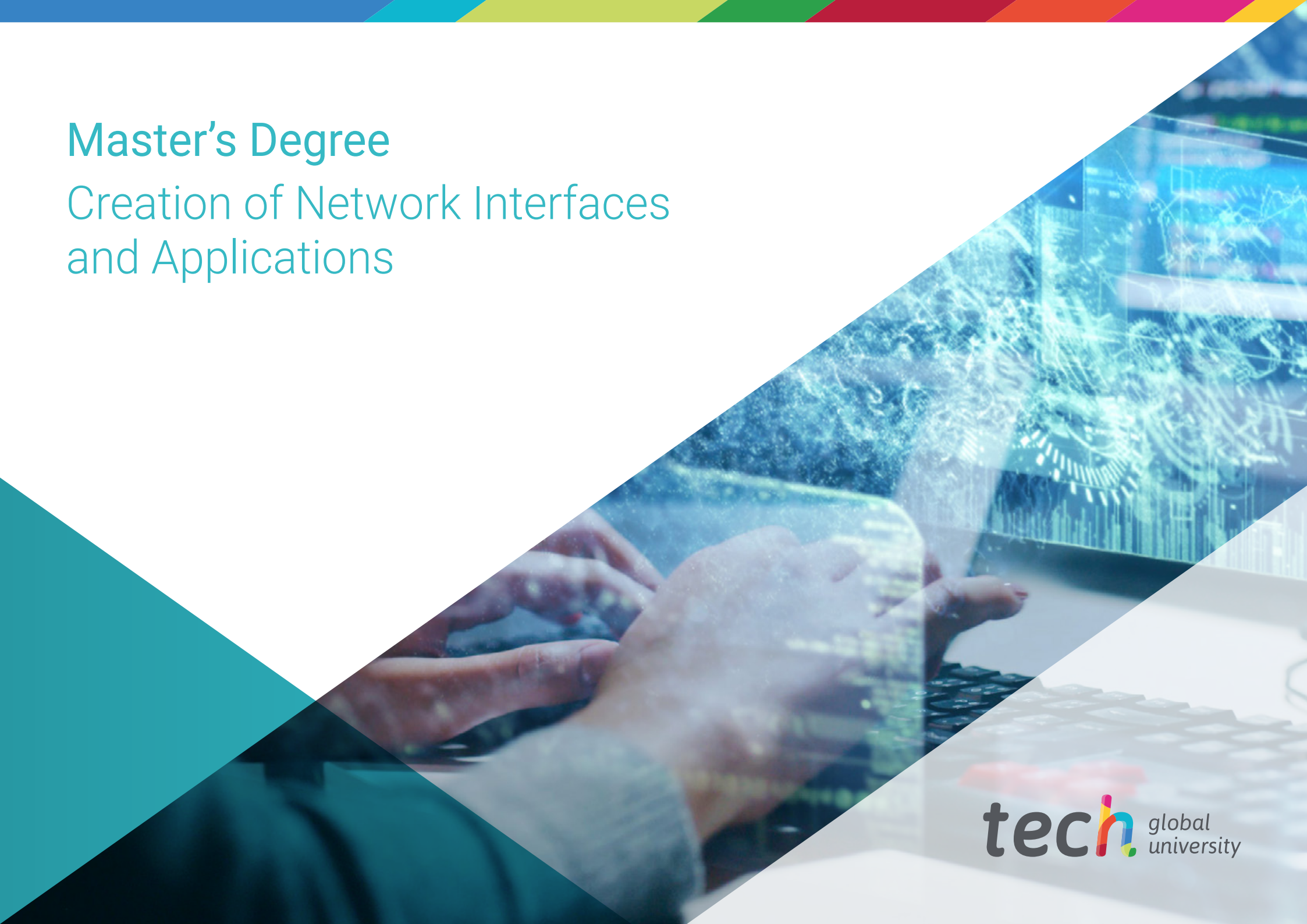
Master's Degree

Creation of Network Interfaces and Applications



tech global university

tech global university

Master's Degree
Creation of Network Interfaces and Applications

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

Wesiteb: www.techtitute.com/us/information-technology/master-degree/master-degree-creation-network-interfaces-applications

Index

01

Introduction to the Program

In today's digital society, interaction between users and systems is key to the efficiency and accessibility of services. From the development of intuitive interfaces to the creation of networked applications, organizations seek professionals capable of innovating in this field. According to the National Statistics Institute, 78% of companies have implemented advanced digital solutions in recent years. This landscape demands specialists with up-to-date knowledge in interface design, user experience, and emerging technologies. For this reason, TECH offers a university program that incorporates the latest trends and tools in software development, enabling professionals to stand out in an increasingly competitive environment. All of this is delivered through a 100% online methodology.

A comprehensive, 100% online program in which you will develop the skills necessary to position yourself as a Creator of Network Interfaces and Applications"

Digital evolution has transformed the way people interact with technology, driving the need for intuitive interfaces and efficient network applications. In key sectors such as commerce, education, and industry, user experience and connectivity have become decisive factors for business competitiveness and success. Likewise, this context demands professionals with a deep understanding of interface design principles, network application development, and the integration of new digital tools.

In response to this need, TECH has developed this Master's Degree in Creation of Network Interfaces and Applications. Therefore, this is a university degree designed to provide engineers and related professionals with up-to-date knowledge in user experience, usability, web development, and emerging technologies. Throughout this academic pathway, graduates will address topics ranging from the fundamentals of UI/UX design to the implementation of scalable architectures, performance optimization in digital environments, and security in network applications.

This academic opportunity prioritizes a practical approach, moving away from traditional models, with content directly applicable to the realities of the digital sector. Through a 100% online methodology based on TECH's exclusive Relearning method, graduates will be able to internalize concepts in a dynamic and progressive manner. It represents an opportunity to expand knowledge through high-level educational resources, without strict schedules and with 24/7 access to the Virtual Campus. In addition, students will benefit from guidance by industry experts, personalized tutoring, and continuous assessment oriented toward the development of key competencies. All of this takes place within a flexible, interactive, and student-centered environment.

This **Master's Degree in Creation of Network Interfaces and Applications** contains the most complete and up-to-date university program on the market. Its most notable features are:

- The development of practical case studies presented by experts in the Creation of Network Interfaces and Applications
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in the Creation of Network Interfaces and Applications
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an internet connection

You will develop skills to integrate APIs, web services, and databases into interactive solutions"

You will delve into the use of advanced frameworks for the development of securely connected frontend and backend components"

You will create dynamic and responsive interfaces, optimized for different devices

You will access a learning system based on repetition, enabling you to assimilate concepts in a natural and progressive manner

The faculty includes professionals from the field of Creation of Network Interfaces and Applications, who contribute their practical experience to the program, along with renowned specialists from leading professional associations 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.

02

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 Wistuba, 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 university degree offers a rigorous curriculum that covers topics ranging from human–computer interaction to the integration of artificial intelligence in digital environments. Throughout the academic pathway, graduates will develop key competencies in the design of intuitive interfaces, advanced database management, and the creation of network-connected applications. In addition, they will explore in depth component reuse, knowledge engineering, and the role of open source in technological innovation processes. Thanks to this university program, professionals will strengthen a high-level specialization in efficient and sustainable digital solutions.

You will implement usability, accessibility, and user experience criteria in the design of Network Applications"

Module 1. Human–Computer Interaction

1.1. Introduction to Human–Computer Interaction
- 1.1.1. What is Human–Computer Interaction
- 1.1.2. Relationship of Human–Computer Interaction with Other Disciplines
- 1.1.3. The User Interface
- 1.1.4. Usability and Accessibility
- 1.1.5. User Experience and User-Centered Design

1.2. The Computer and Interaction: User Interface and Interaction Paradigms
- 1.2.1. Interaction
- 1.2.2. Paradigms and Styles of Interaction
- 1.2.3. Evolution of User Interfaces
- 1.2.4. Classic User Interfaces: WIMP/GUI, Commands, Voice, Virtual Reality.
- 1.2.5. Innovative User Interfaces: Mobile, Wearable, Collaborative, BCI

1.3. The Human Factor: Psychological and Cognitive Aspects
- 1.3.1. The Importance of the Human Factor in Interaction
- 1.3.2. Human Information Processing
- 1.3.3. Information Input and Output: Visual, Auditory, and Tactile
- 1.3.4. Perception and Attention
- 1.3.5. Knowledge and Mental Models: Representation, Organization, and Acquisition

1.4. The Human Factor: Sensory and Physical Limitations
- 1.4.1. Functional Diversity, Disability and Impairment
- 1.4.2. Visual Diversity
- 1.4.3. Hearing Diversity
- 1.4.4. Cognitive Diversity
- 1.4.5. Motor Diversity
- 1.4.6. The Case of Digital Immigrants

1.5. The Design Process (I): Requirements Analysis for User Interface Design
- 1.5.1. User-Centered Design
- 1.5.2. What is Requirements Analysis?
- 1.5.3. Information Gathering
- 1.5.4. Analysis and Interpretation of the Information
- 1.5.5. Usability and Accessibility Analysis

1.6. The Design Process (II): Prototyping and Task Analysis
- 1.6.1. Conceptual Design
- 1.6.2. Prototyping
- 1.6.3. Hierarchical Task Analysis

1.7. The Design Process (III): Evaluation
- 1.7.1. Evaluation in the Design Process: Objectives and Methods
- 1.7.2. Evaluation Methods Without Users
- 1.7.3. Evaluation Methods with Users
- 1.7.4. Evaluation Standards and Norms

1.8. Accessibility: Definition and Guidelines
- 1.8.1. Accessibility and Universal Design
- 1.8.2. The WAI Initiative and the WCAG Guidelines
- 1.8.3. WCAG 2.0 and 2.1 Guidelines

1.9. Accessibility: Evaluation and Functional Diversity
- 1.9.1. Web Accessibility Evaluation Tools
- 1.9.2. Accessibility and Functional Diversity

1.10. The Computer and Interaction: Peripherals and Devices
- 1.10.1. Traditional Devices and Peripherals
- 1.10.2. Alternative Devices and Peripherals
- 1.10.3. Cell Phones and Tablets
- 1.10.4. Functional Diversity, Interaction and Peripherals

Module 2. Databases

2.1. Applications and Purposes of Database Systems
- 2.1.1. Applications of the Different Database Systems
- 2.1.2. Purpose of the Different Database Systems
- 2.1.3. View of the Data

2.2. Database and Architecture
- 2.2.1. Relational Database
- 2.2.2. Database Design
- 2.2.3. Object-Based and Semi-Structured Databases
- 2.2.4. Data Storage and Queries

2.2.5. Transaction Management
2.2.6. Data Mining and Analysis
2.2.7. Database Architecture
2.3. The Relational Model: Structure, Operations and Extended Relational Algebra
2.3.1. The Structure of Relational Databases
2.3.2. Fundamental Operations in the Relational Algebra
2.3.3. Other Relational Algebra Operations
2.3.4. Extended Relational Algebra Operations
2.3.5. Null Values
2.3.6. Database Modification
2.4. SQL (I)
2.4.1. What Is SQL?
2.4.2. The Definition of Data
2.4.3. Basic Structure of SQL Queries
2.4.4. Operations on Sets
2.4.5. Aggregation Functions
2.4.6. Null Values
2.5. SQL (II)
2.5.1. Nested Subqueries
2.5.2. Complex Queries
2.5.3. Views
2.5.4. Cursors
2.5.5. Triggers
2.6. Database Design and the E–R Model
2.6.1. Overview of the Design Process
2.6.2. The Entity–Relationship Model
2.6.3. Constraints
2.7. Entity–Relationship Diagrams
2.7.1. Entity–Relationship Diagrams
2.7.2. Entity–Relationship Design Aspects
2.7.3. Weak Entity Sets
2.8. The Extended Entity–Relationship Model
2.8.1. Characteristics of the Extended E–R Model
2.8.2. Design of a Database
2.8.3. Reduction to Relational Schemas
2.9. Designing from Relational Databases
2.9.1. Characteristics of Good Relational Designs
2.9.2. Atomic Domains and the First Normal Form (1FN)
2.9.3. Decomposition by Functional Dependencies
2.9.4. Theory of Functional Dependencies
2.9.5. Decomposition Algorithms
2.9.6. Decomposition by Means of Multivalued Dependencies
2.9.7. More Normal Forms
2.9.8. Database Design Process
2.10. NoSQL Databases
2.10.1. What are NoSQL Databases?
2.10.2. Analysis of the Different NoSQL Options and their Characteristics.
2.10.3. MongoDB

Module 3. Network Application Development

3.1. HTML5 Markup Languages
3.1.1. HTML Basics
3.1.2. New HTML5 Elements
3.1.3. Forms: New Controls
3.2. Introduction to CSS Style Sheets
3.2.1. First Steps with CSS
3.2.2. Introduction to CSS3
3.3. Browser Scripting Language: JavaScript
3.3.1. JavaScript Basics
3.3.2. DOM
3.3.3. Events
3.3.4. JQuery
3.3.5. Ajax

3.4. Concept of Component-Oriented Programming
  3.4.1. Context
  3.4.2. Components and Interfaces
  3.4.3. States of a Component
3.5. Component Architecture
  3.5.1. Current Architectures
  3.5.2. Component Integration and Deployment
3.6. *Front-End Framework: Bootstrap*
  3.6.1. Grid Design
  3.6.2. Forms
  3.6.3. Components
3.7. Model View Controller
  3.7.1. Web Development Methods
  3.7.2. Design Pattern: MVC
3.8. Information Grid Technologies
  3.8.1. Increased Computing Resources
  3.8.2. Concept of Grid Technology
3.9. Service-Oriented Architecture
  3.9.1. SOA and Web Services
  3.9.2. Topology of a Web Service
  3.9.3. Platforms for Web Services
3.10. HTTP Protocol
  3.10.1. Messages
  3.10.2. Persistent Sessions
  3.10.3. Cryptographic System
  3.10.4. HTTPS Protocol Operation

Module 4. Free Software and Open Knowledge

4.1. Introduction to Free Software
  4.1.1. History of Free Software
  4.1.2. "Freedom" in Software
  4.1.3. Licenses for the Use of Software Tools
  4.1.4. Intellectual Property of Software
  4.1.5. What is the Motivation for Using Free Software?
  4.1.6. Free Software Myths
  4.1.7. Top500
4.2. Open Knowledge and CC Licenses
  4.2.1. Basic Concepts
  4.2.2. Creative Commons Licenses
  4.2.3. Other Content Licenses
  4.2.4. Wikipedia and Other Open Knowledge Projects
4.3. Main Free Software Tools
  4.3.1. Operating Systems
  4.3.2. Office Applications
  4.3.3. Business Management Applications
  4.3.4. Web Content Managers
  4.3.5. Multimedia Content Creation Tools
  4.3.6. Other Applications
4.4. The Company: Free Software and its Costs
  4.4.1. Free Software: Yes or No?
  4.4.2. Truths and Lies about Free Software
  4.4.3. Business Software Based on Free Software
  4.4.4. Software Costs
  4.4.5. Free Software Models
4.5. The GNU/Linux Operating System
  4.5.1. Architecture
  4.5.2. Basic Directory Structure
  4.5.3. File System Characteristics and Structure
  4.5.4. Internal Representation of the Files

4.6. The Android Mobile Operating System
- 4.6.1. History
- 4.6.2. Architecture
- 4.6.3. Android Forks
- 4.6.4. Introduction to Android Development
- 4.6.5. Frameworks for Mobile Application Development

4.7. Website Creation with WordPress
- 4.7.1. WordPress Features and Structure
- 4.7.2. Creation of Sites on WordPress.com
- 4.7.3. Installation and Configuration of WordPress on Your Own Server
- 4.7.4. Installing Plugins and Extending WordPress
- 4.7.5. Creation of WordPress Plugins
- 4.7.6. WordPress Theme Creation

4.8. Free Software Trends
- 4.8.1. Cloud Environments
- 4.8.2. Monitoring Tools
- 4.8.3. Operating Systems
- 4.8.4. Big Data and Open Data 2.0
- 4.8.5. Quantum Computing

4.9. Version Control
- 4.9.1. Basic Concepts
- 4.9.2. Git
- 4.9.3. Cloud and Self-hosted Git Services
- 4.9.4. Other Version Control Systems

4.10. Custom GNU/Linux Distributions
- 4.10.1. Main Distributions
- 4.10.2. Distributions Derived from Debian
- 4.10.3. Deb Package Creation
- 4.10.4. Modification of the Distribution
- 4.10.5. ISO Image Generation

Module 5. Advanced Databases

5.1. Introduction to the Different Database Systems
- 5.1.1. Historical Overview
- 5.1.2. Hierarchical Databases
- 5.1.3. Network Databases
- 5.1.4. Relational Databases
- 5.1.5. Non-Relational Databases

5.2. XML and Databases for the Web
- 5.2.1. Validation of XML Documents
- 5.2.2. XML Document Transformations
- 5.2.3. XML Data Storage
- 5.2.4. XML Relational Databases
- 5.2.5. SQL/XML
- 5.2.6. Native XML Databases

5.3. Parallel Databases
- 5.3.1. Parallel Systems
- 5.3.2. Parallel Database Architectures
- 5.3.3. Parallelism in Queries
- 5.3.4. Query Parallelism
- 5.3.5. Design of Parallel Systems
- 5.3.6. Parallel Processing in SQL

5.4. Distributed Databases
- 5.4.1. Distributed Systems
- 5.4.2. Distributed Storage
- 5.4.3. Availability
- 5.4.4. Distributed Query Processing
- 5.4.5. Distributed Database Providers

5.5. Indexing and Association
- 5.5.1. Ordered Indexes
- 5.5.2. Dense and Sparse Indexes
- 5.5.3. Multilevel Indices
- 5.5.4. Index Updating
- 5.5.5. Static Association
- 5.5.6. Using Indexes in Databases

5.6. Introduction to Transactional Processing
- 5.6.1. States of a Transaction
- 5.6.2. Implementation of atomicity and durability.
- 5.6.3. Sequentiality
- 5.6.4. Recoverability
- 5.6.5. Isolation Implementation

5.7. Recovery Systems
- 5.7.1. Failure Classification
- 5.7.2. Storage Structures
- 5.7.3. Recovery and Atomicity
- 5.7.4. Retrieval Based on Historical Record
- 5.7.5. Concurrent Transactions and Retrieval
- 5.7.6. High Availability in Databases

5.8. Execution and Processing of Queries
- 5.8.1. Cost of a Query
- 5.8.2. Selection Operation
- 5.8.3. Sorting
- 5.8.4. Introduction to Query Optimization
- 5.8.5. Performance Monitoring

5.9. Non-Relational Databases
- 5.9.1. Document-Oriented Databases
- 5.9.2. Graph-Oriented Databases
- 5.9.3. Key-Value Databases

5.10. Data Warehouse, OLAP and Data Mining
- 5.10.1. Components of Data Warehouses
- 5.10.2. Architecture of a Data Warehouse
- 5.10.3. OLAP
- 5.10.4. Data Mining Functionality
- 5.10.5. Other Types of Mining

Module 6. Software Engineering

6.1. Software Engineering Framework
- 6.1.1. Software Features
- 6.1.2. Main Processes in Software Engineering
- 6.1.3. Software Development Process Models
- 6.1.4. Standard Reference Framework for the Software Development Process: ISO/IEC 12207

6.2. Unified Software Development Process
- 6.2.1. The Unified Process
- 6.2.2. Dimensions of the Unified Process
- 6.2.3. Case Studies Driven Development Process
- 6.2.4. Fundamental Unified Process Workflows

6.3. Planning in the Agile Software Development
- 6.3.1. Characteristics of Agile from Software Development
- 6.3.2. Different Planning Time Horizons
- 6.3.3. The Scrum Agile Development Framework and Planning
- 6.3.4. User Stories as a Planning and Estimating Unit
- 6.3.5. Common Techniques for Deriving an Estimate
- 6.3.6. Scales for Interpreting Estimates
- 6.3.7. *Planning Poker*
- 6.3.8. Types of Planning: Releases and Iterations

6.4. Distributed Software Design and Service-Oriented Architectures
- 6.4.1. Communication Models in Distributed Systems
- 6.4.2. Middleware Layer
- 6.4.3. Architecture Patterns for Distributed Systems
- 6.4.4. Software Service Design Process
- 6.4.5. Design Aspects of Software Services
- 6.4.6. Composition of Services
- 6.4.7. Web Services Architecture
- 6.4.8. Infrastructure and SOA Components

6.5. Model-Driven Software Development
- 6.5.1. The Model Concept
- 6.5.2. Model-Driven Software Development
- 6.5.3. MDA Reference Framework
- 6.5.4. Elements of a Transformation Model

6.6. Graphical User Interface Design
- 6.6.1. Principles of User Interface Design
- 6.6.2. Architectural Patterns: Model View Controller (MVC)
- 6.6.3. User Experience (UX)
- 6.6.4. User-Centered Design
- 6.6.5. Graphical User Interface Analysis and Design Process
- 6.6.6. Usability of User Interfaces
- 6.6.7. Accessibility in User Interfaces

6.7. Web Application Design
- 6.7.1. Characteristics of Web Applications
- 6.7.2. Web Application User Interface
- 6.7.3. Navigation Design
- 6.7.4. Basic Interaction Protocol for Web Applications
- 6.7.5. Architecture Styles for Web Applications

6.8. Software Testing Strategies and Techniques
- 6.8.1. Testing Strategies
- 6.8.2. Test Case Designs
- 6.8.3. Cost–Quality Relationship
- 6.8.4. Quality Models
- 6.8.5. ISO/IEC 25000 (SQuaRE) Standards
- 6.8.6. Product Quality Model (ISO 2501n)
- 6.8.7. Data Quality Models (ISO 2501n)
- 6.8.8. Software Quality Management

6.9. Metrics in Software Engineering
- 6.9.1. Basic Concepts: Measurements, Metrics and Indicators
- 6.9.2. Types of Metrics in Software Engineering
- 6.9.3. Measurement Process
- 6.9.4. ISO 25024: External and Quality Metrics in Use
- 6.9.5. Object-Oriented Metrics

6.10. Software Maintenance and Reengineering
- 6.10.1. Maintenance Process
- 6.10.2. Standard Maintenance Process Framework: ISO/IEC 14764
- 6.10.3. Software Reengineering Process Model
- 6.10.4. Reverse Engineering

Module 7. Advanced Programming

7.1. Introduction to Object-Oriented Programming
- 7.1.1. Fundamental Concepts
- 7.1.2. Class Design
- 7.1.3. Introduction to UML for Problem Modeling

7.2. Relationships Between Classes
- 7.2.1. Abstraction and Inheritance
- 7.2.2. Advanced Inheritance Concepts
- 7.2.3. Polymorphism
- 7.2.4. Composition and Aggregation

7.3. Design Patterns for Object-Oriented Problems
- 7.3.1. Definition and Purpose of Design Patterns
- 7.3.2. Factory Pattern
- 7.3.3. Singleton Pattern
- 7.3.4. Observer Pattern
- 7.3.5. Composite Pattern

7.4. Exception Handling
- 7.4.1. Definition and Purpose of Exceptions
- 7.4.2. Exception Catching and Handling
- 7.4.3. Throwing Exceptions
- 7.4.4. Creating Custom Exceptions

7.5. User Interfaces
- 7.5.1. Introduction to Qt
- 7.5.2. Positioning Techniques
- 7.5.3. Events: Definition and Catching
- 7.5.4. User Interface Development

7.6. Introduction to Concurrent Programming
- 7.6.1. Fundamental Concepts of Concurrent Programming
- 7.6.2. Processes and Threads
- 7.6.3. Interaction Between Processes and Threads
- 7.6.4. Threads in C++
- 7.6.5. Advantages and Disadvantages of Concurrent Programming

7.7. Thread Management and Synchronization
- 7.7.1. Thread Life Cycle
- 7.7.2. Thread Class and Thread Scheduling
- 7.7.3. Thread Groups and Daemon Threads
- 7.7.4. Synchronization and Locking Mechanisms
- 7.7.5. Communication Mechanisms and Monitors

7.8. Common Problems in Concurrent Programming
- 7.8.1. The Producer–Consumer Problem
- 7.8.2. The Readers–Writers Problem
- 7.8.3. The Dining Philosophers Problem

7.9. Software Documentation
- 7.9.1. Importance of Documentation in Software Development
- 7.9.2. Design Documentation
- 7.9.3. Documentation Tools

7.10. Software Testing
- 7.10.1. Introduction to Software Testing
- 7.10.2. Types of Testing
- 7.10.3. Unit and Integration Testing
- 7.10.4. Validation and System Testing

Module 8. Software Reuse

8.1. Introduction to Software Reuse
- 8.1.1. Definition and Foundations
- 8.1.2. Advantages and Disadvantages
- 8.1.3. Main Reuse Techniques

8.2. Design Patterns
- 8.2.1. Concept and Purpose of Design Patterns
- 8.2.2. Design Pattern Catalog
- 8.2.3. Using Patterns to Solve Design Problems
- 8.2.4. Selecting the Best Design Pattern

8.3. Creational Patterns
- 8.3.1. General Principles
- 8.3.2. Abstract Factory Pattern and Its Implementation
- 8.3.3. Builder Pattern and Its Implementation
- 8.3.4. Comparison Between Abstract Factory and Builder

8.4. Creational Patterns (II)
- 8.4.1. Factory Method Pattern
- 8.4.2. Comparison Between Factory Method and Abstract Factory
- 8.4.3. Singleton Pattern

8.5. Structural Patterns
- 8.5.1. Definition and Classification
- 8.5.2. Adapter Pattern
- 8.5.3. Bridge Pattern

8.6. Structural Patterns (II)
- 8.6.1. Composite Pattern
- 8.6.2. Decorator Pattern

8.7. Structural Patterns (III)
- 8.7.1. Facade Pattern
- 8.7.2. Proxy Pattern

8.8. Behavioral Patterns
- 8.8.1. Definition and Purpose
- 8.8.2. Chain of Responsibility Pattern
- 8.8.3. Command Pattern

8.9. Behavioral Patterns (II)
- 8.9.1. Interpreter Pattern
- 8.9.2. Iterator Pattern
- 8.9.3. Observer Pattern
- 8.9.4. Strategy Pattern

8.10. *Frameworks*
- 8.10.1. Definition and Concept of a Framework
- 8.10.2. Software Development Using Frameworks
- 8.10.3. Model–View–Controller (MVC) Pattern
- 8.10.4. Frameworks for Graphical Interface Design
- 8.10.5. Frameworks for Web Development
- 8.10.6. Frameworks for Database Persistence Management

Module 9. Artificial Intelligence and Knowledge Engineering

9.1. Introduction to Artificial Intelligence and Knowledge Engineering
- 9.1.1. History and Evolution of Artificial Intelligence
- 9.1.2. Current Applications of Artificial Intelligence
- 9.1.3. Fundamental Concepts of Knowledge Engineering

9.2. Search Algorithms
- 9.2.1. Search Strategies
- 9.2.2. Uninformed Search
- 9.2.3. Informed Search

9.3. Problem Solving Through Constraint Satisfaction and Planning
- 9.3.1. Boolean Satisfiability
- 9.3.2. Constraint Satisfaction Problems
- 9.3.3. Automated Planning and PDDL
- 9.3.4. Planning as a Heuristic Search
- 9.3.5. SAT-Based Planning

9.4. Artificial Intelligence in Games
- 9.4.1. Game Theory
- 9.4.2. Minimax Algorithm and Alpha–Beta Pruning
- 9.4.3. Simulation Methods: Monte Carlo

9.5. Machine Learning
- 9.5.1. Fundamentals of Machine Learning
- 9.5.2. Classification
- 9.5.3. Regression
- 9.5.4. Model Validation
- 9.5.5. Clustering Algorithms

9.6. Neural Networks
- 9.6.1. Biological Foundations
- 9.6.2. Computational Model of Neural Networks
- 9.6.3. Supervised and Unsupervised Neural Networks
- 9.6.4. Single-Layer and Multilayer Perceptron

9.7. Genetic Algorithms
- 9.7.1. History and Foundations
- 9.7.2. Biological and Evolutionary Basis
- 9.7.3. Problem Encoding
- 9.7.4. Generation of Initial Populations
- 9.7.5. Main Algorithm and Genetic Operators
- 9.7.6. Individual Evaluation: Fitness Function

9.8. Knowledge Structuring
- 9.8.1. Vocabularies
- 9.8.2. Taxonomies
- 9.8.3. Thesauri
- 9.8.4. Ontologies

9.9. Knowledge Representation and the Semantic Web
- 9.9.1. Introduction to Lexical Semantics
- 9.9.2. Specifications: RDF, RDFS and OWL
- 9.9.3. Inference and Reasoning
- 9.9.4. Linked Data

9.10. Expert Systems and Decision Support Systems
- 9.10.1. Concept and Application of Expert Systems
- 9.10.2. Decision Support Systems (DSS)

Module 10. Advanced Software Engineering

10.1. Agile Methodologies
- 10.1.1. Process Models and Methodologies
- 10.1.2. Agile Approach and the Agile Manifesto
- 10.1.3. Comparison Between Agile and Traditional Methodologies

10.2. *Scrum*
- 10.2.1. Scrum Philosophy and Values
- 10.2.2. Scrum Process Flow
- 10.2.3. Roles, Artifacts, and Events
- 10.2.4. User Stories and Agile Estimation
- 10.2.5. Scaling Scrum

10.3. Extreme Programming (XP)
- 10.3.1. Rationale and Principles
- 10.3.2. Life Cycle and Core Practices
- 10.3.3. Roles in XP
- 10.3.4. Critical Evaluation of XP

10.4. Reuse-Based Software Development
- 10.4.1. Levels and Techniques of Code Reuse
- 10.4.2. Component-Based Development
- 10.4.3. Benefits and Challenges
- 10.4.4. Reuse Planning

10.5. Systems Architecture and Software Design
- 10.5.1. Architectural Design
- 10.5.2. Architectural and Distributed Patterns
- 10.5.3. Fault Tolerant Architectures
- 10.5.4. Design Patterns and Gamma Patterns

10.6. Cloud Application Architecture
- 10.6.1. Fundamentals of Cloud Computing
- 10.6.2. Quality and Architectural Styles in the Cloud
- 10.6.3. Cloud Design Patterns

10.7. Software Testing: TDD, ATDD and BDD
- 10.7.1. Software Verification and Validation
- 10.7.2. Software Testing and Methodologies
- 10.7.3. Test-Driven Development (TDD)
- 10.7.4. Acceptance Test-Driven Development (ATDD)
- 10.7.5. Behavior-Driven Development (BDD)
- 10.7.6. Using Cucumber in BDD

10.8. Software Process Improvement
- 10.8.1. Maturity Models and Continuous Improvement
- 10.8.2. The CMMI Model and Its Evolution
- 10.8.3. Relationship Between CMMI and Agile Methodologies

10.9. Software Quality: SQuaRE
- 10.9.1. Software Quality Models
- 10.9.2. ISO/IEC 25000 and 25010 Standards
- 10.9.3. Software Quality Evaluation and Certification

10.10. Introduction to DevOps
- 10.10.1. Concept and Fundamental DevOps Practices

With this exclusive TECH syllabus, you will discover the impact of artificial intelligence on the creation of intelligent and adaptive software"

04

Teaching Objectives

This high-level university program aims to train professionals in the development and implementation of interfaces and networked applications that enhance the digital experience. Throughout this academic pathway, graduates will acquire advanced skills in programming, software design, and database management. In addition, they will develop competencies in the integration of artificial intelligence, software reuse, and the application of agile methodologies within Software Engineering. With a practical and innovative approach, participants will be able to design, optimize, and scale digital solutions aligned with the demands of today's technological environment.

You will develop competencies that enable you to design scalable and secure interfaces tailored to the needs of the digital ecosystem"

General Objectives

- Design digital interfaces focused on usability and user experience
- Implement advanced databases to optimize information management
- Develop efficient and secure networked applications adapted to diverse digital environments
- Apply principles of free and open-source software and code reuse to foster innovation
- Integrate agile methodologies into software engineering to improve project productivity and quality
- Implement artificial intelligence and knowledge engineering techniques in software development
- Optimize advanced programming through the use of efficient data structures and modern programming languages
- Design scalable architectures that support the continuous evolution and improvement of networked applications

Specific Objectives

Module 1. Human–Computer Interaction

- Understand the principles of user-centered design
- Analyze models of interaction between humans and computer systems
- Evaluate the usability of graphical interfaces
- Apply techniques to enhance the user experience

Module 2. Databases

- Identify the fundamental components of a relational database
- Design efficient database schemas
- Use SQL to manipulate data
- Apply data normalization principles

Module 3. Network Application Development

- Design client–server architectures
- Implement distributed applications using network protocols
- Use tools for web application development
- Ensure security in networked environments

Module 4. Free Software and Open Knowledge

- Identify licenses and models of free and open-source software
- Analyze the social and economic impact of open knowledge
- Use free software tools in computing projects
- Promote best practices for open collaboration

Module 5. Advanced Databases

- Apply non-relational database techniques
- Optimize complex queries for large data volumes
- Design solutions based on distributed databases
- Implement replication and partitioning mechanisms

Module 6. Software Engineering

- Apply software development methodologies
- Document processes and functional requirements
- Manage the software project life cycle
- Evaluate the quality of developed software

Module 7. Advanced Programming

- Develop efficient algorithms for complex problems
- Implement advanced data structures
- Apply object-oriented programming in depth
- Use functional and concurrent programming principles

Module 8. Software Reuse

- Identify reusable components in software projects
- Design reusable libraries and frameworks
- Apply design patterns to facilitate reuse
- Evaluate the benefits and risks of code reuse

Module 9. Artificial Intelligence and Knowledge Engineering

- Design rule-based and fuzzy logic systems
- Apply machine learning algorithms
- Represent knowledge through ontologies and semantic networks
- Evaluate the performance of intelligent systems

Module 10. Advanced Software Engineering

- Apply principles of scalable software architecture
- Manage complex projects using agile methodologies
- Integrate DevOps practices into software development
- Evaluate quality assurance metrics and techniques

You will master cutting-edge techniques to assess the performance, security, and scalability of distributed applications"

05

Career Opportunities

Upon completion of this Master's Degree in Creation of Network Interfaces and Applications, graduates will be qualified to work in technology companies, software development departments, and consultancy firms specializing in digital transformation. They will also be prepared to lead innovation projects in startups, implement artificial intelligence solutions in digital platforms, and manage technological infrastructures in large corporations. In addition, graduates will be able to design intuitive and scalable digital environments, enhancing user experience and strengthening organizational competitiveness in an increasingly digitalized market.

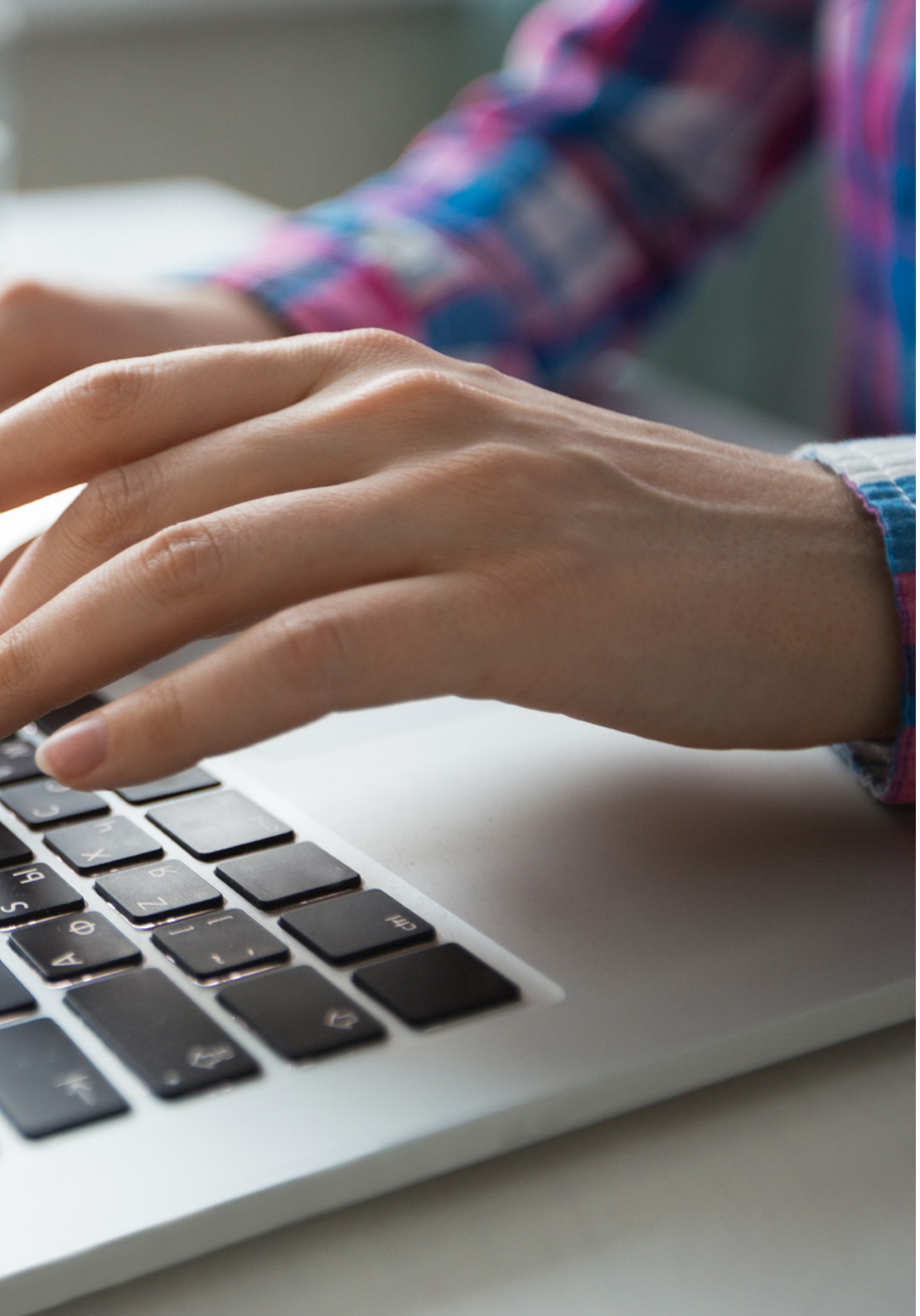
This program will boost your career in the technology sector, positioning you as an expert in Software Development"

Graduate Profile

Graduates of this high-level academic program will be highly qualified professionals capable of designing and developing network applications, ensuring efficiency, security, and usability across diverse digital environments. They will possess advanced skills in programming and database management, as well as the ability to lead technological projects, implement agile methodologies, and optimize digital architectures. As a result, graduates will be able to innovate in the creation of interactive platforms, integrate up-to-date technological tools, and develop scalable solutions aligned with the evolving needs of the technology sector.

You will consolidate your professional profile as a benchmark by optimizing digital architectures to enhance the performance of complex systems.

- **Intuitive Interface Design:** Development of efficient and accessible user experiences in web and mobile applications
- **Algorithm and Code Optimization:** Improvement of system performance and efficiency through advanced programming techniques
- **Software Automation and Reuse:** Development of modular solutions that enhance scalability and optimization of digital projects
- **Network Application Development:** Design and implementation of secure and scalable applications in distributed environments



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

1. **Software Architect for Network Applications:** Responsible for designing scalable technological solutions and optimizing system architectures for complex digital environments
2. **Full Stack Developer Specialized in Digital Interfaces:** Focused on creating intuitive web and mobile platforms that ensure an optimal user experience
3. **Artificial Intelligence Engineer Applied to Software Development:** Dedicated to integrating AI algorithms into applications to improve automation and process efficiency
4. **Technology Infrastructure and Digital Security Manager:** In charge of implementing cybersecurity measures and managing enterprise networks
5. **Digital Transformation Project Specialist:** Coordinator of technological initiatives that drive digitalization and modernization in companies and startups
6. **Database and Big Data Specialist:** Responsible for data storage, analysis, and optimization in large-scale information environments
7. **Cloud Application and Web Services Developer:** Designer and implementer of cloud-based solutions ensuring scalability and performance
8. **Consultant in Free Software and Open Technologies:** Advisor on the integration of open-source tools to optimize software development processes
9. **User Experience and Digital Accessibility Expert:** Specialist in designing intuitive interfaces that enhance interaction between users and technological applications
10. **Enterprise Systems and Network Administrator:** Manager of technological infrastructures who ensures the operability and security of digital platforms

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 grants access to 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 licensing process so that students can use the tools on an unlimited basis throughout the duration of their studies in the Master's Degree in Creation of Network Interfaces and Applications, completely free of charge.

TECH will provide free access to the following software applications:

Qlik Sense

Qlik Sense is a data analysis and visualization platform that facilitates strategic decision-making. This tool, offered **free of charge** during the university program at TECH, allows users to create custom *dashboards* and reports.

With its scalable architecture, **Qlik Sense** adapts to teams of all sizes. It integrates multiple data sources, provides real-time visualization, and features predictive capabilities. Its accessibility makes it a key tool for teams of any size seeking to transform complex data into strategic decisions.

Key Features:

- **Associative analysis:** explore data freely with a motor that uncovers hidden connections, without hierarchical limitations or predefined queries
- **Interactive visualizations:** create dynamic *dashboards* that allow real-time data analysis from multiple perspectives
- **Integration of multiple sources:** connect data from various platforms such as Excel, SQL databases, cloud services, etc., in a unified environment
- **Cloud collaboration:** securely share reports and dashboards with other users, enabling collaborative work and joint decision-making
- **Augmented analytics:** access recommendations, patterns, and predictions derived from the data

With this tool, professionals will master advanced analytics environments and interactive visualization with real-world business standards.

QlikView

Mastering data analysis tools like **Qlik View** enhances competitiveness in strategic environments. This program at TECH offers **free access** to this analytical platform, allowing professionals to develop skills in BI without extra costs and align with the real demands of today's business environment.

QlikView integrates data from multiple sources into an interactive environment, enabling free exploration of information and the discovery of patterns without predefined paths.
Its associative engine and advanced *scripting* provide great flexibility and control, making it ideal for organizations that require personalized analysis adaptable to their strategic goals.

Key Features:

- **Powerful associative analysis:** explore data without restrictions to uncover relevant relationships and insights
- **Consolidation of multiple sources:** effective integration of data in a centralized environment
- **Flexible development environment:** advanced scripting to customize each analytical application
- **Interactive visualization:** creation of intuitive dashboards focused on decision-making
- **Report automation:** generation of dynamic reports tailored to different user profiles

In conclusion, **free access** to **Qlik View** will allow professionals to develop skills in advanced data analysis and promote the adoption of customized BI solutions.

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.

07

Study Methodology

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

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

TECH prepares 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 academic programs worldwide

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 or 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 **Method**

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 more performance, involving you more in your specialization, developing a critical spirit, 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.

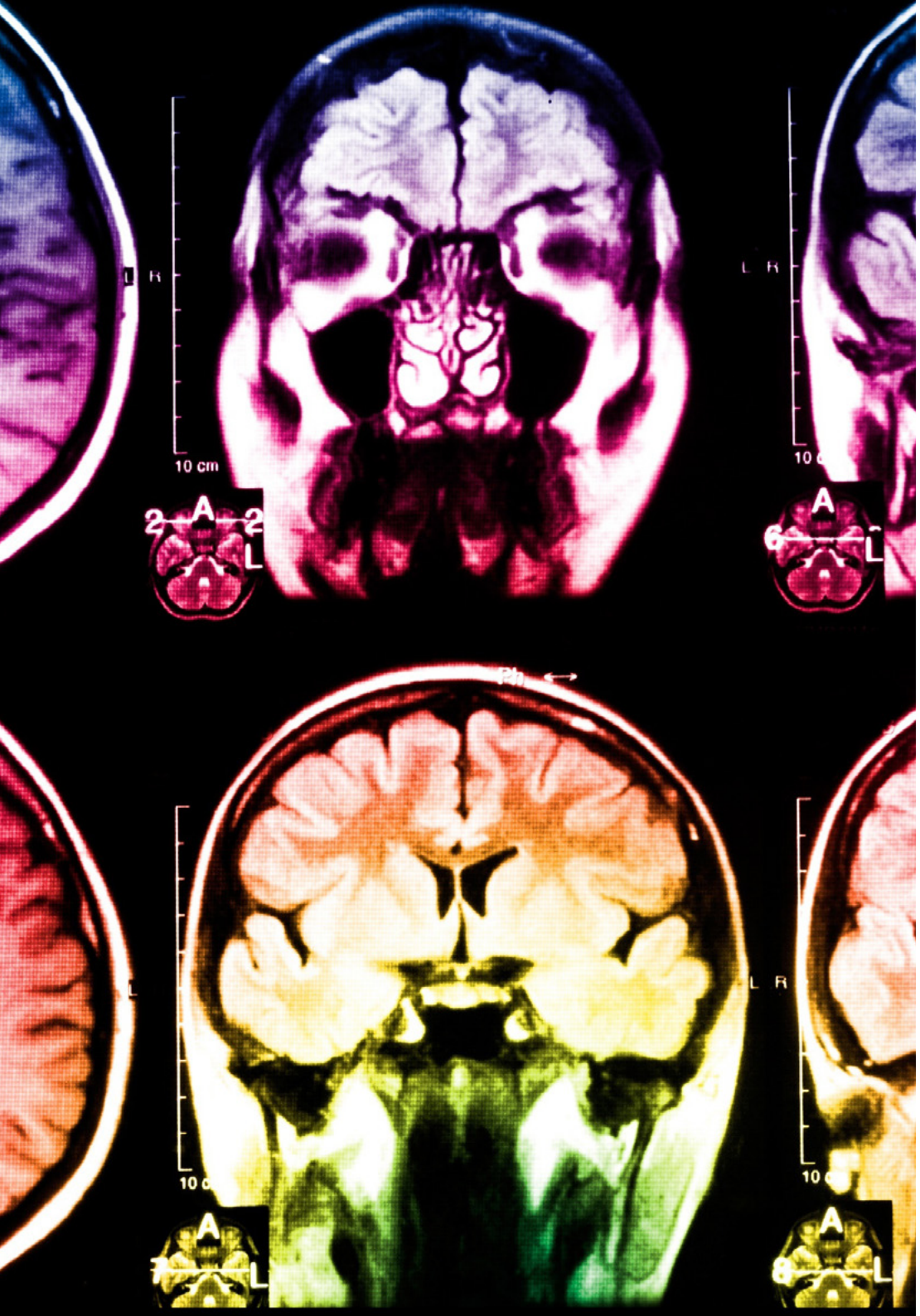
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

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 best 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.

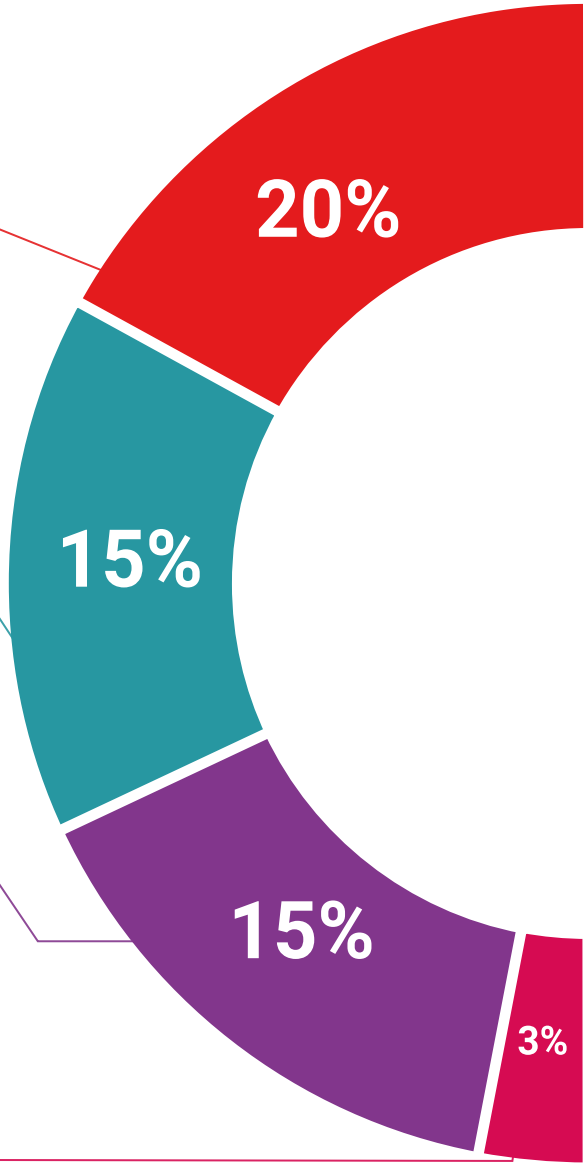
Interactive Summaries

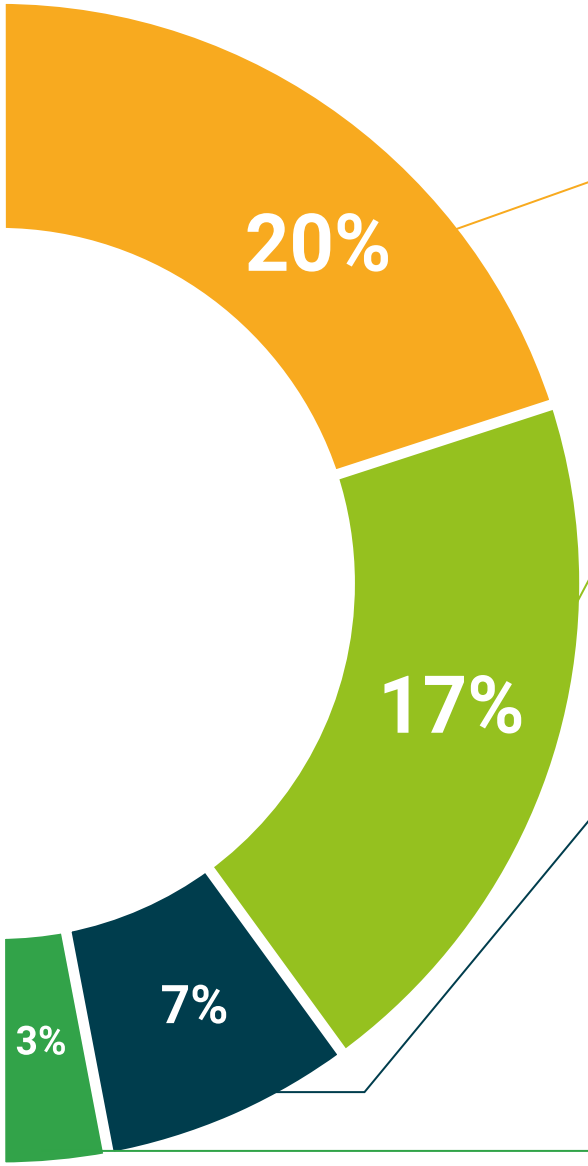
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Certificate

The Master's Degree in Creation of Network Interfaces and Applications 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 diploma for the **Master's Degree in Creation of Network Interfaces and Applications** 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.

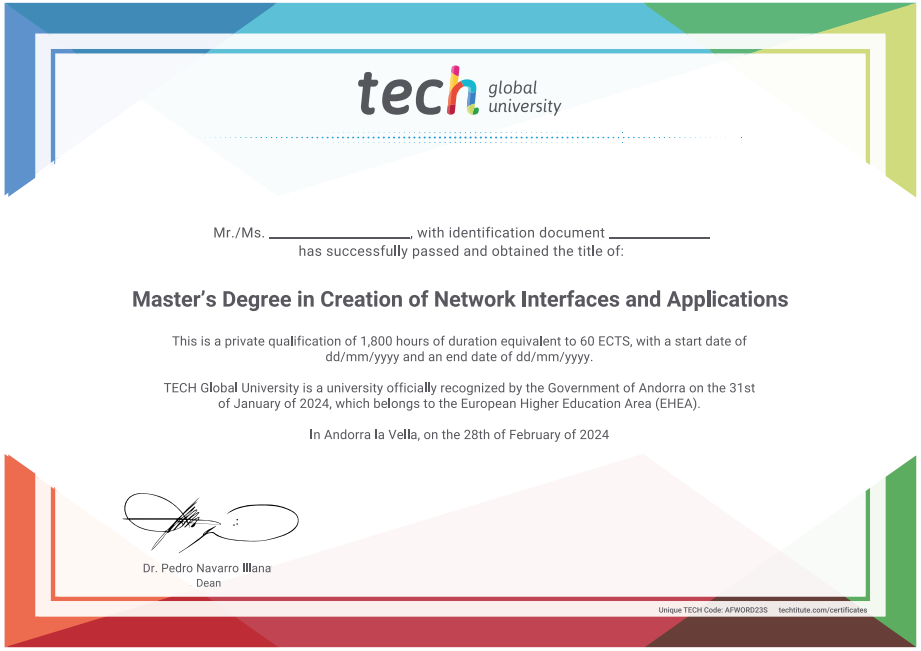
This private qualification from **TECH Global University**, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Creation of Network Interfaces and Applications**

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 Creation of Network Interfaces and Applications

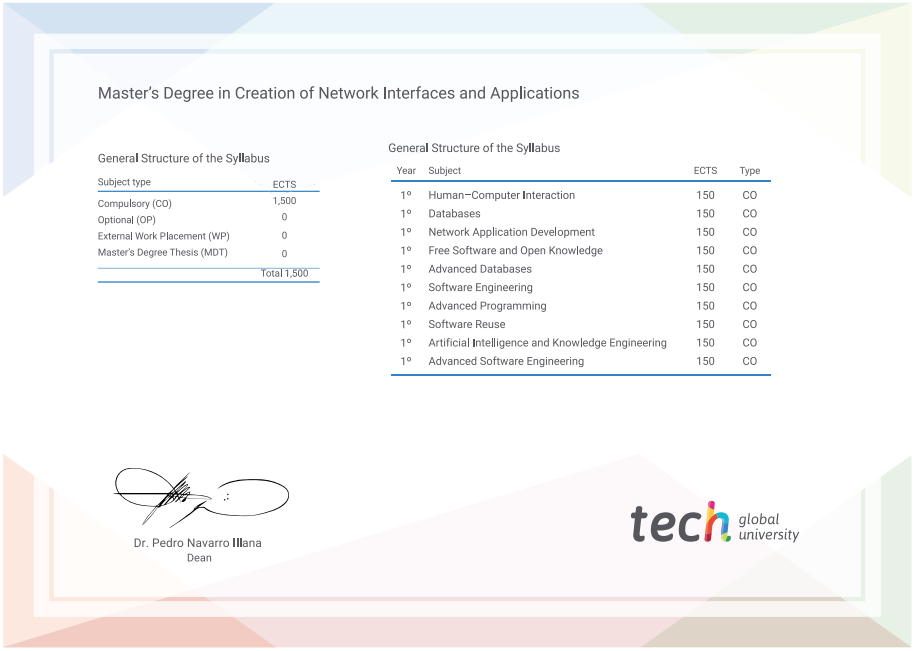
This is a private qualification of 1,800 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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: AFWORD23S techtitute.com/certificates


Master's Degree in Creation of Network Interfaces and Applications

General Structure of the Syllabus

Subject type	ECTS
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	ECTS	Type
1º	Human–Computer Interaction	150	CO
1º	Databases	150	CO
1º	Network Application Development	150	CO
1º	Free Software and Open Knowledge	150	CO
1º	Advanced Databases	150	CO
1º	Software Engineering	150	CO
1º	Advanced Programming	150	CO
1º	Software Reuse	150	CO
1º	Artificial Intelligence and Knowledge Engineering	150	CO
1º	Advanced Software Engineering	150	CO

Dr. Pedro Navarro Illana
Dean

tech global university

*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.

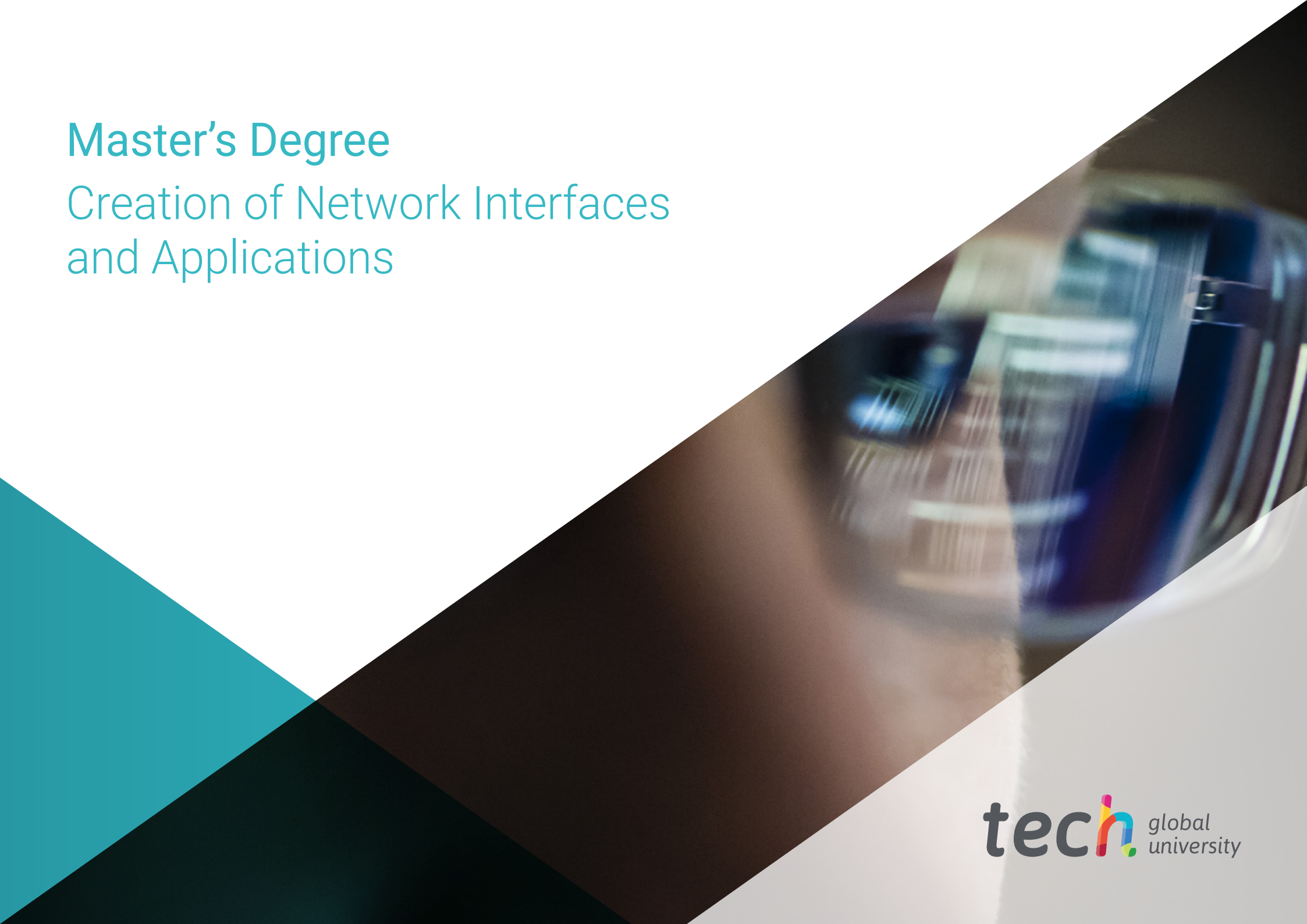
tech global university

Master's Degree
Creation of Network Interfaces and Applications

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

Master's Degree

Creation of Network Interfaces and Applications



tech global university