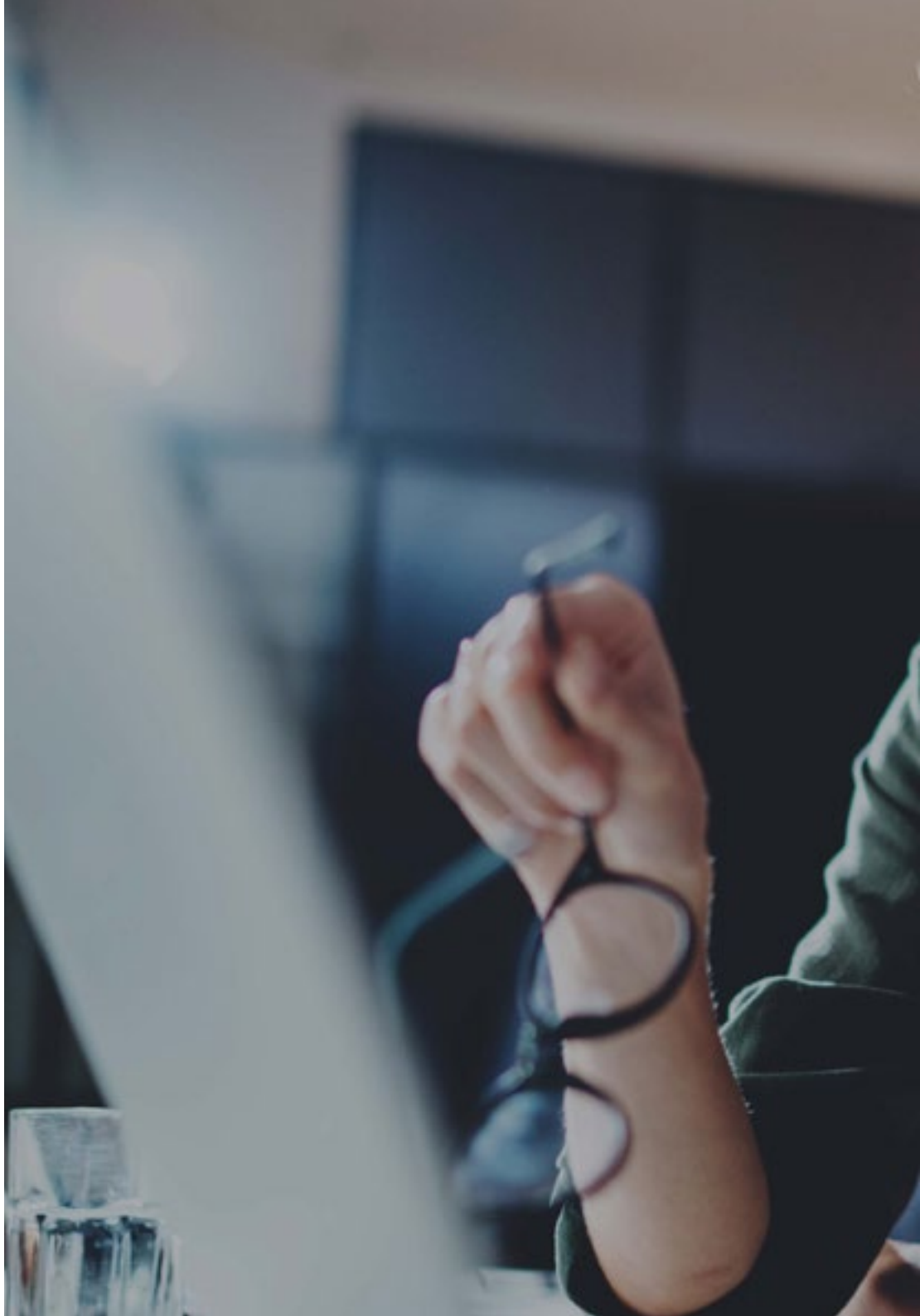
- Build mobile applications for Android and iOS systems using development environments and languages suitable for each platform
- Examine the capabilities of mobile devices based on their physical components and wireless communications
- Apply security principles in mobile app development, considering protection layers, the operating system, and user control
- Integrate emerging technologies like augmented reality, artificial intelligence, and blockchain into current mobile solutions

Module 7. Artificial Intelligence in Systems Engineering and Computer Science

- Design supervised and unsupervised learning models to solve complex problems using machine learning algorithms
- Implement deep neural networks for advanced tasks such as image recognition and natural language processing
- Integrate intelligent automation technologies like Robotic Process Automation (RPA) into workflows to optimize processes within IT environments
- Evaluate the lifecycle of AI models, from data ingestion and refinement to production deployment

Module 8. Security Systems

- Establish protection strategies against cyber threats using firewalls, intrusion detection systems, and Security Information and Event Management (SIEM) tools
- Develop incident response plans that ensure operational continuity and enable effective remediation
- Configure authentication, authorization, and key management policies that strengthen access control to information
- Apply cryptographic techniques and secure protocols to safeguard data integrity and confidentiality in transit and at rest



Module 9. Big Data in Systems Engineering and Computer Science

- Design big data architectures that integrate streaming processing, cloud storage, and analytical exploitation
- Implement predictive modeling and machine learning techniques to optimize the analysis of large data volumes
- Use visualization and reporting tools to facilitate the interpretation of complex information in business environments
- Integrate privacy, anonymization, and data governance policies to ensure regulatory compliance in handling sensitive data

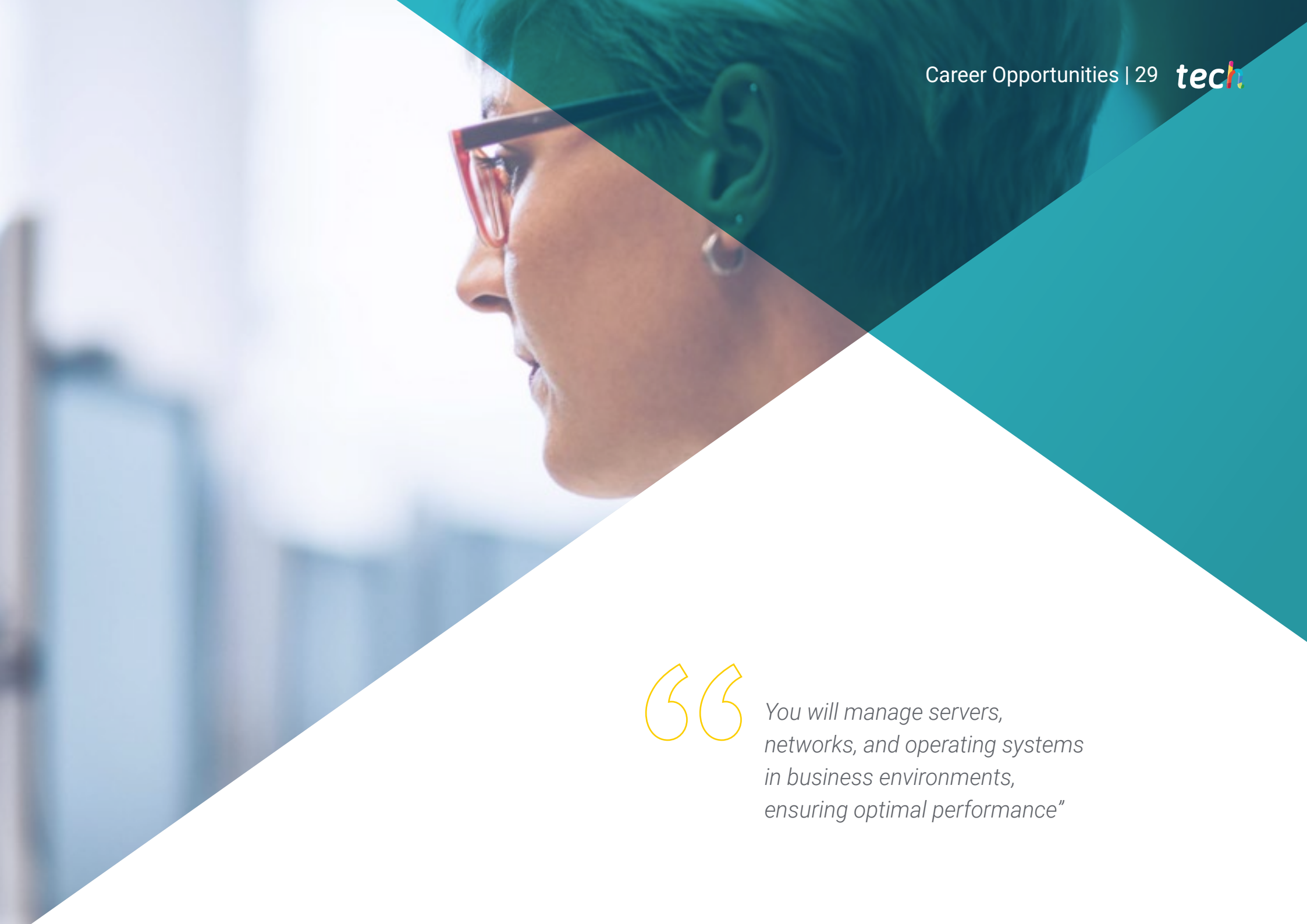
Module 10. IT (Information Technology) Governance and Management

- Establish IT governance structures that align technological objectives with business strategy
- Evaluate frameworks like COBIT and ITIL v4 to strengthen control and quality in the management of technological services
- Develop metrics and dashboards to monitor IT system performance and ensure continuous improvement
- Coordinate the implementation of information systems and enterprise architectures in cloud environments, considering shared security models

05

Career Opportunities

This Master's Degree will boost access to positions such as Chief Information Officer, Information Security Officer, or IT Architecture Consultant. It will also provide opportunities in technology departments of large corporations, strategic data centers, and companies specializing in cloud services. In fact, key competencies in automation, predictive analytics, and data governance will be acquired, strengthening the ability to lead complex projects in digital environments. Additionally, the graduate will be prepared to intervene in technological transformation processes across various IT sectors.



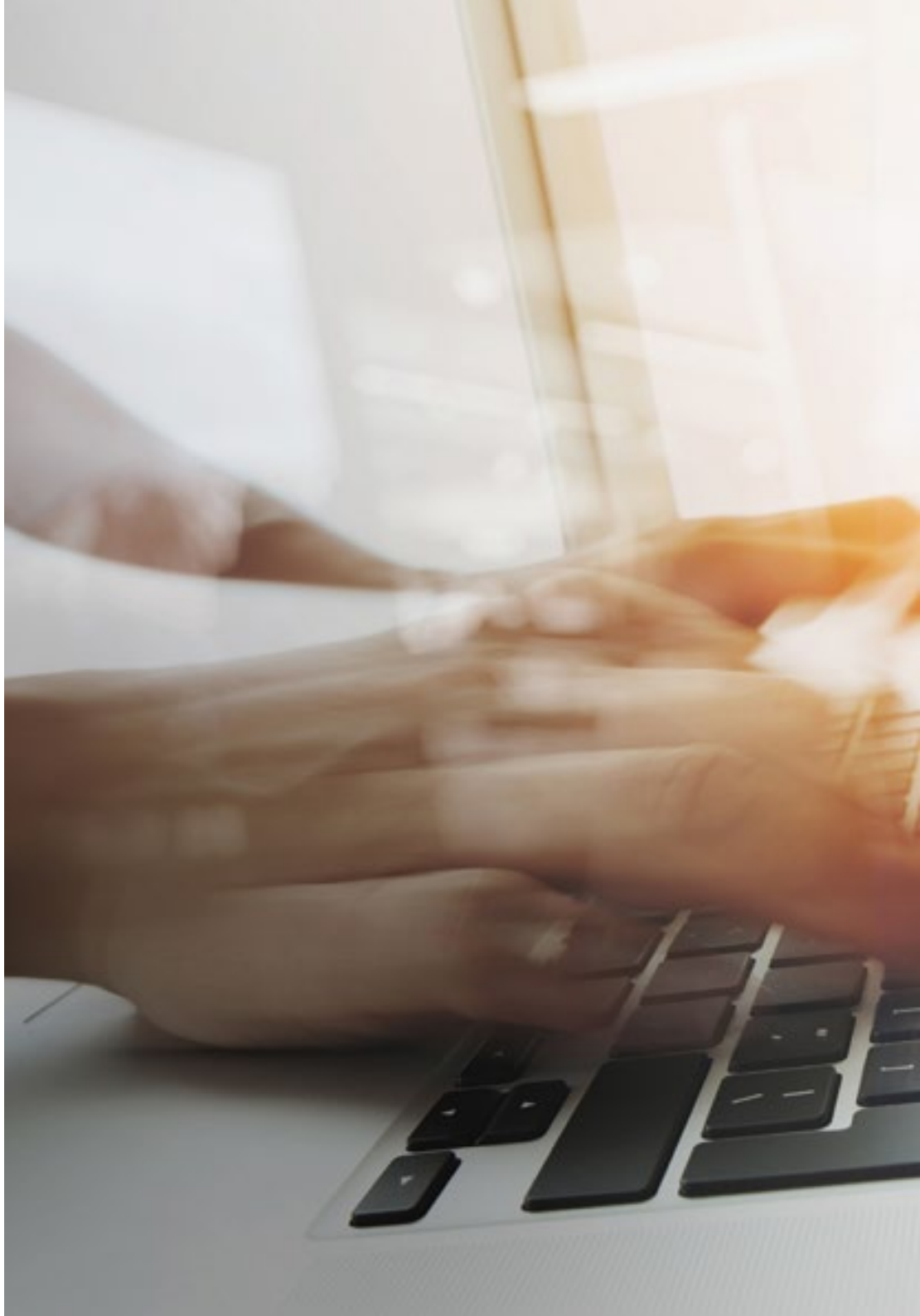
You will manage servers, networks, and operating systems in business environments, ensuring optimal performance"

Graduate Profile

The graduate will stand out for their comprehensive mastery of computer systems and their ability to make strategic decisions in complex technological environments. Furthermore, they will know how to implement solutions based on artificial intelligence, secure critical infrastructures, and lead digital transformation projects with an analytical and problem-solving approach. This is complemented by their ability to integrate emerging technologies, manage multidisciplinary teams, and ensure operational efficiency. On top of this, they will have a deep understanding of data governance and the ethical use of information. As such, they will be prepared to assume high-level responsibilities in innovative and highly digitized organizations.

You will lead Advanced Systems architecture and maintenance projects, optimizing resources and reducing downtime.

- **Critical Thinking:** Ability to assess complex situations with technical and strategic judgment, evaluating different alternatives before implementing high-impact technological solutions.
- **Leadership in Digital Environments:** Skill focused on coordinating multidisciplinary teams, driving innovation, and promoting a culture of continuous improvement in projects related to computer systems.
- **Effective Communication in Technical Contexts:** Ability to translate complex information for different audiences, facilitating shared decision-making and alignment with organizational goals.
- **Adaptability to Technological Change:** Competence that drives resilience and professional flexibility in the face of the constant evolution of tools, languages, and methodologies in the digital environment.



After completing the university program, you will be able to apply your knowledge and skills in the following positions:

1. ***Chief Information Officer*:** Responsible for leading an organization's technological strategy, aligning IT systems with business objectives to achieve a sustainable competitive advantage.
2. **Digital Transformation Consultant:** Dedicated to driving business process modernization through emerging technologies, guiding companies toward more efficient and profitable operational models.
3. **IT Project Manager:** In charge of planning, coordinating, and overseeing high-impact technological projects, ensuring their alignment with timelines, budgets, and strategic expectations.
4. **Enterprise Solutions Architect:** Responsible for designing complex and scalable digital infrastructures, integrating tools and platforms to optimize the organization's technological performance.
5. **Technology Innovation Specialist:** Leads the development of new IT solutions, anticipating market trends and promoting a culture of continuous improvement within the organization.
6. **Cybersecurity Specialist:** Responsible for designing and implementing advanced cybersecurity policies to protect critical digital assets and prevent threats in technological infrastructures.
7. **IT Infrastructure Manager:** Manages an organization's physical and virtual IT resources, ensuring availability, scalability, and operational performance.
8. **IT Services Manager:** Oversees the quality and efficiency of technological services offered, implementing continuous improvement models under international standards.

06

Software Licenses Included

TECH is a leading reference in the academic world for combining the latest technology with teaching methodologies to enhance the teaching-learning process. To achieve this, it has established a network of alliances that allows it to access the most advanced software tools used in the professional world.

Upon enrolling, you will receive, completely free of charge, academic credentials for the following professional software applications"

TECH has established a network of professional alliances with the leading providers of software applied to various professional fields. These alliances allow TECH to access hundreds of software applications and licenses, making them available to its students.

The academic software licenses will allow students to use the most advanced applications in their professional field, so they can become familiar with them and master their use without incurring additional costs. TECH will handle the contracting process, allowing students to use them without limitation throughout their studies in the Master's Degree in Advanced Systems Computing, and they will be able to do so completely free of charge.

TECH will provide free access to the following software applications:

Google Career Launchpad

Google Career Launchpad is a solution for developing digital skills in technology and data analysis. With an estimated value of **5,000 dollars**, it is included **for free** in TECH's university program, providing access to interactive labs and certifications recognized in the industry.

This platform combines technical training with practical cases, using technologies such as BigQuery and Google AI. It offers simulated environments to work with real data, along with a network of experts for personalized guidance.

Key Features:

- **Specialized Courses:** Updated content in cloud computing, machine learning, and data analysis
- **Live Labs:** Hands-on practice with real Google Cloud tools, no additional configuration required
- **Integrated Certifications:** Preparation for official exams with international validity
- **Professional Mentoring:** Sessions with Google experts and technology partners
- **Collaborative Projects:** Challenges based on real-world problems from leading companies

In conclusion, **Google Career Launchpad** connects users with the latest market technologies, facilitating their entry into fields such as artificial intelligence and data science with industry-backed credentials.

Thanks to TECH, you will be able to use the best professional software applications in your field for free”

07

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

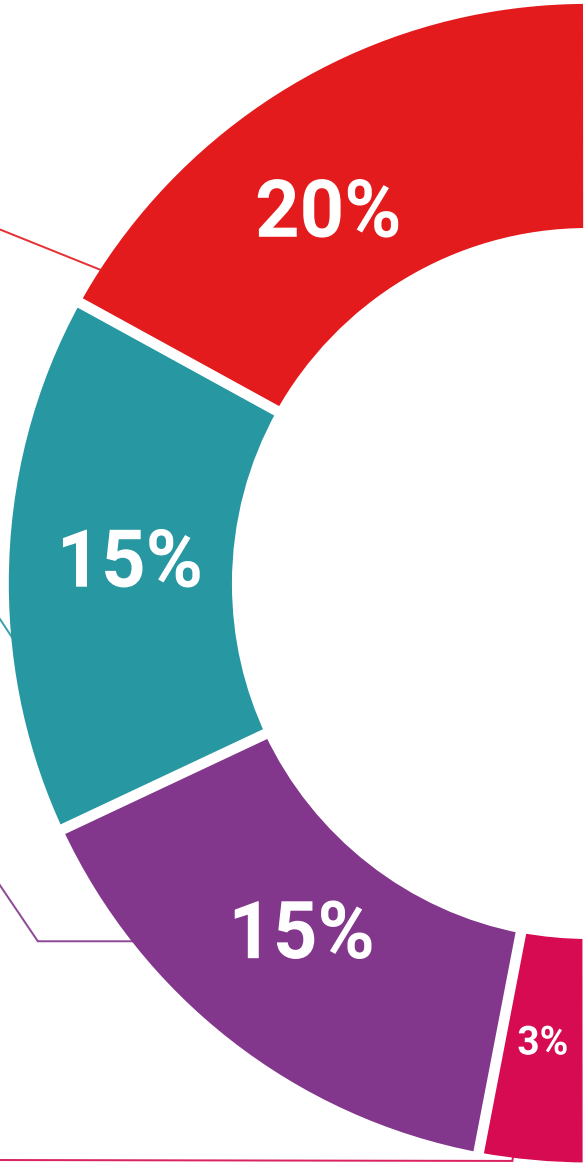
Interactive Summaries

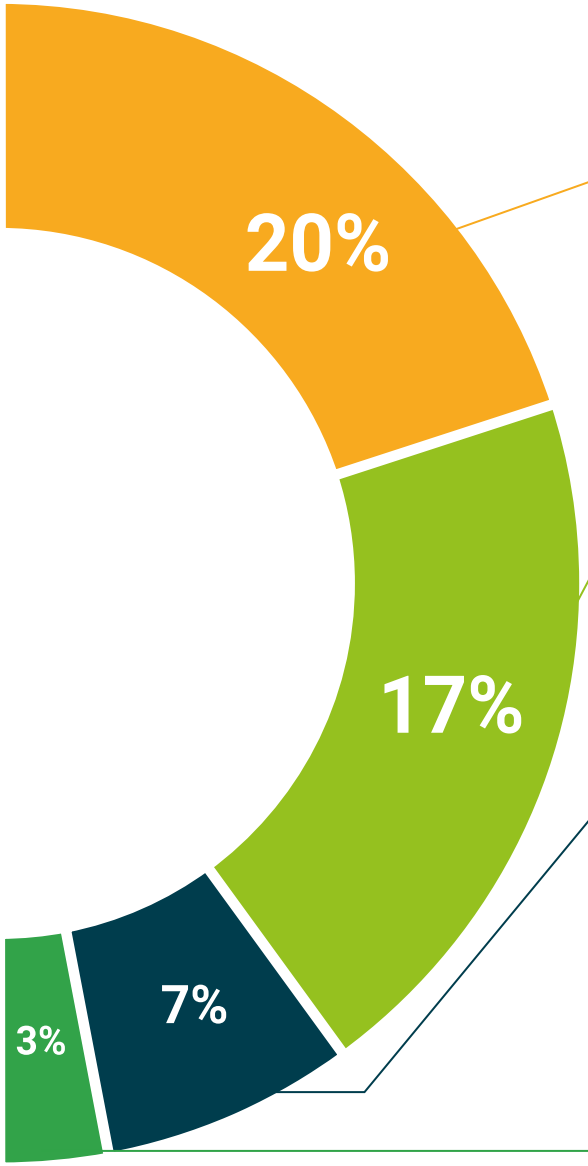
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

08

Teaching Staff

Given the level of specialization required by this Master's Degree in Advanced Systems Computing, each content has been designed by experts with a solid professional background. Thanks to their experience in areas such as project management in digital banking and the integration of blockchain technologies, students will gain knowledge supported by approaches applicable to demanding environments. Furthermore, the combination of theoretical foundations and practical experiences allows for a deeper understanding of current challenges. As such, it's not just about transmitting information, but also about developing the judgment needed for making strategic decisions in IT.

You will have the support of a faculty team composed of recognized experts in Advanced Systems Computing"

Management

Mr. Olalla Bonal, Martín

- Senior Blockchain Practice Manager at EY
- Client Technical Specialist *Blockchain* in IBM
- Blockchain Hyperledger and Ethereum Architecture Manager at Blocknitive
- Director of the Blockchain area at PSS Information Technologies.
- Chief Information Officer at 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

Teachers

Mr. Gómez Gómez, Borja

- Business Development Manager for Cloud Innovation in Oracle
- Head of Blockchain and Presales Architecture Solutions at Paradigma Digital
- Senior IT Architect and Consultant at Atmira
- SOA Architect and Consultant at TCP SI
- 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. Castro Robredo, Alejandro Enrique

- Head of EY's Digital Architecture Department
- Founder and Director of New Tech & Talent
- Head of the Digital Architecture Department at KPMG.
- Head of the Innovation Lab in Digital Architecture at Everis
- Director of Technology Solutions at Vermont Solutions
- Technology Manager at Ganetec Global Solutions
- Business Manager and Pre-Sales Manager at TCP Sistemas e Ingeniería
- Team Leader at Capgemini
- Master's Degree in Integral Management of Information Technologies by the European University
- Degree in Technical Engineering in Computer Management from the University of Las Palmas de Gran Canaria

Mr. 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 from La Salle Business School
- Postgraduate degree in Information Technologies and Systems from the Catalan Institute of Technology.
- Degree in Telecommunications Engineering from the Polytechnic University of Catalonia.

Mr. Nogales Ávila, Javier

- Enterprise Cloud and Sourcing Senior Consultant at Quint
- Cloud and Technology Consultant at Indra
- Associate Technology Consultant at Accenture
- Graduate in Industrial Organization Engineering from the University of Jaén
- MBA in Business Administration and Management from ThePower Business School

Ms. Gómez-Choco González, Rocío

- Data Consultant and Data Engineer at IBM
- Data Engineer in the IT architecture department at Orange Bank
- Analytical consultant in the analysis department of Ernest and Young
- Graduate 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

Mr. Calzada Martínez, Jesús

- Senior Software Engineer at Devo
- Full-Stack Developer at Blocknitive
- Front-End Developer at Infinia
- Full-Stack Developer at Resem
- Java Developer at Hitec
- Degree in Computer Engineering from the Complutense University of Madrid

Dr. Goncalves Da Silva, Marlene

- Researcher at the Polytechnic University of Madrid
- Consultant in MEG Data Intelligence
- Analyst Programmer at Megasoft
- 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.

Mr. Marcano Van Grieken, Alejandro Antonio

- Product Manager at Vikua
- Backend Developer at Innovative GX Health
- Collaborating professor at the Metropolitan University of Caracas
- Degree in Systems Engineering from the Metropolitan University of Caracas
- Master's Degree in Cybersecurity from the University of León

Dr. Ceballos van Grieken, Ángel

- Researcher specialized in the application of ICTs in education
- Author of the Project for the Creation of Educational Contents for Mobile Devices
- Teacher in postgraduate studies related to ICTs
- Teacher in university studies related to Computer Science
- Doctor in Education from the University of the Andes
- Specialist in Educational Informatics, Simón Bolívar University

Mr. González Courel , Santiago

- Software Architect at Axpo Iberia
- Project Manager at Axpo Iberia
- Lead Project Manager at Software AG
- Senior Technical Developer at ISBAN
- Graduate in Computer Engineering at the Open University of Catalonia (UOC)

Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject"

09

Certificate

The Master's Degree in Advanced Systems Computing guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Master's Degree issued by TECH Global University.

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

This private qualification will allow you to obtain a **Master's Degree in Advanced Systems Computing** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

TECH is a member of the **Association for Computing Machinery (ACM)**, the international network that brings together leading experts in computing and information sciences. This membership strengthens its commitment to academic excellence, technological innovation, and the training of professionals in the digital field.

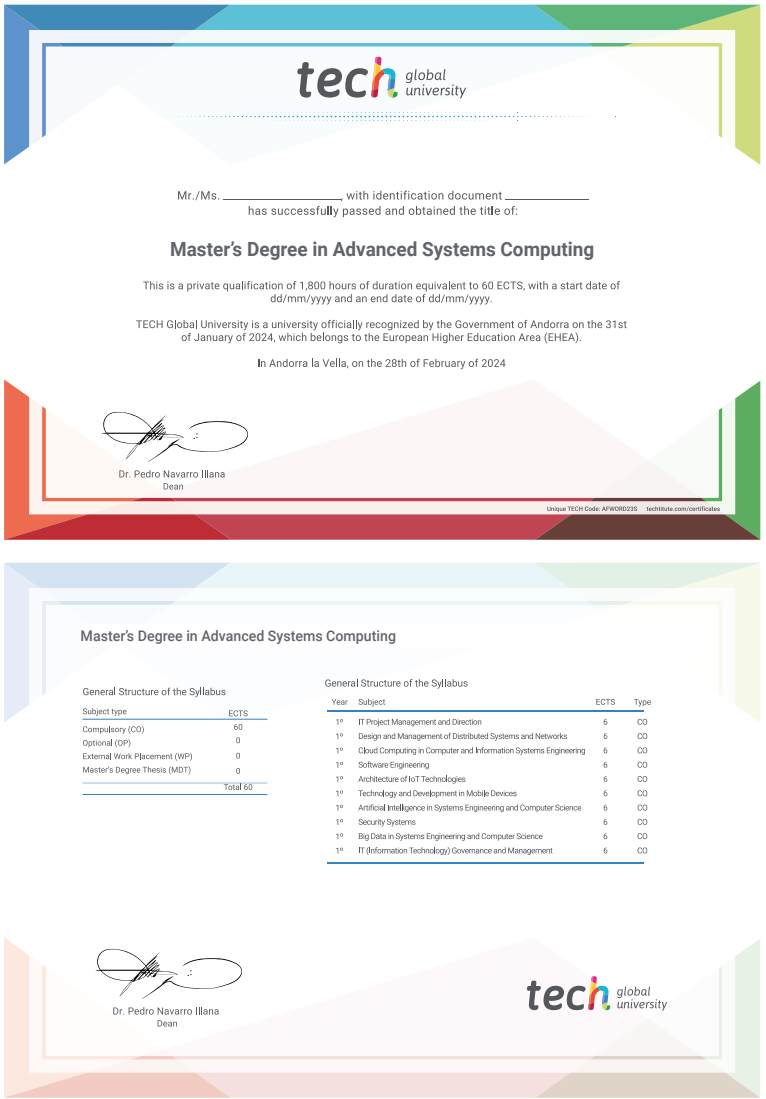
Accreditation/Membership

Title: **Master's Degree in Advanced Systems Computing**

Modality: **online**

Duration: **12 months.**

Accreditation: **60 ECTS**



tech global university

Mr./Ms. _____ with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Advanced Systems Computing

This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

Unique TECH Code: AFWOR023S techtitute.com/certificates

Master's Degree in Advanced Systems Computing

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	IT Project Management and Direction	6	CO
1º	Design and Management of Distributed Systems and Networks	6	CO
1º	Cloud Computing in Computer and Information Systems Engineering	6	CO
1º	Software Engineering	6	CO
1º	Architecture of IoT Technologies	6	CO
1º	Technology and Development in Mobile Devices	6	CO
1º	Artificial Intelligence in Systems Engineering and Computer Science	6	CO
1º	Security Systems	6	CO
1º	Big Data in Systems Engineering and Computer Science	6	CO
1º	IT (Information Technology) Governance and Management	6	CO

Dr. Pedro Navarro Illana
Dean

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

tech global university

Master's Degree
Advanced Systems Computing

- Modality: **Online**
- Duration: **12 months.**
- Certificate: **TECH Global University**
- Accreditation: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Master's Degree

Advanced Systems Computing

Accreditation/Membership

Association
for Computing
Machinery

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