

Advanced Master's Degree Information Systems Management (CIO, Chief Information Officer)

TECH is a member of:

A background image showing a person's hands using a laptop. The laptop screen displays a dashboard with various data visualizations, including a bar chart, a pie chart, and a line graph. The person's right hand is holding a white pen and pointing at the screen, while their left hand is on the laptop's trackpad. The image is partially obscured by diagonal geometric shapes in gold, olive green, and white.

tech global
university



Advanced Master's Degree Information Systems Management (CIO, Chief Information Officer)

- » Modality: online
- » Duration: 2 years
- » Certificate: TECH Global University
- » Accreditation: 120 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitude.com/us/school-of-business/advanced-master-degree/advanced-master-information-systems-management-cio-chief-information-officer

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01

Introduction to the Program

New technologies have disrupted the business world by optimizing key areas such as production processes, decision-making, and communication. In this context, the role of the CIO (Chief Information Officer) is essential, as they are responsible for designing and planning strategies related to information technologies. Given the growing importance of this field, an increasing number of business professionals are seeking to specialize in this critical area for organizations. With this in mind, TECH has developed a program that not only updates knowledge in business management but also offers a unique opportunity to deepen expertise in information systems applied to companies. All supported by the revolutionary Relearning methodology.



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You will access a comprehensive educational program that combines advanced knowledge in business management, ICT skills, and leadership competencies to successfully lead in a competitive environment”

The Chief Information Officer has emerged as a key player in strategic decision-making within organizations. As digital technologies transform structures and business models, professionals must manage not only information systems but also lead innovation, ensure security, and align IT with organizational goals. For this reason, experts need to incorporate best practices into their daily work to manage information systems in an increasingly dynamic and competitive business environment.

In this context, TECH launches an innovative Grand Master's Degree in Information Systems Management (CIO, Chief Information Officer). Designed by leading figures in the field, the academic program explores topics ranging from the physical foundations of IT and the management of operating systems to the implementation of security controls in Information Systems. Graduates will be fully equipped to lead digital transformation within organizations by efficiently managing technological infrastructure and aligning it with the business's strategic objectives. They will also acquire key competencies in managing tech projects, integrating emerging systems, and optimizing resources—empowering them to drive innovation and ensure the sustainability of Information Systems.

Additionally, the academic program is based on the innovative Relearning method. This educational delivery system focuses on reiterating key principles to ensure a complete understanding of the content. The only thing students will require is a device with an Internet connection to access the Virtual Campus.

Following this line, the syllabus includes an exclusive selection of Masterclasses delivered by prominent International Guest Directors. These masterclass sessions represent a unique opportunity for students to access the knowledge of renowned experts, who will share their strategies, innovative methodologies and valuable professional experiences.

This **Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)** 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 Systems Information Management (CIO, Chief Information Officer)
- ♦ 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 Information Systems Management (CIO, Chief Information Officer)
- ♦ 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



Through these specialized Masterclasses, you will immerse yourself in the most advanced trends in the industry, broaden your global perspective and develop key competencies that will strengthen your growth"

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You will design innovative policies that optimize institutional efficiency, managing Human Resources effectively and maximizing their performance for the benefit of the company”

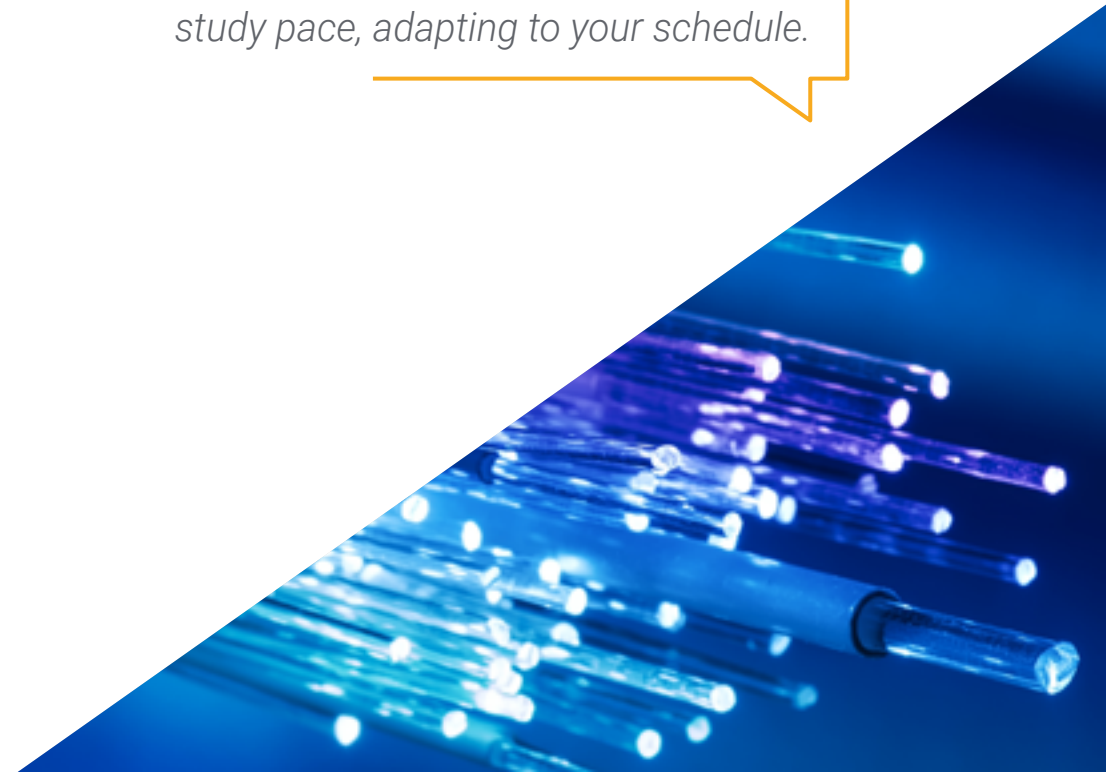
It includes in its teaching staff professionals belonging to the field of Information Systems Management (CIO, Chief Information Officer), who bring to this program their work experience, as well as recognized specialists from leading companies and prestigious universities.

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.

You will lead organizational change processes through the implementation of emerging technologies, improving the efficiency and adaptability of companies.

Take advantage of all the benefits of the Relearning methodology, which will allow you to organize your time and study pace, adapting to your schedule.



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 boasts a distinguished faculty of more than 6,000 professors of the highest international renown.



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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".

Forbes

The best online university in the world

The most complete
syllabus

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.

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.

TOP
international faculty

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.

World's No.1

The World's largest online university

The most effective methodology

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.



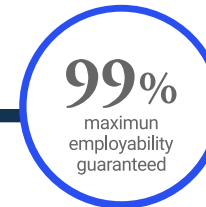
Google Premier Partner

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

The syllabus will offer a practical and up-to-date vision of technological tools and their application in business management, from free operating systems to content managers and multimedia creation. In addition, current mobile technologies and services will be analyzed, along with network and Internet security protocols. Therefore, this multidisciplinary approach will ensure that professionals not only understand the technical fundamentals of information systems, but also their strategic impact on organizations, equipping them with the necessary skills to lead successfully in a digitalized and competitive business world.

```
String [args]) {  
    System.out.println("Start:");  
    Scanner sc = new Scanner(System.in);  
    while (true) {  
        double getNumber() {  
            return sc.nextDouble();  
        }  
        else {  
            System.out.println("Replace");  
            return getNumber();  
        }  
    }  
}  
void main(String [args]) {
```

“

You will equip you with the tools to develop key competencies in leadership and business management, focusing on creating corporate strategies that increase competitiveness”

Module 1. Leadership, Ethics and Social Responsibility in Companies

- 1.1. Globalization and Governance
 - 1.1.1. Governance and Corporate Governance
 - 1.1.2. The Fundamentals of Corporate Governance in Companies
 - 1.1.3. The Role of the Board of Directors in the Corporate Governance Framework
- 1.2. Leadership
 - 1.2.1. Leadership. A Conceptual Approach
 - 1.2.2. Leadership in Companies
 - 1.2.3. The Importance of Leaders in Business Management
- 1.3. *Cross Cultural Management*
 - 1.3.1. Cross Cultural Management Concept
 - 1.3.2. Contributions to Knowledge of National Cultures
 - 1.3.3. Diversity Management
- 1.4. Management and Leadership Development
 - 1.4.1. Concept of Management Development
 - 1.4.2. Concept of Leadership
 - 1.4.3. Leadership Theories
 - 1.4.4. Leadership Styles
 - 1.4.5. Intelligence in Leadership
 - 1.4.6. The Challenges of Today's Leader
- 1.5. Business Ethics
 - 1.5.1. Ethics and Morality
 - 1.5.2. Business Ethics
 - 1.5.3. Leadership and Ethics in Companies
- 1.6. Sustainability
 - 1.6.1. Sustainability and Sustainable Development
 - 1.6.2. The 2030 Agenda
 - 1.6.3. Sustainable Companies
- 1.7. Corporate Social Responsibility
 - 1.7.1. International Dimensions of Corporate Social Responsibility
 - 1.7.2. Implementing Corporate Social Responsibility
 - 1.7.3. The Impact and Measurement of Corporate Social Responsibility

- 1.8. Responsible Management Systems and Tools
 - 1.8.1. CSR: Corporate Social Responsibility
 - 1.8.2. Essential Aspects for Implementing a Responsible Management Strategy
 - 1.8.3. Steps for the Implementation of a Corporate Social Responsibility Management System
 - 1.8.4. CSR Tools and Standards
- 1.9. Multinationals and Human Rights
 - 1.9.1. Globalization, Multinational Corporations and Human Rights
 - 1.9.2. Multinational Corporations and International Law
 - 1.9.3. Legal Instruments for Multinationals in the Area of Human Rights
- 1.10. Legal Environment and Corporate Governance
 - 1.10.1. International Rules on Importation and Exportation
 - 1.10.2. Intellectual and Industrial Property
 - 1.10.3. International Labor Law

Module 2. Strategic Management and Executive Management

- 2.1. Organizational Analysis and Design
 - 2.1.1. Conceptual Framework
 - 2.1.2. Key Elements in Organizational Design
 - 2.1.3. Basic Organizational Models
 - 2.1.4. Organizational Design: Typology
- 2.2. Corporate Strategy
 - 2.2.1. Competitive Corporate Strategy
 - 2.2.2. Growth Strategies: Typology
 - 2.2.3. Conceptual Framework
- 2.3. Strategic Planning and Strategy Formulation
 - 2.3.1. Conceptual Framework
 - 2.3.2. Elements of Strategic Planning
 - 2.3.3. Strategy Formulation: Strategic Planning Process
- 2.4. Strategic Thinking
 - 2.4.1. The Company as a System
 - 2.4.2. Organization Concept

- 2.5. Financial Diagnosis
 - 2.5.1. Concept of Financial Diagnosis
 - 2.5.2. Stages of Financial Diagnosis
 - 2.5.3. Assessment Methods for Financial Diagnosis
- 2.6. Planning and Strategy
 - 2.6.1. The Plan from a Strategy
 - 2.6.2. Strategic Positioning
 - 2.6.3. Strategy in Companies
- 2.7. Strategy Models and Patterns
 - 2.7.1. Conceptual Framework
 - 2.7.2. Strategic Models
 - 2.7.3. Strategic Patterns: The Five P's of Strategy
- 2.8. Competitive Strategy
 - 2.8.1. The Competitive Advantage
 - 2.8.2. Choosing a Competitive Strategy
 - 2.8.3. Strategies based on the Strategic Clock Model
 - 2.8.4. Types of Strategies According to the Industrial Sector Life Cycle
- 2.9. Strategic Management
 - 2.9.1. The Concept of Strategy
 - 2.9.2. The Process of Strategic Management
 - 2.9.3. Approaches in Strategic Management
- 2.10. Strategy Implementation
 - 2.10.1. Indicator Systems and Process Approach
 - 2.10.2. Strategic Map
 - 2.10.3. Strategic Alignment
- 2.11. Executive Management
 - 2.11.1. Conceptual Framework of Executive Management
 - 2.11.2. Executive Management. The Role of the Board of Directors and Corporate Management Tools
- 2.12. Strategic Communication
 - 2.12.1. Interpersonal Communication
 - 2.12.2. Communication Skills and Influence
 - 2.12.3. Internal Communication
 - 2.12.4. Barriers to Business Communication

Module 3. People and Talent Management

- 3.1. Organizational Behavior
 - 3.1.1. Organizational Behavior. Conceptual Framework
 - 3.1.2. Main Factors of Organizational Behavior
- 3.2. People in Organizations
 - 3.2.1. Quality of Work Life and Psychological Well-Being
 - 3.2.2. Work Teams and Meeting Management
 - 3.2.3. Coaching and Team Management
 - 3.2.4. Managing Equality and Diversity
- 3.3. Strategic People Management
 - 3.3.1. Strategic Human Resources Management
 - 3.3.2. Strategic People Management
- 3.4. Evolution of Resources. An Integrated Vision
 - 3.4.1. The Importance of HR
 - 3.4.2. A New Environment for People Management and Leadership
 - 3.4.3. Strategic HR Management
- 3.5. Selection, Group Dynamics and HR Recruitment
 - 3.5.1. Approach to Recruitment and Selection
 - 3.5.2. Recruitment
 - 3.5.3. The Selection Process
- 3.6. Human Resources Management by Competencies
 - 3.6.1. Analysis of the Potential
 - 3.6.2. Remuneration Policy
 - 3.6.3. Career/Succession Planning
- 3.7. Performance Evaluation and Performance Management
 - 3.7.1. Performance Management
 - 3.7.2. Performance Management: Objectives and Process
- 3.8. Management of Training
 - 3.8.1. Learning Theories
 - 3.8.2. Talent Detection and Retention
 - 3.8.3. Gamification and Talent Management
 - 3.8.4. Training and Professional Obsolescence

- 3.9. Talent Management
 - 3.9.1. Keys for Positive Management
 - 3.9.2. Conceptual Origin of Talent and Its Implication in the Company
 - 3.9.3. Map of Talent in the Organization
 - 3.9.4. Cost and Added Value
- 3.10. Innovation in Talent and People Management
 - 3.10.1. Strategic Talent Management Models
 - 3.10.2. Talent Identification, Training and Development
 - 3.10.3. Loyalty and Retention
 - 3.10.4. Proactivity and Innovation
- 3.11. Motivation
 - 3.11.1. The Nature of Motivation
 - 3.11.2. Expectations Theory
 - 3.11.3. Needs Theory
 - 3.11.4. Motivation and Financial Compensation
- 3.12. *Employer Branding*
 - 3.12.1. Employer Branding in HR
 - 3.12.2. Personal Branding for HR Professionals
- 3.13. Developing High-Performance Teams
 - 3.13.1. High-Performance Teams: Self-Managed Teams
 - 3.13.2. Methodologies for the Management of High-Performance Self-Managed Teams
- 3.14. Management Skills Development
 - 3.14.1. What Are Manager Competencies?
 - 3.14.2. Elements of Competencies
 - 3.14.3. Knowledge
 - 3.14.4. Management Skills
 - 3.14.5. Attitudes and Values in Managers
 - 3.14.6. Managerial Skills
- 3.15. Time Management
 - 3.15.1. Benefits
 - 3.15.2. What Can Be the Causes of Poor Time Management?
 - 3.15.3. Time
 - 3.15.4. Time Illusions
 - 3.15.5. Attention and Memory
 - 3.15.6. State of Mind
 - 3.15.7. Time Management
 - 3.15.8. Being Proactive
 - 3.15.9. Being Clear About the Objective
 - 3.15.10. Order
 - 3.15.11. Planning
- 3.16. Change Management
 - 3.16.1. Change Management
 - 3.16.2. Type of Change Management Processes
 - 3.16.3. Stages or Phases in the Change Management Process
- 3.17. Negotiation and Conflict Management
 - 3.17.1. Negotiation
 - 3.17.2. Conflict Management
 - 3.17.3. Crisis Management
- 3.18. Executive Communication
 - 3.18.1. Internal and External Communication in the Corporate Environment
 - 3.18.2. Communication Departments
 - 3.18.3. The Person in Charge of Communication of the Company. The Profile of the Dircom
- 3.19. Human Resources Management and Occupational Risk Prevention Teams
 - 3.19.1. Management of Human Resources and Teams
 - 3.19.2. Occupational Risk Prevention

- 3.20. Productivity, Attraction, Retention and Activation of Talent
 - 3.20.1. Productivity
 - 3.20.2. Talent Attraction and Retention Levers
- 3.21. Monetary Compensation vs. Non-Cash
 - 3.21.1. Monetary Compensation vs. Non-Cash
 - 3.21.2. Wage Band Models
 - 3.21.3. Non-Cash Compensation Models
 - 3.21.4. Working Model
 - 3.21.5. Corporate Community
 - 3.21.6. Company Image
 - 3.21.7. Emotional Salary
- 3.22. Innovation in Talent and People Management
 - 3.22.1. Innovation in Organizations
 - 3.22.2. New Challenges in the Human Resources Department
 - 3.22.3. Innovation Management
 - 3.22.4. Tools for Innovation
- 3.23. Knowledge and Talent Management
 - 3.23.1. Knowledge and Talent Management
 - 3.23.2. Knowledge Management Implementation
- 3.24. Transforming Human Resources in the Digital Era
 - 3.24.1. The Socioeconomic Context
 - 3.24.2. New Forms of Corporate Organization
 - 3.24.3. New Methodologies

Module 4. Economic and Financial Management

- 4.1. Economic Environment
 - 4.1.1. Macroeconomic Environment and the National Financial System
 - 4.1.2. Financial Institutions
 - 4.1.3. Financial Markets
 - 4.1.4. Financial Assets
 - 4.1.5. Other Financial Sector Entities

- 4.2. Company Financing
 - 4.2.1. Sources of Financing
 - 4.2.2. Types of Financing Costs
- 4.3. Executive Accounting
 - 4.3.1. Basic Concepts
 - 4.3.2. The Company's Assets
 - 4.3.3. The Company's Liabilities
 - 4.3.4. The Company's Net Worth
 - 4.3.5. The Income Statement
- 4.4. Management Accounting to Cost Accounting
 - 4.4.1. Elements of Cost Calculation
 - 4.4.2. Expenses in General Accounting and Cost Accounting
 - 4.4.3. Costs Classification
- 4.5. Information Systems and Business Intelligence
 - 4.5.1. Fundamentals and Classification
 - 4.5.2. Cost Allocation Phases and Methods
 - 4.5.3. Choice of Cost Center and Impact
- 4.6. Budget and Management Control
 - 4.6.1. The Budget Model
 - 4.6.2. The Capital Budget
 - 4.6.3. The Operating Budget
 - 4.6.4. Treasury Budget
 - 4.6.5. Budget Monitoring
- 4.7. Treasury Management
 - 4.7.1. Accounting Working Capital and Necessary Working Capital
 - 4.7.2. Calculation of Operating Cash Requirements
 - 4.7.3. Credit Management
- 4.8. Corporate Tax Responsibility
 - 4.8.1. Basic Tax Concepts
 - 4.8.2. Corporate Income Tax
 - 4.8.3. Value Added Tax
 - 4.8.4. Other Taxes Related to Commercial Activity
 - 4.8.5. The Company as a Facilitator of the Work of the State

- 4.9. Corporate Control Systems
 - 4.9.1. Analysis of Financial Statements
 - 4.9.2. The Company's Balance Sheet
 - 4.9.3. The Profit and Loss Statement
 - 4.9.4. The Statement of Cash Flows
 - 4.9.5. Ratio Analysis
- 4.10. Financial Management
 - 4.10.1. The Company's Financial Decisions
 - 4.10.2. Financial Department
 - 4.10.3. Cash Surpluses
 - 4.10.4. Risks Associated with Financial Management
 - 4.10.5. Financial Administration Risk Management
- 4.11. Financial Planning
 - 4.11.1. Definition of Financial Planning
 - 4.11.2. Actions to Be Taken in Financial Planning
 - 4.11.3. Creation and Establishment of the Business Strategy
 - 4.11.4. The Cash Flow Table
 - 4.11.5. The Working Capital Table
- 4.12. Corporate Financial Strategy
 - 4.12.1. Corporate Strategy and Sources of Financing
 - 4.12.2. Financial Products for Corporate Financing
- 4.13. Macroeconomic Context
 - 4.13.1. Macroeconomic Context
 - 4.13.2. Relevant Economic Indicators
 - 4.13.3. Mechanisms for the Control of Macroeconomic Magnitudes
 - 4.13.4. Economic Cycles
- 4.14. Strategic Financing
 - 4.14.1. Self-Financing
 - 4.14.2. Increase in Equity
 - 4.14.3. Hybrid Resources
 - 4.14.4. Financing Through Intermediaries





- 4.15. Money and Capital Markets
 - 4.15.1. The Money Market
 - 4.15.2. The Fixed Income Market
 - 4.15.3. The Equity Market
 - 4.15.4. The Foreign Exchange Market
 - 4.15.5. The Derivatives Market
- 4.16. Financial Analysis and Planning
 - 4.16.1. Analysis of the Balance Sheet
 - 4.16.2. Analysis of the Income Statement
 - 4.16.3. Profitability Analysis
- 4.17. Analyzing and Solving Cases/Problems
 - 4.17.1. Financial Information on Industria de Diseño y Textil, S.A. (INDITEX)

Module 5. Operations and Logistics Management

- 5.1. Operations Direction and Management
 - 5.1.1. The Role of Operations
 - 5.1.2. The Impact of Operations on the Management of Companies
 - 5.1.3. Introduction to Operations Strategy
- 5.2. Industrial Organization and Logistics
 - 5.2.1. Industrial Organization Department
- 5.3. Structure and Types of Production (MTS, MTO, ATO, ETO , etc.)
 - 5.3.1. Production System
 - 5.3.2. Production Strategy
 - 5.3.3. Inventory Management System
 - 5.3.4. Production Indicators
- 5.4. Structure and Types of Procurement
 - 5.4.1. Function of Procurement
 - 5.4.2. Procurement Management
 - 5.4.3. Types of Purchases
 - 5.4.4. Efficient Purchasing Management of a Company
 - 5.4.5. Stages of the Purchase Decision Process

- 5.5. Economic Control of Purchasing
 - 5.5.1. Economic Influence of Purchases
 - 5.5.2. Cost Centers
 - 5.5.3. Budget
 - 5.5.4. Budgeting vs. Actual Expenditure
 - 5.5.5. Budgetary Control Tools
- 5.6. Warehouse Operations Control
 - 5.6.1. Inventory Control
 - 5.6.2. Location Systems
 - 5.6.3. Stock Management Techniques
 - 5.6.4. Storage Systems
- 5.7. Strategic Purchasing Management
 - 5.7.1. Business Strategy
 - 5.7.2. Strategic Planning
 - 5.7.3. Purchasing Strategies
- 5.8. Typologies of the Supply Chain (SCM)
 - 5.8.1. Supply Chain
 - 5.8.2. Benefits of Supply Chain Management
 - 5.8.3. Logistical Management in the Supply Chain
- 5.9. *Supply Chain Management*
 - 5.9.1. The Concept of Supply Chain Management (SCM)
 - 5.9.2. Costs and Efficiency of the Operations Chain
 - 5.9.3. Demand Patterns
 - 5.9.4. Operations Strategy and Change
- 5.10. Interactions Between the SCM and All Other Departments
 - 5.10.1. Interaction of the Supply Chain
 - 5.10.2. Interaction of the Supply Chain. Integration by Parts
 - 5.10.3. Supply Chain Integration Problems
 - 5.10.4. Supply Chain 4.0
- 5.11. Logistics Costs
 - 5.11.1. Logistics Costs
 - 5.11.2. Problems with Logistics Costs
 - 5.11.3. Optimizing Logistic Costs
- 5.12. Profitability and Efficiency of Logistics Chains: KPIs
 - 5.12.1. Logistics Chain
 - 5.12.2. Profitability and Efficiency of the Logistics Chain
 - 5.12.3. Indicators of Profitability and Efficiency of the Supply Chain
- 5.13. Process Management
 - 5.13.1. Process Management
 - 5.13.2. Process-Based Approach: Process Mapping
 - 5.13.3. Improvements in Process Management
- 5.14. Distribution and Transportation Logistics
 - 5.14.1. Distribution in the Supply Chain
 - 5.14.2. Transportation Logistics
 - 5.14.3. Geographic Information Systems as a Support for Logistics
- 5.15. Logistics and Customers
 - 5.15.1. Demand Analysis
 - 5.15.2. Demand and Sales Forecast
 - 5.15.3. Sales and Operations Planning
 - 5.15.4. Collaborative Planning, Forecasting and Replenishment (CPFR)
- 5.16. International Logistics
 - 5.16.1. Export and Import Processes
 - 5.16.2. Customs
 - 5.16.3. Methods and Means of International Payment
 - 5.16.4. International Logistics Platforms
- 5.17. Outsourcing of Operations
 - 5.17.1. Operations Management and Outsourcing
 - 5.17.2. Outsourcing Implementation in Logistics Environments
- 5.18. Competitiveness in Operations
 - 5.18.1. Operations Management
 - 5.18.2. Operational Competitiveness
 - 5.18.3. Operations Strategy and Competitive Advantages
- 5.19. Quality Management
 - 5.19.1. Internal and External Customers
 - 5.19.2. Quality Costs
 - 5.19.3. Ongoing Improvement and the Deming Philosophy

Module 6. Information Systems Management

- 6.1. Technological Environment
 - 6.1.1. Technology and Globalization
 - 6.1.2. Economic Environment and Technology
 - 6.1.3. Technological Environment and Its Impact on Companies
- 6.2. Information Systems in Companies
 - 6.2.1. The Evolution of the IT Model
 - 6.2.2. Organization and IT Departments
 - 6.2.3. Information Technology and Economic Environment
- 6.3. Corporate Strategy and Technology Strategy
 - 6.3.1. Creating Value for Customers and Shareholders
 - 6.3.2. Strategic IS/IT Decisions
 - 6.3.3. Corporate Strategy vs. Technological and Digital Strategy
- 6.4. Information Systems Management
 - 6.4.1. Corporate Governance of Technology and Information Systems
 - 6.4.2. Management of Information Systems in Companies
 - 6.4.3. Expert Managers in Information Systems: Roles and Functions
- 6.5. Information Technology Strategic Planning
 - 6.5.1. Information Technology Strategic Planning
 - 6.5.2. Strategic Planning of Information Systems
 - 6.5.3. Phases of Information Systems Strategic Planning
- 6.6. Information Systems for Decision-Making
 - 6.6.1. *Business Intelligence*
 - 6.6.2. *Data Warehouse*
 - 6.6.3. BSC or Balanced Scorecard
- 6.7. Exploring the Information
 - 6.7.1. SQL: Relational Databases. Basic Concepts
 - 6.7.2. Networks and Communications
 - 6.7.3. Operational System: Standardized Data Models
 - 6.7.4. Strategic System: OLAP, Multidimensional Model and Graphical Dashboards
 - 6.7.5. Strategic DB Analysis and Report Composition
- 6.8. Corporate Business Intelligence
 - 6.8.1. The World of Data
 - 6.8.2. Relevant Concepts
 - 6.8.3. Main Characteristics
 - 6.8.4. Solutions in Today's Market
 - 6.8.5. Overall Architecture of a BI Solution
 - 6.8.6. Cybersecurity in BI and Data Science
- 6.9. New Business Concept
 - 6.9.1. Why BI?
 - 6.9.2. Obtaining Information
 - 6.9.3. Reasons to Invest in BI
- 6.10. BI Tools and Solutions
 - 6.10.1. How to Choose the Best Tool?
 - 6.10.2. Microsoft Power BI, MicroStrategy and Tableau
 - 6.10.3. SAP BI, SAS BI and Qlikview
 - 6.10.4. Prometheus
- 6.11. BI Project Planning and Management
 - 6.11.1. First Steps to Define a BI Project
 - 6.11.2. BI Solution for the Company
 - 6.11.3. Requirements and Objectives
- 6.12. Corporate Management Applications
 - 6.12.1. Information Systems and Corporate Management
 - 6.12.2. Applications for Corporate Management
 - 6.12.3. Enterprise Resource Planning Systems or ERP
- 6.13. Digital Transformation
 - 6.13.1. Conceptual Framework of Digital Transformation
 - 6.13.2. Digital Transformation: Key Elements, Benefits and Drawbacks
 - 6.13.3. Digital Transformation in Companies
- 6.14. Technology and Trends
 - 6.14.1. Main Trends in the Field of Technology that Are Changing Business Models
 - 6.14.2. Analysis of the Main Emerging Technologies

- 6.15. IT Outsourcing
 - 6.15.1. Conceptual Framework of Outsourcing
 - 6.15.2. IT Outsourcing and Its Impact on the Business
 - 6.15.3. Keys to Implement Corporate IT Outsourcing Projects

Module 7. Commercial Management, Strategic Marketing and Corporate Communications

- 7.1. Commercial Management
 - 7.1.1. Conceptual Framework of Commercial Management
 - 7.1.2. Business Strategy and Planning
 - 7.1.3. The Role of Sales Managers
- 7.2. Marketing
 - 7.2.1. The Concept of Marketing
 - 7.2.2. The Basic Elements of Marketing
 - 7.2.3. Marketing Activities in Companies
- 7.3. Strategic Marketing Management
 - 7.3.1. The Concept of Strategic Marketing
 - 7.3.2. Concept of Strategic Marketing Planning
 - 7.3.3. Stages in the Process of Strategic Marketing Planning
- 7.4. Digital Marketing and E-Commerce
 - 7.4.1. Digital Marketing and E-Commerce Objectives
 - 7.4.2. Digital Marketing and Media Used
 - 7.4.3. E-Commerce. General Context
 - 7.4.4. Categories of E-Commerce
 - 7.4.5. Advantages and Disadvantages of E-Commerce Versus Traditional Commerce
- 7.5. *Managing Digital Business*
 - 7.5.1. Competitive Strategy in the Face of the Growing Digitalization of the Media
 - 7.5.2. Design and Creation of a Digital Marketing Plan
 - 7.5.3. ROI Analysis in a Digital Marketing Plan
- 7.6. Digital Marketing to Reinforce a Brand
 - 7.6.1. Online Strategies to Improve Your Brand's Reputation
 - 7.6.2. Branded Content and Storytelling
- 7.7. Digital Marketing Strategy
 - 7.7.1. Defining the Digital Marketing Strategy
 - 7.7.2. Digital Marketing Strategy Tools
- 7.8. Digital Marketing to Attract and Retain Customers
 - 7.8.1. Loyalty and Engagement Strategies through the Internet
 - 7.8.2. *Visitor Relationship Management*
 - 7.8.3. Hypersegmentation
- 7.9. Managing Digital Campaigns
 - 7.9.1. What Is a Digital Advertising Campaign?
 - 7.9.2. Steps to Launch an Online Marketing Campaign
 - 7.9.3. Mistakes in Digital Advertising Campaigns
- 7.10. Online Marketing Plan
 - 7.10.1. What Is an Online Marketing Plan?
 - 7.10.2. Steps to Create an Online Marketing Plan
 - 7.10.3. Advantages of Having an Online Marketing Plan
- 7.11. *Blended Marketing*
 - 7.11.1. What Is Blended Marketing?
 - 7.11.2. Differences Between Online and Offline Marketing
 - 7.11.3. Aspects to Be Taken into Account in the Blended Marketing Strategy
 - 7.11.4. Characteristics of a Blended Marketing Strategy
 - 7.11.5. Recommendations in Blended Marketing
 - 7.11.6. Benefits of Blended Marketing
- 7.12. Sales Strategy
 - 7.12.1. Sales Strategy
 - 7.12.2. Sales Methods
- 7.13. Corporate Communication
 - 7.13.1. Concept
 - 7.13.2. The Importance of Communication in the Organization
 - 7.13.3. Type of Communication in the Organization
 - 7.13.4. Functions of Communication in the Organization
 - 7.13.5. Elements of Communication
 - 7.13.6. Communication Problems
 - 7.13.7. Communication Scenarios

- 7.14. Corporate Communication Strategy
 - 7.14.1. Motivational Programs, Social Action, Participation and Training with HR
 - 7.14.2. Internal Communication Support and Tools
 - 7.14.3. Internal Communication Plan
- 7.15. Digital Communication and Reputation
 - 7.15.1. Online Reputation
 - 7.15.2. How to Measure Digital Reputation?
 - 7.15.3. Online Reputation Tools
 - 7.15.4. Online Reputation Report
 - 7.15.5. *Online Branding*

Module 8. Market Research, Advertising and Commercial Management

- 8.1. Market Research
 - 8.1.1. Market Research: Historical Origin
 - 8.1.2. Analysis and Evolution of the Conceptual Framework of Marketing Research
 - 8.1.3. Key Elements and Value Contribution of Market Research
- 8.2. Quantitative Research Methods and Techniques
 - 8.2.1. Sample Size
 - 8.2.2. Sampling
 - 8.2.3. Types of Quantitative Techniques
- 8.3. Qualitative Research Methods and Techniques
 - 8.3.1. Types of Qualitative Research
 - 8.3.2. Qualitative Research Techniques
- 8.4. Market Segmentation
 - 8.4.1. Market Segmentation Concept
 - 8.4.2. Utility and Segmentation Requirements
 - 8.4.3. Consumer Market Segmentation
 - 8.4.4. Industrial Market Segmentation
 - 8.4.5. Segmentation Strategies
 - 8.4.6. Segmentation Based on Marketing Mix Criteria
 - 8.4.7. Market Segmentation Methodology

- 8.5. Research Project Management
 - 8.5.1. Market Research as a Process
 - 8.5.2. Planning Stages in Market Research
 - 8.5.3. Stages of Market Research Implementation
 - 8.5.4. Managing a Research Project
- 8.6. International Market Research
 - 8.6.1. International Market Research
 - 8.6.2. International Market Research Process
 - 8.6.3. The Importance of Secondary Sources in International Market Research
- 8.7. Feasibility Studies
 - 8.7.1. Concept and Usefulness
 - 8.7.2. Outline of a Feasibility Study
 - 8.7.3. Development of a Feasibility Study
- 8.8. Publicity
 - 8.8.1. Historical Background of Advertising
 - 8.8.2. Conceptual Framework of Advertising: Principles, Briefing Concept and Positioning
 - 8.8.3. Advertising Agencies, Media Agencies and Advertising Professionals
 - 8.8.4. Importance of Advertising in Business
 - 8.8.5. Advertising Trends and Challenges
- 8.9. Developing the Marketing Plan
 - 8.9.1. Marketing Plan Concept
 - 8.9.2. Situation Analysis and Diagnosis
 - 8.9.3. Strategic Marketing Decisions
 - 8.9.4. Operational Marketing Decisions
- 8.10. Promotion and Merchandising Strategies
 - 8.10.1. Integrated Marketing Communication
 - 8.10.2. Advertising Communication Plan
 - 8.10.3. Merchandising as a Communication Technique
- 8.11. Media Planning
 - 8.11.1. Origin and Evolution of Media Planning
 - 8.11.2. Media
 - 8.11.3. Media Plan

- 8.12. Fundamentals of Commercial Management
 - 8.12.1. The Role of Commercial Management
 - 8.12.2. Systems of Analysis of the Company/Market Commercial Competitive Situation
 - 8.12.3. Commercial Planning Systems of the Company
 - 8.12.4. Main Competitive Strategies
- 8.13. Commercial Negotiation
 - 8.13.1. Commercial Negotiation
 - 8.13.2. Psychological Issues in Negotiation
 - 8.13.3. Main Negotiation Methods
 - 8.13.4. The Negotiation Process
- 8.14. Decision-Making in Commercial Management
 - 8.14.1. Commercial Strategy and Competitive Strategy
 - 8.14.2. Decision Making Models
 - 8.14.3. Decision-Making Analytics and Tools
 - 8.14.4. Human Behavior in Decision Making
- 8.15. Sales Network Management
 - 8.15.1. Sales Management Sales Management
 - 8.15.2. Networks Serving Commercial Activity
 - 8.15.3. Salesperson Recruitment and Training Policies
 - 8.15.4. Remuneration Systems for Own and External Commercial Networks
 - 8.15.5. Management of the Commercial Process. Control and Assistance to the Work of the Sales Representatives Based on the Information
- 8.16. Implementing the Commercial Function
 - 8.16.1. Recruitment of Own Sales Representatives and Sales Agents
 - 8.16.2. Controlling Commercial Activity
 - 8.16.3. The Code of Ethics of Sales Personnel
 - 8.16.4. Compliance with Legislation
 - 8.16.5. Generally Accepted Standards of Business Conduct
- 8.17. Key Account Management
 - 8.17.1. Concept of Key Account Management
 - 8.17.2. The Key Account Manager
 - 8.17.3. Key Account Management Strategy

- 8.18. Financial and Budgetary Management
 - 8.18.1. The Break-Even Point
 - 8.18.2. The Sales Budget. Control of Management and of the Annual Sales Plan
 - 8.18.3. Financial Impact of Strategic Sales Decisions
 - 8.18.4. Cycle Management, Turnover, Profitability and Liquidity
 - 8.18.5. Income Statement

Module 9. Innovation and Project Management

- 9.1. Innovation
 - 9.1.1. Introduction to Innovation
 - 9.1.2. Innovation in the Entrepreneurial Ecosystem
 - 9.1.3. Instruments and Tools for the Business Innovation Process
- 9.2. Innovation Strategy
 - 9.2.1. Strategic Intelligence and Innovation
 - 9.2.2. Innovation from Strategy
- 9.3. Project Management for Startups
 - 9.3.1. Startup Concept
 - 9.3.2. Lean Startup Philosophy
 - 9.3.3. Stages of Startup Development
 - 9.3.4. The Role of a Project Manager in a Startup
- 9.4. Business Model Design and Validation
 - 9.4.1. Conceptual Framework of a Business Model
 - 9.4.2. Business Model Design and Validation
- 9.5. Project Management
 - 9.5.1. Project Management and Direction: Identification of Opportunities to Develop Corporate Innovation Projects
 - 9.5.2. Main Stages or Phases in the Direction and Management of Innovation Projects
- 9.6. Change Management in Projects: Management of Training
 - 9.6.1. Concept of Change Management
 - 9.6.2. The Change Management Process
 - 9.6.3. Change Implementation

- 9.7. Project Communication Management
 - 9.7.1. Project Communications Management
 - 9.7.2. Key Concepts for Project Communications Management
 - 9.7.3. Emerging Trends
 - 9.7.4. Adaptations to Equipment
 - 9.7.5. Planning Communications Management
 - 9.7.6. Managing Communications
 - 9.7.7. Monitoring Communications
- 9.8. Traditional and Innovative Methodologies
 - 9.8.1. Innovative Methodologies
 - 9.8.2. Basic Principles of Scrum
 - 9.8.3. Differences between the Main Aspects of Scrum and Traditional Methodologies
- 9.9. Creation of a Startup
 - 9.9.1. Creation of a Startup
 - 9.9.2. Organization and Culture
 - 9.9.3. Top Ten Reasons Why Startups Fail
 - 9.9.4. Legal Aspects
- 9.10. Project Risk Management Planning
 - 9.10.1. Risk Planning
 - 9.10.2. Elements for Creating a Risk Management Plan
 - 9.10.3. Tools for Creating a Risk Management Plan
 - 9.10.4. Content of the Risk Management Plan

Module 10. Executive Management

- 10.1. *General Management*
 - 10.1.1. The Concept of General Management
 - 10.1.2. The General Manager's Action
 - 10.1.3. The CEO and Their Responsibilities
 - 10.1.4. Transforming the Work of Management
- 10.2. Manager Functions: Organizational Culture and Approaches
 - 10.2.1. Manager Functions: Organizational Culture and Approaches

- 10.3. Operations Management
 - 10.3.1. The Importance of Management
 - 10.3.2. Value Chain
 - 10.3.3. Quality Management
- 10.4. Public Speaking and Spokesperson Education
 - 10.4.1. Interpersonal Communication
 - 10.4.2. Communication Skills and Influence
 - 10.4.3. Communication Barriers
- 10.5. Personal and Organizational Communications Tools
 - 10.5.1. Interpersonal Communication
 - 10.5.2. Interpersonal Communication Tools
 - 10.5.3. Communication in the Organization
 - 10.5.4. Tools in the Organization
- 10.6. Communication in Crisis Situations
 - 10.6.1. Crisis
 - 10.6.2. Phases of the Crisis
 - 10.6.3. Messages: Contents and Moments
- 10.7. Preparation of a Crisis Plan
 - 10.7.1. Analysis of Possible Problems
 - 10.7.2. Planning
 - 10.7.3. Adequacy of Personnel
- 10.8. Emotional Intelligence
 - 10.8.1. Emotional Intelligence and Communication
 - 10.8.2. Assertiveness, Empathy and Active Listening
 - 10.8.3. Self-Esteem and Emotional Communication
- 10.9. Personal Branding
 - 10.9.1. Strategies for Personal Brand Development
 - 10.9.2. Personal Branding Laws
 - 10.9.3. Tools for Creating Personal Brands

- 10.10. Leadership and Team Management
 - 10.10.1. Leadership and Leadership Styles
 - 10.10.2. Leader Capabilities and Challenges
 - 10.10.3. Managing Change Processes
 - 10.10.4. Managing Multicultural Teams

Module 11. Physical Fundamentals of Computing

- 11.1. Fundamental Forces
 - 11.1.1. Newton's Second Law
 - 11.1.2. The Fundamental Forces of Nature
 - 11.1.3. Gravitational Force
 - 11.1.4. The Electric Force
- 11.2. Conservation Laws
 - 11.2.1. What is Mass?
 - 11.2.2. The Electric Charge
 - 11.2.3. The Millikan Experiment
 - 11.2.4. Conservation of Linear Momentum
- 11.3. Energy
 - 11.3.1. What is Energy?
 - 11.3.2. Measuring Energy
 - 11.3.3. Energy Types
 - 11.3.4. Dependence on the Observer's Energy
 - 11.3.5. Potential Energy
 - 11.3.6. Derivation of Potential Energy
 - 11.3.7. Energy Conservation
 - 11.3.8. Energy Units
- 11.4. Electric Field
 - 11.4.1. Static Electricity
 - 11.4.2. Electric Field
 - 11.4.3. Capacity
 - 11.4.4. Potential
- 11.5. Electrical Circuits
 - 11.5.1. Circulation of Electric Charge
 - 11.5.2. Batteries
 - 11.5.3. Alternating Current
- 11.6. Magnetism
 - 11.6.1. Introduction and Magnetic Materials
 - 11.6.2. Magnetic Field
 - 11.6.3. Electromagnetic Introduction
- 11.7. Electromagnetic Spectrum
 - 11.7.1. Maxwell's Equations
 - 11.7.2. Optics and Electromagnetic Waves
 - 11.7.3. The Michelson Morley Experiment
- 11.8. The Atom and Subatomic Particles
 - 11.8.1. The Atom
 - 11.8.2. The Atomic Nucleus
 - 11.8.3. Radioactivity
- 11.9. Quantum Physics
 - 11.9.1. Color and Heat
 - 11.9.2. Photoelectric Effect
 - 11.9.3. Matter Waves
 - 11.9.4. Nature as Probability
- 11.10. Relativity
 - 11.10.1. Gravity, Space and Time
 - 11.10.2. Lorentz Transformations
 - 11.10.3. Speed and Time
 - 11.10.4. Energy, Momentum and Mass

Module 12. Computer Technology

- 12.1. General Information and a Brief History of Computers
 - 12.1.1. Organization and Architecture
 - 12.1.2. Brief History of Computers
- 12.2. Computer Arithmetic
 - 12.2.1. The Arithmetic-Logic Unit
 - 12.2.2. Numbering Systems
 - 12.2.3. Integer Representation
 - 12.2.4. Arithmetic with Integers
 - 12.2.5. Floating Point Representation
 - 12.2.6. Floating Point Arithmetic
- 12.3. Classic Concepts of Logic Design
 - 12.3.1. Boolean Algebra
 - 12.3.2. Logic Gates
 - 12.3.3. Logical Simplification
 - 12.3.4. Combinational Circuits
 - 12.3.5. Sequential Circuits
 - 12.3.6. Concept of Sequential Machine
 - 12.3.7. Memory Element
 - 12.3.8. Types of Memory Elements
 - 12.3.9. Synthesis of Sequential Circuits
 - 12.3.10. Synthesis of Sequential Circuits with PLA
- 12.4. Basic Computer Organization and Operation
 - 12.4.1. Introduction
 - 12.4.2. Components of a Computer
 - 12.4.3. Operation of a Computer
 - 12.4.4. Interconnection Structures
 - 12.4.5. Interconnection with Buses
 - 12.4.6. PCI Bus

- 12.5. Internal Memory
 - 12.5.1. Introduction to Memory Systems in Computers
 - 12.5.2. Semiconductor Main Memory
 - 12.5.3. Correction of Errors
 - 12.5.4. Advanced DRAM Memory Organization
- 12.6. Input/Output
 - 12.6.1. External Devices
 - 12.6.2. Input/Output Modules
 - 12.6.3. Scheduled Input/Output
 - 12.6.4. Input/Output via Interrupts
 - 12.6.5. Direct Memory Access
 - 12.6.6. Input/Output Channels and Processors
- 12.7. Machine Instructions: Features and Functions
 - 12.7.1. Characteristics of Machine Instructions
 - 12.7.2. Types of Operands
 - 12.7.3. Types of Transactions
 - 12.7.4. Assembly Language
 - 12.7.5. Address
 - 12.7.6. Formats of Instructions
- 12.8. Processor Structure and Operation
 - 12.8.1. Processor Organization
 - 12.8.2. Record Organization
 - 12.8.3. Training Cycle
 - 12.8.4. Instruction Segmentation
- 12.9. Cache and External Memory
 - 12.9.1. Basic Principles of Cache Memories
 - 12.9.2. Cache Design Elements
 - 12.9.3. Magnetic Disks
 - 12.9.4. RAID
 - 12.9.5. Optical Memory
 - 12.9.6. Magnetic Tape

12.10. Introduction to the Operation of the Control Unit

12.10.1. Microoperations

12.10.2. Processor Control

12.10.3. Wired Implementation

Module 13. The Structure of Computers

13.1. Fundamentals of Computer Design and Evolution

13.1.1. Definition of Computer Architecture

13.1.2. Evolution and Performance of Architectures

13.1.3. Parallel Architectures and Levels of Parallelism

13.2. Computer Performance Evaluation

13.2.1. Performance Measures

13.2.2. Test Programs (*benchmarks*)

13.2.3. Improved Performance

13.2.4. Costs of a Computer

13.3. Leveraging the Memory Hierarchy

13.3.1. Memory Hierarchy

13.3.2. Basic Concepts of the Cache

13.3.3. Cache Evaluation and Improvements

13.3.4. Virtual Memory

13.4. Storage and Other Input/Output Aspects

13.4.1. Reliability, Dependability and Availability

13.4.2. Disk Storage

13.4.3. Flash Storage

13.4.4. Connection and Information Transfer Systems

13.5. Segmented Processors

13.5.1. What are Segmented Processors?

13.5.2. Principles of Segmentation and Performance Enhancement

13.5.3. Segmented Processor Design

13.5.4. Optimization of Functional Channels

13.5.5. Interrupt Handling on a Segmented Processor

13.6. Superscalar Processors

13.6.1. What are Superscalar Processors?

13.6.2. Parallelism between Instructions and Machine Parallelism

13.6.3. Superscalar Instruction Processing

13.6.4. Jump Instruction Processing

13.6.5. Interrupt Handling on a Superscalar Processor

13.7. VLIW Processors

13.7.1. What are VLIW Processors?

13.7.2. Exploiting Parallelism in VLIW Architectures

13.7.3. Compiler Support Resources

13.8. Vector Processors

13.8.1. What are Vector Processors?

13.8.2. Vector Architecture

13.8.3. The Memory System in Vector Processors

13.8.4. Performance Measurements on Vector Processors

13.8.5. Vector Processing Efficiency

13.9. Parallel Computers

13.9.1. Parallel Architectures and Levels of Parallelism

13.9.2. Motivation to the Study of Parallel Computers

13.9.3. Design Space, Classification and General Structure

13.9.4. Performance on Parallel Computers

13.9.5. Classification of Communication Systems in Parallel Computers

13.9.6. General Structure of the Communication System in Parallel Computers

13.9.7. The Network Interface in Parallel Computers

13.9.8. The Interconnection Network in Parallel Computers

13.9.9. Communication System Performance on Parallel Computers

13.10. Interconnection Networks and Multiprocessors

13.10.1. Topology and Types of Interconnection Networks

13.10.2. Switching in Interconnection Networks

13.10.3. Flow Control in Interconnection Networks

13.10.4. Routing in Interconnection Networks

13.10.5. Memory System Coherence on Multiprocessors

13.10.6. Multiprocessor Memory Consistency

13.10.7. Multiprocessor Synchronization

Module 14. Operating Systems

- 14.1. Introduction to Operating Systems
 - 14.1.1. Concept
 - 14.1.2. Historical Recap
 - 14.1.3. Fundamental Building Blocks of Operating Systems
 - 14.1.4. Objectives and Functions of Operating Systems
- 14.2. Structure of Operating Systems
 - 14.2.1. Operating System Services
 - 14.2.2. Operating System User Interface
 - 14.2.3. System Calls
 - 14.2.4. Types of System Calls
- 14.3. Process Planning
 - 14.3.1. Basic Concepts
 - 14.3.2. Planning Criteria
 - 14.3.3. Planning Algorithms
- 14.4. Processes and Threads
 - 14.4.1. Process Concept
 - 14.4.2. Thread Concept
 - 14.4.3. Process Status
 - 14.4.4. Process Control
- 14.5. Concurrency, Mutual Exclusion, Synchronization, and Interlocking
 - 14.5.1. Principles of Concurrency
 - 14.5.2. Mutual Exclusion
 - 14.5.3. Traffic Lights
 - 14.5.4. Monitors
 - 14.5.5. Message Passing
 - 14.5.6. Fundamentals of Interlocking
 - 14.5.7. Interlock Prevention
 - 14.5.8. Interlock Avoidance
 - 14.5.9. Interlock Detection and Recovery
- 14.6. Memory Management
 - 14.6.1. Memory Management Requirements
 - 14.6.2. Process Memory Model
 - 14.6.3. Contiguous Assignment Scheme
 - 14.6.4. Segmentation
 - 14.6.5. Pagination
 - 14.6.6. Segmented Pagination
- 14.7. Virtual Memory
 - 14.7.1. Virtual Memory Fundamentals
 - 14.7.2. Life Cycle of a Page
 - 14.7.3. Virtual Memory Management Policy
 - 14.7.4. Localization Policy
 - 14.7.5. Extraction Policy
 - 14.7.6. Replacement Policy
- 14.8. Input/Output System
 - 14.8.1. Input/Output Devices
 - 14.8.2. Input/Output System Organization
 - 14.8.3. Use of Buffers
 - 14.8.4. Magnetic Disk
- 14.9. File System Interface and Implementation
 - 14.9.1. Archiving Concept
 - 14.9.2. Access Methods
 - 14.9.3. Directory Structure
 - 14.9.4. Structure of a File System
 - 14.9.5. File System Interface and Implementation
 - 14.9.6. Directories System Interface and Implementation
 - 14.9.7. Allocation Methods
 - 14.9.8. Management of Free Space
- 14.10. Protection
 - 14.10.1. Objectives
 - 14.10.2. Authentication
 - 14.10.3. Authorization
 - 14.10.4. Cryptography

Module 15. Advanced Operating Systems

- 15.1. Concept of System Operations
 - 15.1.1. Operating System Functions
 - 15.1.2. Process Management
 - 15.1.3. Memory Management
 - 15.1.4. Directory and File Management
 - 15.1.5. The Shell: Interactivity
 - 15.1.6. Security
 - 15.1.7. Design Objectives
- 15.2. History of Operating Systems
 - 15.2.1. First Generation
 - 15.2.2. Second Generation
 - 15.2.3. Third Generation
 - 15.2.4. Fourth Generation
 - 15.2.5. The OS/2 Case
 - 15.2.6. The History of GNU/Linux
 - 15.2.7. The History of Windows
- 15.3. Structure of an Operating System
 - 15.3.1. Monolithic Systems
 - 15.3.2. Layered Systems
 - 15.3.3. Virtualization
 - 15.3.4. Exokernel
 - 15.3.5. Client-Server Model
 - 15.3.6. Distributed Systems
- 15.4. System Calls
 - 15.4.1. System Calls: Concepts
 - 15.4.2. System Calls for Process Management
 - 15.4.3. System Calls for File and Directory Administration
 - 15.4.4. Calls to the Communication System
- 15.5. Windows and GNU/Linux
 - 15.5.1. Windows Structure
 - 15.5.2. Structure of GNU/Linux

- 15.6. The GNU/Linux Shell and PowerShell
 - 15.6.1. The Command Interpreter
 - 15.6.2. Using the Command Interpreter
 - 15.6.3. GNU/Linux Commands
 - 15.6.4. Basic PowerShell Syntax
 - 15.6.5. Basic PowerShell Commands
- 15.7. Shell Programming
 - 15.7.1. Script Programming
 - 15.7.2. Syntax
- 15.8. System Programming in GNU/Linux
 - 15.8.1. C Language under UNIX
 - 15.8.2. Compilation Tools
 - 15.8.3. Error Handling
- 15.9. System Calls on Files
 - 15.9.1. Basic Calls
 - 15.9.2. Calls on Directories
 - 15.9.3. Advanced Calls
- 15.10. System Calls on Processes
 - 15.10.1. Basic Calls
 - 15.10.2. Signals
 - 15.10.3. Pipelines

Module 16. Free Software and Open Knowledge

- 16.1. Introduction to Free Software
 - 16.1.1. History of Free Software
 - 16.1.2. "Freedom" in Software
 - 16.1.3. Licenses for the Use of Software Tools
 - 16.1.4. Intellectual Property of Software
 - 16.1.5. What is the Motivation for Using Free Software?
 - 16.1.6. Free Software Myths
 - 16.1.7. Top500

- 16.2. Open Knowledge and CC Licenses
 - 16.2.1. Basic Concepts
 - 16.2.2. Creative Commons Licenses
 - 16.2.3. Other Content Licenses
 - 16.2.4. Wikipedia and Other Open Knowledge Projects
- 16.3. Main Free Software Tools
 - 16.3.1. Operating Systems
 - 16.3.2. Office Applications
 - 16.3.3. Business Management Applications
 - 16.3.4. Web Content Managers
 - 16.3.5. Multimedia Content Creation Tools
 - 16.3.6. Other Applications
- 16.4. The Company: Free Software and its Costs
 - 16.4.1. Free Software: Yes or No?
 - 16.4.2. Truths and Lies about Free Software
 - 16.4.3. Business Software Based on Free Software
 - 16.4.4. Software Costs
 - 16.4.5. Free Software Models
- 16.5. The GNU/Linux Operating System
 - 16.5.1. Architecture
 - 16.5.2. Basic Directory Structure
 - 16.5.3. File System Characteristics and Structure
 - 16.5.4. Internal Representation of the Files
- 16.6. The Android Mobile Operating System
 - 16.6.1. History
 - 16.6.2. Architecture
 - 16.6.3. Android Forks
 - 16.6.4. Introduction to Android Development
 - 16.6.5. Frameworks for Mobile Application Development
- 16.7. Website Creation with WordPress
 - 16.7.1. WordPress Features and Structure
 - 16.7.2. Creation of Sites on WordPress.com
 - 16.7.3. Installation and Configuration of WordPress on Your Own Server
 - 16.7.4. Installing *Plugins* and Extending WordPress
 - 16.7.5. Creation of WordPress *Plugins*
 - 16.7.6. WordPress Theme Creation
- 16.8. Free Software Trends
 - 16.8.1. Cloud Environments
 - 16.8.2. Monitoring Tools
 - 16.8.3. Operating Systems
 - 16.8.4. Big Data and Open Data 2.0
 - 16.8.5. Quantum Computing
- 16.9. Version Control
 - 16.9.1. Basic Concepts
 - 16.9.2. Git
 - 16.9.3. Cloud and Self-hosted Git Services
 - 16.9.4. Other Version Control Systems
- 16.10. Custom GNU/Linux Distributions
 - 16.10.1. Main Distributions
 - 16.10.2. Distributions Derived from Debian
 - 16.10.3. Deb Package Creation
 - 16.10.4. Modification of the Distribution
 - 16.10.5. ISO Image Generation

Module 17. Computer Networks

- 17.1. Computer Networks on the Internet
 - 17.1.1. Networks and Internet
 - 17.1.2. Protocol Architecture
- 17.2. The Application Layer
 - 17.2.1. Model and Protocols
 - 17.2.2. FTP and SMTP Services
 - 17.2.3. DNS Service
 - 17.2.4. HTTP Operation Model
 - 17.2.5. HTTP Message Formats
 - 17.2.6. Interaction with Advanced Methods
- 17.3. The Transport Layer
 - 17.3.1. Communication Between Processes
 - 17.3.2. Connection-Oriented Transportation: TCP and SCTP
- 17.4. The Network Layer
 - 17.4.1. Circuit and Packet Switching
 - 17.4.2. IP Protocol (v4 and v6)
 - 17.4.3. Routing Algorithms
- 17.5. The Link Layer
 - 17.5.1. Link Layer and Error Detection and Correction Techniques
 - 17.5.2. Multiple Access Links and Protocols
 - 17.5.3. Link Level Addressing
- 17.6. LAN Networks
 - 17.6.1. Network Topologies
 - 17.6.2. Network and Interconnection Elements
- 17.7. IP Addressing
 - 17.7.1. IP Addressing and Subnetting
 - 17.7.2. Overview: An HTTP Request

- 17.8. Wireless and Mobile Networks
 - 17.8.1. 2G, 3G and 4G Mobile Networks and Services
 - 17.8.2. 5G Networks
- 17.9. Network Security
 - 17.9.1. Fundamentals of Communications Security
 - 17.9.2. Access Control
 - 17.9.3. System Security
 - 17.9.4. Fundamentals of Cryptography
 - 17.9.5. Digital Signature
- 17.10. Internet Security Protocols
 - 17.10.1. IP Security and Virtual Private Networks (VPN)
 - 17.10.2. Web Security with SSL/TLS

Module 18. Emerging Technologies

- 18.1. Mobile Technologies
 - 18.1.1. Mobile Devices
 - 18.1.2. Mobile Communications
- 18.2. Mobile Services
 - 18.2.1. Types of Applications
 - 18.2.2. Decision on the Type of Mobile Application
 - 18.2.3. Mobile Interaction Design
- 18.3. Location-Based Services
 - 18.3.1. Location-Based Services
 - 18.3.2. Technologies for Mobile Localization
 - 18.3.3. GNSS-based Localization
 - 18.3.4. Accuracy and Accuracy in Localization Technologies
 - 18.3.5. Beacons: Location by Proximity

- 18.4. User Experience (UX) Design
 - 18.4.1. Introduction to User Experience (UX)
 - 18.4.2. Technologies for Mobile Localization
 - 18.4.3. Methodology for UX Design
 - 18.4.4. Best Practices in the Prototyping Process
- 18.5. Extended Reality
 - 18.5.1. Extended Reality Concepts
 - 18.5.2. Technologies for Mobile Localization
 - 18.5.3. AR and VR Application and Services
- 18.6. Internet of Things (IoT). (I)
 - 18.6.1. IoT Fundamentals
 - 18.6.2. IoT Devices and Communications
- 18.7. Internet of Things (IoT). (II)
 - 18.7.1. Beyond Cloud Computing
 - 18.7.2. (*Smart Cities*)
 - 18.7.3. Digital Twins
 - 18.7.4. IoT Projects
- 18.8. *Blockchain*
 - 18.8.1. Blockchain Fundamentals
 - 18.8.2. Blockchain-Based Applications and Services
- 18.9. Autonomous Driving
 - 18.9.1. Technologies for Autonomous Driving
 - 18.9.2. V2X Communications
- 18.10. Innovative Technology and Research
 - 18.10.1. Fundamentals of Quantum Computing
 - 18.10.2. Applications of Quantum Computing
 - 18.10.3. Introduction to Research

Module 19. Information Systems Security

- 19.1. A Global Perspective on Security, Cryptography and Classical Cryptanalysis
 - 19.1.1. Computer Security: Historical Perspective
 - 19.1.2. But What Exactly is Meant by Security?
 - 19.1.3. History of Cryptography
 - 19.1.4. Substitution Ciphers
 - 19.1.5. Case Study: The Enigma Machine
- 19.2. Symmetric Cryptography
 - 19.2.1. Introduction and Basic Terminology.
 - 19.2.2. Symmetric Encryption
 - 19.2.3. Modes of Operation
 - 19.2.4. DES
 - 19.2.5. The New AES Standard
 - 19.2.6. Encryption in Flow
 - 19.2.7. Cryptanalysis
- 19.3. Asymmetric Cryptography
 - 19.3.1. Origins of Public Key Cryptography
 - 19.3.2. Basic Concepts and Operation
 - 19.3.3. The RSA Algorithm
 - 19.3.4. Digital Certificates
 - 19.3.5. Key Storage and Management
- 19.4. Network Attacks
 - 19.4.1. Network Threats and Attacks
 - 19.4.2. Enumeration
 - 19.4.3. Traffic Interception: *Sniffers*
 - 19.4.4. Denial of Service Attacks
 - 19.4.5. ARP Poisoning Attacks

- 19.5. Security Architectures
 - 19.5.1. Traditional Security Architectures
 - 19.5.2. *Secure Socket Layer*: SSL
 - 19.5.3. SSH Protocol
 - 19.5.4. Virtual Private Networks (VPNs)
 - 19.5.5. External Storage Unit Protection Mechanisms
 - 19.5.6. Hardware Protection Mechanisms
- 19.6. System Protection Techniques and Secure Code Development
 - 19.6.1. Operational Safety
 - 19.6.2. Resources and Controls
 - 19.6.3. Monitoring
 - 19.6.4. Intrusion Detection Systems
 - 19.6.5. Host IDS
 - 19.6.6. Network IDS
 - 19.6.7. Signature-Based IDS
 - 19.6.8. Lure Systems
 - 19.6.9. Basic Security Principles in Code Development
 - 19.6.10. Failure Management
 - 19.6.11. Public Enemy Number 1: Buffer Overflows
 - 19.6.12. Cryptographic Botches
- 19.7. *Botnets* and Spam
 - 19.7.1. Origin of the Problem
 - 19.7.2. Spam Process
 - 19.7.3. Sending Spam
 - 19.7.4. Refinement of Mailing Lists
 - 19.7.5. Protection Techniques
 - 19.7.6. Anti-Spam Service Offered by Third-Parties
 - 19.7.7. Study Cases
 - 19.7.8. Exotic Spam
- 19.8. Web Auditing and Attacks
 - 19.8.1. Information Gathering
 - 19.8.2. Attack Techniques
 - 19.8.3. Tools
- 19.9. *Malware* and Malicious Code
 - 19.9.1. What is *Malware*?
 - 19.9.2. Types of Malware
 - 19.9.3. Virus
 - 19.9.4. Criptovirus
 - 19.9.5. Worms
 - 19.9.6. *Adware*
 - 19.9.7. *Spyware*
 - 19.9.8. *Hoaxes*
 - 19.9.9. *Phishing*
 - 19.9.10. Trojans
 - 19.9.11. The Economy of Malware
 - 19.9.12. Possible Solutions
- 19.10. Forensic Analysis
 - 19.10.1. Evidence Collection
 - 19.10.2. Evidence Analysis
 - 19.10.3. Anti-Forensic Techniques
 - 19.10.4. Case Study

Module 20. Systems Integration

- 20.1. Introduction to Information Systems in the Enterprise
 - 20.1.1. The Role of Information Systems
 - 20.1.2. What is an Information System?
 - 20.1.3. Dimensions of Information Systems
 - 20.1.4. Business Processes and Information Systems
 - 20.1.5. The IS/IT Department
- 20.2. Opportunities and Needs of Information Systems in the Enterprise
 - 20.2.1. Organizations and Information Systems
 - 20.2.2. Features of Organizations
 - 20.2.3. Impact of Information Systems in the Enterprise
 - 20.2.4. Information Systems to Achieve a Competitive Advantage
 - 20.2.5. Use of Systems in the Administration and Management of the Enterprise
- 20.3. Basic Concepts of Information Systems and Technologies
 - 20.3.1. Data, Information and Knowledge
 - 20.3.2. Technology and Information Systems
 - 20.3.3. Technology Components
 - 20.3.4. Classification and Types of Information Systems
 - 20.3.5. Service and Business Process Based Architectures
 - 20.3.6. Forms of Systems Integration
- 20.4. Systems for the Integrated Enterprise Resource Planning
 - 20.4.1. Business Needs
 - 20.4.2. An Integrated Enterprise Resource Planning
 - 20.4.3. Acquisition vs. Development
 - 20.4.4. ERP Implementation
 - 20.4.5. Implications for Management
 - 20.4.6. Leading ERP Vendors
- 20.5. Supply Chain and Customer Relationship Management Information Systems
 - 20.5.1. Definition of Supply Chain
 - 20.5.2. Effective Supply Chain Management
 - 20.5.3. The Role of Information Systems
 - 20.5.4. Supply Chain Management Solutions
 - 20.5.5. Customer Relationship Management
 - 20.5.6. The Role of Information Systems
 - 20.5.7. Implementation of a CRM System
 - 20.5.8. Critical Success Factors in CRM Implementation
 - 20.5.9. CRM, e-CRM and Other Trends
- 20.6. ICT Investment Decision-Making and Information Systems Planning
 - 20.6.1. Criteria for ICT Investment Decisions
 - 20.6.2. Linking the Project to the Management and Business Plan
 - 20.6.3. Management Implications
 - 20.6.4. Redesign of Business Processes
 - 20.6.5. Management's Decision on Implementation Methodologies
 - 20.6.6. Need for Information Systems Planning
 - 20.6.7. Objectives, Participants and Moments
 - 20.6.8. Structure and Development of the Systems Planning
 - 20.6.9. Follow-Up and Updating
- 20.7. Security Considerations in the Use of ICTs
 - 20.7.1. Risk Analysis
 - 20.7.2. Security in Information Systems
 - 20.7.3. Practical Advice

- 20.8. Feasibility of ICT Project Implementation and Financial Aspects in Information Systems Projects
 - 20.8.1. Description and Objectives
 - 20.8.2. EVS Participants
 - 20.8.3. Techniques and Procedures
 - 20.8.4. Cost Structure
 - 20.8.5. Financial Projection
 - 20.8.6. Budgets
- 20.9. *Business Intelligence*
 - 20.9.1. What Is Business Intelligence?
 - 20.9.2. BI Implementation Strategy
 - 20.9.3. Present and Future in BI
- 20.10. ISO/IEC 12207
 - 20.10.1. What is "ISO/IEC 12207"?
 - 20.10.2. Analysis of Information Systems
 - 20.10.3. Information System Design
 - 20.10.4. Implementation and Acceptance of the Information System





“

You will approach the applications of Information and Communication Technologies (ICT) in the different areas of the company, through the best teaching materials in the academic landscape”

04

Teaching Objectives

This university program will seek to develop key competencies in decision-making, resource planning, team management and the implementation of technological policies that enhance business competitiveness. In addition, entrepreneurs will be trained to design innovative solutions, adapt to changes in the economic environment and take advantage of digital tools to optimize processes and achieve organizational objectives. Upon completion, graduates will be prepared to assume leadership roles in the management of information systems, providing a visionary and strategic approach to their companies.



“

You will cover advanced technical aspects, such as the history and evolution of computers, memory hierarchy, operating systems and file management. With all the TECH quality guarantees!"



General Objectives

- Develop skills to lead the digital strategy in global organizations
- Implement innovative technology solutions that optimize business operations
- Manage IT teams efficiently to ensure optimal performance
- Establish cybersecurity policies to protect information systems
- Optimize the management processes of the technological infrastructure in the company
- Develop competencies for strategic decision making in IT projects
- Apply agile methodologies in the management of technology projects
- Assess and integrate new technologies that add value to the organization
- Manage the IT budget to maximize the profitability of the technology infrastructure
- Develop skills in the management of technological and digital innovation
- Implement digital transformation strategies in the company
- Develop skills in the management of technology service providers
- Apply data analysis tools to improve strategic decision making
- Establish quality and efficiency standards in business technology processes
- Manage the architecture of information systems to ensure their scalability
- Promote a culture of adaptation and flexibility in the face of technological change
- Develop competencies in managing the relationship between IT and other strategic areas
- Implement information management systems that support decision making
- Ensure the integrity, privacy and availability of data within the organization
- Establish business continuity strategies through effective technological solutions





Specific Objectives

Module 1. Leadership, Ethics and Social Responsibility in Companies

- ♦ Develop ethical leadership skills that integrate corporate social responsibility principles in decision making
- ♦ Train in the implementation of social responsibility policies that generate a positive impact on the community and the environment

Module 2. Strategic Management and Executive Management

- ♦ Delve into the formulation and execution of effective business strategies
- ♦ Obtain skills in the management of management teams to improve organizational performance

Module 3. People and Talent Management

- ♦ Delve into the effective management of human talent, focusing on the attraction, development and retention of key employees
- ♦ Be able to create and manage high-performance teams aligned with organizational objectives

Module 4. Economic and Financial Management

- ♦ Manage innovative tools for making strategic financial decisions that optimize resources and ensure the company's profitability
- ♦ Train in the preparation and management of budgets, financial reports and project feasibility analysis

Module 5. Operations and Logistics Management

- ♦ Develop skills in the planning, coordination and control of logistics operations within the supply chain
- ♦ Optimize operational processes and reduce costs associated with business logistics

Module 6. Information Systems Management

- ♦ Optimize information systems management to improve organizational efficiency
- ♦ Develop skills to make decisions on the implementation of information systems aligned to business objectives

Module 7. Commercial Management, Strategic Marketing and Corporate Communications

- ♦ Train in the creation and execution of commercial and marketing strategies that align the business offer with market demands
- ♦ Develop skills in corporate communication management to strengthen brand image

Module 8. Market Research, Advertising and Commercial Management

- ♦ Master the use of tools and methodologies to conduct market research to identify business opportunities
- ♦ Manage effective advertising campaigns and make strategic decisions in commercial management

Module 9. Innovation and Project Management

- ♦ Develop the ability to manage innovative projects that add value and differentiate the company in the market
- ♦ Develop skills in the planning, execution and control of projects with a focus on innovation and sustainability

Module 10. Executive Management

- ♦ Obtain skills to lead management teams in dynamic and globalized business environments
- ♦ Train to make strategic decisions that optimize resources and improve organizational performance

Module 11. Physical Fundamentals of Computing

- ♦ Have a thorough understanding of the physical principles underlying computer technologies
- ♦ Understand how physical fundamentals affect the design and operation of computer systems

Module 12. Computer Technology

- ♦ Develop skills in understanding the hardware technologies that make up a computer, including the processor, memory, storage, and input/output devices
- ♦ Delve into the evolution of computer architectures and how they affect the performance of computer systems

Module 13. The Structure of Computers

- ♦ Delve into the essential components of the internal structure of computer systems, ranging from basic circuits to advanced architectures
- ♦ Analyze how the various parts of the computer, such as the CPU, memory and processing units, are organized and communicate with each other

Module 14. Operating Systems

- ♦ Have a thorough understanding of operating systems, their design and operation, including process, memory, storage and device management
- ♦ Examine how operating systems facilitate the interaction between hardware and software

Module 15. Advanced Operating Systems

- ♦ Explore more complex and advanced operating systems, including topics such as distributed systems management, virtualization, real-time systems, and advanced security
- ♦ Delve into operating system architectures used in high-performance environments and specialized systems

Module 16. Free Software and Open Knowledge

- ♦ Examine the fundamental concepts of free software and open knowledge, its licenses, development models and practical applications
- ♦ Address the philosophy of free software, the advantages of open source communities, and how to participate in collaborative projects



Module 17. Computer Networks

- ♦ Provide an in-depth understanding of computer networks, from basic network models to modern network architectures
- ♦ Delve into inter-device communication, network management, protocols and tools needed to design, implement and maintain efficient and secure networks

Module 18. Emerging Technologies

- ♦ Explore emerging technologies that are redefining computing, such as artificial intelligence, the internet of things, blockchain, quantum computing and augmented reality
- ♦ Delve into technology trends and how they impact the computing industry

Module 19. Information Systems Security

- ♦ Train in the protection of information systems against cyber threats and attacks
- ♦ Address best practices in computer security, including cryptography, data protection, security audits, and security incident response

Module 20. Systems Integration

- ♦ Integrate different computer systems and applications to create coherent and efficient solutions in a business or technology environment
- ♦ Learn to integrate hardware, software, and networks effectively to ensure seamless communication between disparate systems

05

Career Opportunities

Professionals will be trained to play key roles as Chief Information Officer (CIO), Chief Technology Officer (CTO), strategic consultant in digital transformation, technology project manager or head of business innovation. They will also be able to lead critical areas such as information systems management, cybersecurity, the development of digital solutions and the optimization of technological processes in any business sector. In addition, this comprehensive and up-to-date qualification will enable them to boost the competitiveness and efficiency of their organizations in a global and highly digitalized environment.




```
18 // Begin Pawn class
19 virtual void SetupPlayerInputComponent(UPlayerInputComponent* PlayerInputComponent) const;
20 virtual float TakeDamage(float Damage, const FDamageEvent& Event, AActor* Instigator, AActor* DamageCauser) const;
21 virtual void TurnOff() override;
22 // End Pawn overrides
```

```
23
24 /** Identifies if pawn is in its dying state */
25 UPROPERTY(VisibleAnywhere, BlueprintReadWrite)
26 uint32 bIsDying:1;
```

```
27
28 /** replicating death on client */
29 UFUNCTION()
30 void OnRep_Dying();
```

```
31
32 /** Returns True if the pawn is dying */
33 virtual bool CanDie() const;
```

```
34
35 /** Kills the pawn */
36 virtual void Kill();
```

“

This postgraduate degree will open a wide range of professional opportunities for entrepreneurs and leaders who seek to enhance their career in technological and strategic management of organizations”

Graduate Profile

The graduate will combine a deep knowledge of technological tools with management skills, effective communication and decision making in complex and changing environments. They will also be prepared to design and implement innovative strategies that enhance the competitiveness and efficiency of organizations, lead multidisciplinary teams and manage economic, technological and human resources optimally. In addition, they will stand out for their ability to anticipate market changes and apply advanced technological solutions that drive sustainable growth and innovation in any business sector.

The graduate's profile will be that of a business leader with a strategic vision, specialized in the integrated management of information technologies and digital transformation.

- ♦ **Strategic Leadership:** Lead multidisciplinary teams and make informed decisions in complex and changing environments, guiding the organization toward achieving its goals through technological innovation
- ♦ **Effective Communication:** Convey ideas, strategies and decisions in a clear and persuasive manner, ensuring alignment and commitment of all members of the company towards organizational goals
- ♦ **Critical Thinking and Problem-Solving:** Analyze complex situations, identify opportunities, and design innovative solutions that drive competitiveness and business sustainability
- ♦ **Adaptability and Change Management:** Anticipate changes in the economic, technological and social environment, implementing agile strategies that allow the company to evolve and remain competitive in a globalized market



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

1. **Chief Information Officer (CIO):** Developer of the company's technology strategy, ensuring the integration of information systems with organizational objectives and promoting digital innovation.
2. **Chief Technology Officer (CTO):** Supervisor of the development, implementation and maintenance of technologies in the company, ensuring alignment with business goals.
3. **Director of Digital Transformation:** Leader of projects for the digitization of business processes, optimizing efficiency and competitiveness through the use of advanced technologies.
4. **Technology Project Manager:** Responsible for planning, executing and managing projects related to information technologies, ensuring compliance with deadlines, budgets and quality.
5. **Strategic Consultant in Information Technology:** Advisor specialized in identifying technological needs and designing customized solutions to improve business management.
6. **Business Innovation Manager:** Responsible for promoting and managing the adoption of disruptive technologies that drive growth and differentiation in the market.
7. **Chief Operating Officer (COO) with Technology Focus:** Leader of business operations, using technology tools to optimize processes, reduce costs and improve productivity.
8. **Cybersecurity Manager:** Responsible for protecting the company's digital assets, managing risks and ensuring the security of information systems.
9. **Information Systems Management Consultant:** Advisor for companies in the implementation and optimization of information systems to achieve their strategic objectives.
10. **Logistics and Information Systems Director:** Manager of the company's logistics operations, using information technologies to optimize supply chains and distribution processes.



You will develop knowledge in cryptography, network security and Internet security protocols, being able to protect their operations and take advantage of the latest mobile and digital technologies”

06

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.

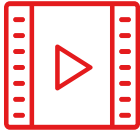
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

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

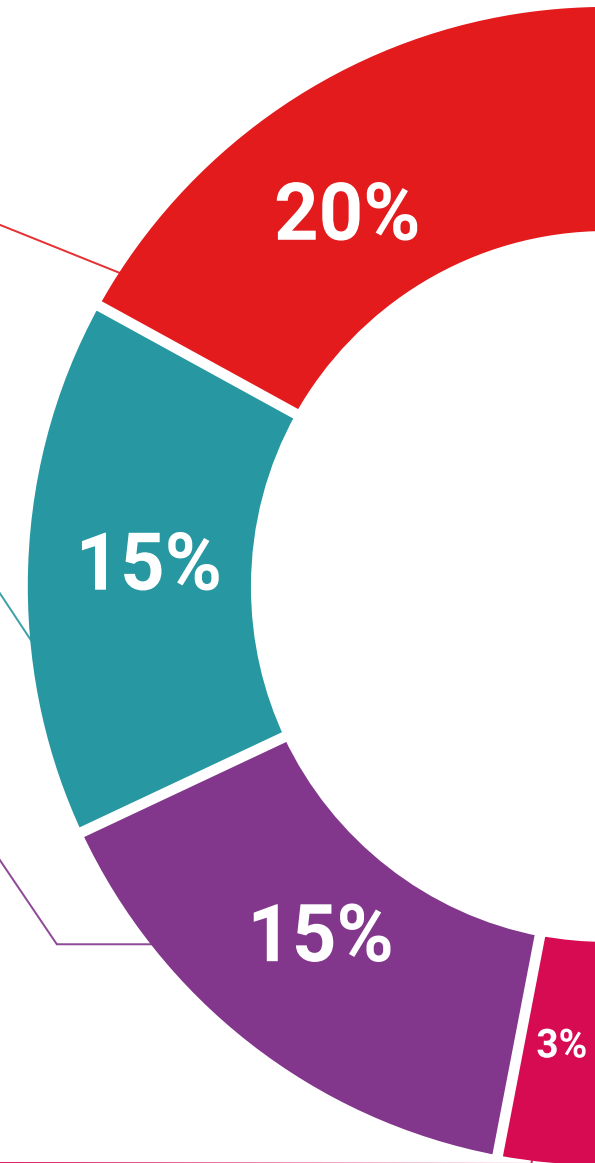
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

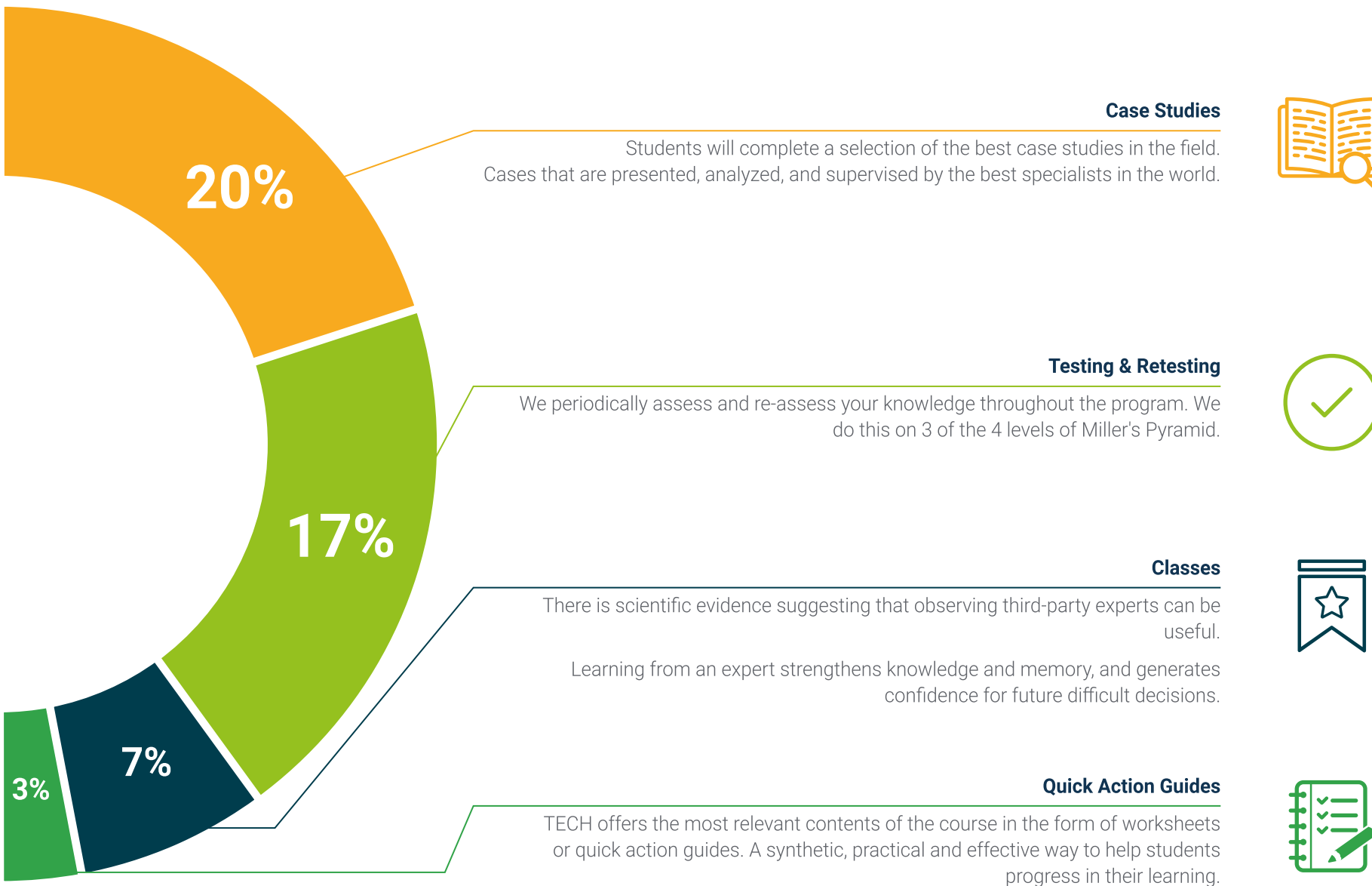
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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

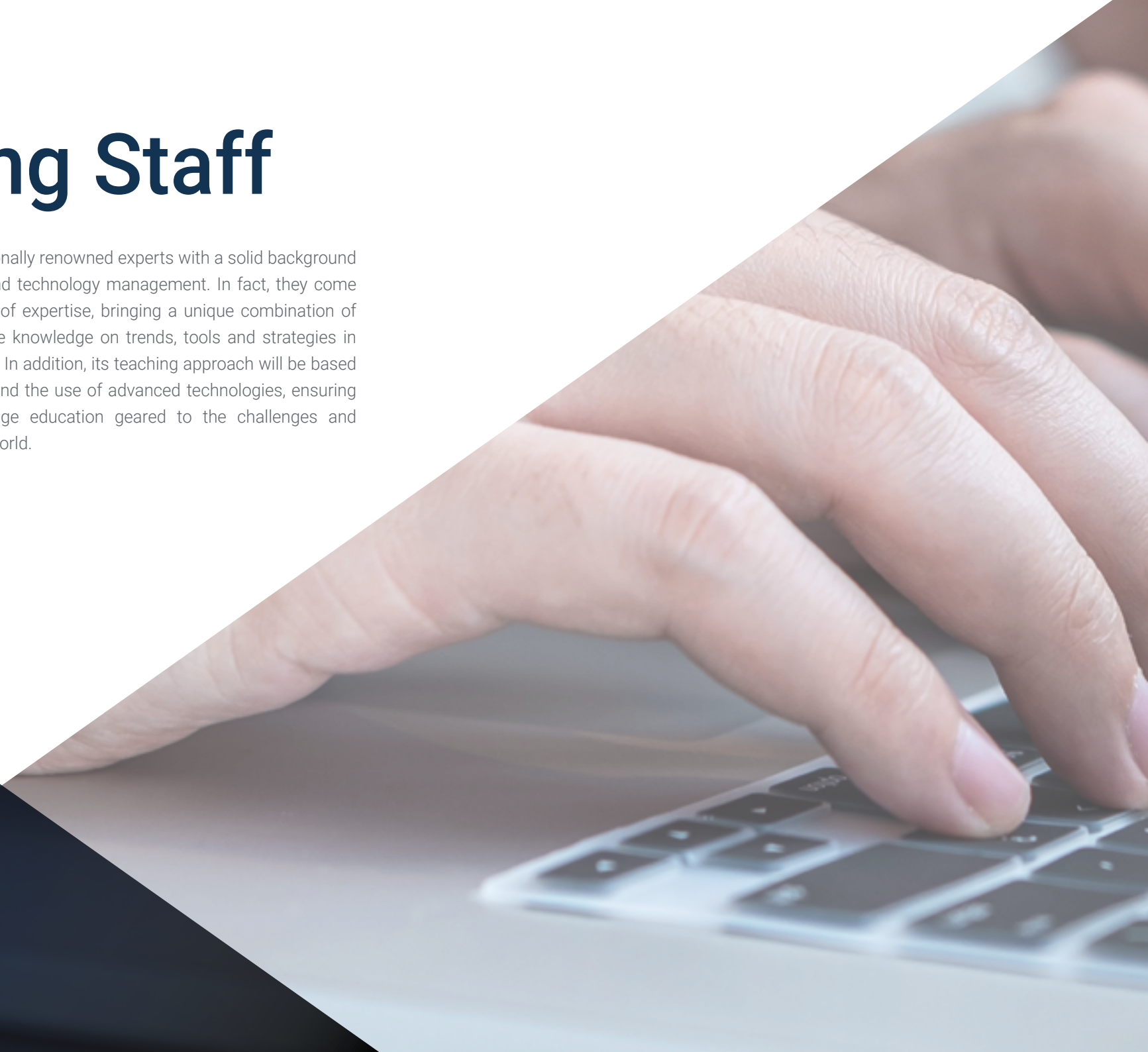




07

Teaching Staff

The faculty is made up of internationally renowned experts with a solid background in both academia and business and technology management. In fact, they come from diverse industries and areas of expertise, bringing a unique combination of practical experience and up-to-date knowledge on trends, tools and strategies in information systems management. In addition, its teaching approach will be based on case studies, real simulations and the use of advanced technologies, ensuring that graduates receive cutting-edge education geared to the challenges and opportunities of today's business world.



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TECH faculty will not only act as a guide during your learning experience, but also as a source of inspiration to foster your critical thinking and strategic innovation”

International Guest Director

With over 20 years of experience in designing and leading global **talent acquisition teams**, Jennifer Dove is an expert in **technology recruitment** and **strategy**. Throughout her career, she has held senior positions in several technology organizations within *Fortune 50* companies such as **NBCUniversal** and **Comcast**. Her track record has allowed her to excel in competitive, high-growth environments.

As **Vice President of Talent Acquisition** at **Mastercard** she is responsible for overseeing talent onboarding strategy and execution, collaborating with business leaders and **HR Managers** to meet operational and strategic hiring objectives. In particular, she aims to **build diverse, inclusive and high-performing teams** that drive innovation and growth of the company's products and services. In addition, she is adept at using tools to attract and retain the best people from around the world. She is also responsible for **amplifying** Mastercard's **employer brand** and **value proposition** through publications, events and social media.

Jennifer Dove has demonstrated her commitment to continuous professional development by actively participating in networks of **Human Resources** professionals and contributing to the onboarding of numerous employees at different companies. After earning her bachelor's degree in **Organizational Communication** from the University of Miami, she has held management positions in recruitment for companies in various areas.

On the other hand, it has been recognized for its ability to lead organizational transformations, **integrate technologies** into **recruitment processes** and develop leadership programs that prepare institutions for future challenges. She has also successfully implemented **wellness programs** that have significantly increased employee satisfaction and retention.



Ms. Dove, Jennifer

- Vice President of Talent Acquisition at Mastercard, New York, United States
- Director of Talent Acquisition at NBCUniversal, New York, USA
- Head of Recruitment at Comcast
- Director of Recruiting at Rite Hire Advisory, New York, USA
- Executive Vice President of the Sales Division at Ardor NY Real Estate
- Director of Recruitment at Valerie August & Associates
- Account Executive at BNC
- Account Executive at Vault
- Degree in Organizational Communication from the University of Miami

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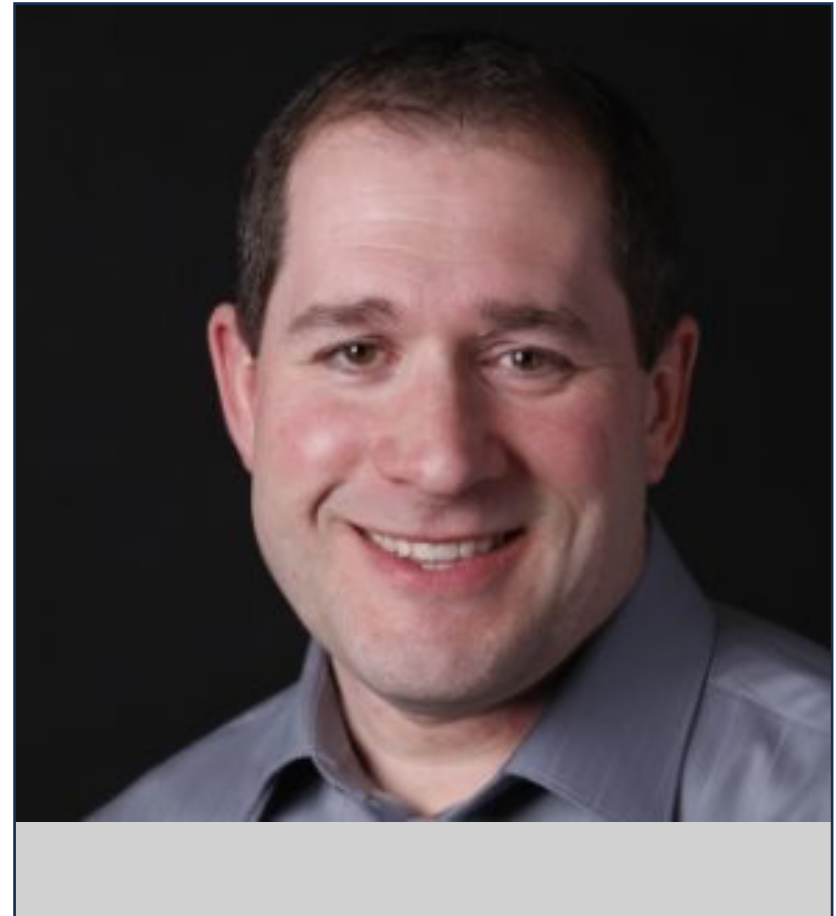
Thanks to TECH, you will be able to learn with the best professionals in the world"

International Guest Director

A technology leader with decades of experience in major technology multinationals, Rick Gauthier has developed prominently in the field of cloud services and end-to-end process improvement. He has been recognized as a leader and manager of highly efficient teams, showing a natural talent for ensuring a high level of engagement among his employees.

He possesses innate gifts in strategy and executive innovation, developing new ideas and backing his success with quality data. His background at Amazon has allowed him to manage and integrate the company's IT services in the United States. At Microsoft he led a team of 104 people, responsible for providing corporate-wide IT infrastructure and supporting product engineering departments across the company.

This experience has allowed him to stand out as a high-impact manager with remarkable abilities to increase efficiency, productivity and overall customer satisfaction.



Mr. Gauthier, Rick

- Regional IT Director at Amazon, Seattle, United States
- Senior Program Manager at Amazon
- Vice President of Wimmer Solutions
- Senior Director of Productive Engineering Services at Microsoft
- Degree in Cybersecurity from Western Governors University
- Technical Certificate in Commercial Diving from Divers Institute of Technology
- Degree in Environmental Studies from The Evergreen State College

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*Internationally renowned experts
will provide you with a holistic
review of today's most important
innovations in the management
and business world”*

International Guest Director

Romi Arman is a renowned international expert with more than two decades of experience in **Digital Transformation, Marketing, Strategy and Consulting**. Through that extended trajectory, he has taken different risks and is a permanent **advocate** for **innovation** and **change** in the business environment. With that expertise, he has collaborated with CEOs and corporate organizations from all over the world, pushing them to move away from traditional business models. In this way, he has helped companies such as Shell Energy become **true market leaders**, focused on their **customers** and the **digital world**.

The strategies designed by Arman have a latent impact, as they have enabled several corporations to **improve the experiences of consumers, staff and shareholders** alike. The success of this expert is quantifiable through tangible metrics such as **CSAT**, **employee engagement** in the institutions where he has practiced and the growth of the **EBITDA financial indicator** in each of them.

Also, in his professional career, he has nurtured and **led high-performance teams** that have even received awards for their **transformational potential**. With Shell, specifically, the executive has always set out to overcome three challenges: meeting **customers'** complex **decarbonization** demands **supporting a “cost-effective decarbonization”** and **overhauling a fragmented data, digital and technology landscape**. Therefore, his efforts have shown that in order to achieve sustainable success, it is essential to start from the needs of consumers and lay the foundations for the transformation of processes, data, technology and culture.

In addition, the executive stands out for his mastery of the **business applications of Artificial Intelligence**, a subject in which he holds a postgraduate degree from the London Business School. At the same time, he has accumulated experience in **IoT** and **Salesforce**.



Mr. Arman, Romi

- Digital Transformation Director (CDO) at Shell Energy Corporation, London, UK
- Global Director of E-Commerce and Customer Service at Shell Energy Corporation
- National Key Account Manager (OEM and automotive retailers) for Shell in Kuala Lumpur, Malaysia
- Senior Management Consultant (Financial Services Sector) for Accenture based in Singapore
- Bachelor's Degree from the University of Leeds
- Postgraduate Degree in Business Applications of AI for Senior Executives from the London Business School
- CCXP Customer Experience Professional Certification
- Executive Digital Transformation Course by IMD



Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

International Guest Director

Manuel Arens is an experienced data management professional and leader of a highly qualified team. In fact, Arens holds the position of **global purchasing manager** in Google's Technical Infrastructure and Data Center division, where he has spent most of his professional career. Based in Mountain View, California, he has provided solutions for the tech giant's operational challenges, such as master **data integrity**, **vendor data updates** and **vendor prioritization**. He has led data center supply chain planning and vendor risk assessment, generating improvements in vendor risk assessment, resulting in process improvements and workflow management that have resulted in significant cost savings.

With more than a decade of work providing digital solutions and leadership for companies in diverse industries, he has extensive experience in all aspects of strategic solution delivery, including **marketing**, **media analytics**, **measurement** and **attribution**. In fact, he has received a number of accolades for his work, including the **BIM Leadership Award**, the **Search Leadership Award**, the **Lead Generation Export Program Award** and the **Export Lead Generation Program Award** and the **EMEA Best Sales Model Award**.

Arens also served as **Sales Manager** in Dublin, Ireland. In this role, he built a team of 4 to 14 members over three years and led the sales team to achieve results and collaborate well with each other and cross-functional teams. He also served as **Senior Industry Analyst**, in Hamburg, Germany, creating storylines for over 150 clients using internal and third party tools to support analysis. He developed and wrote in-depth reports to demonstrate his mastery of the subject matter, including understanding the **macroeconomic and political/regulatory factors** affecting technology adoption and diffusion.

He has also led teams at companies such as Eaton, Airbus and Siemens, where he gained valuable account management and supply chain experience. He is particularly noted for continually exceeding expectations by **building valuable customer relationships** and **working seamlessly with people at all levels of an organization**, including stakeholders, management, team members and customers. His data-driven approach and ability to develop innovative and scalable solutions to industry challenges have made him a prominent leader in his field.



Mr. Arens, Manuel

- Global Procurement Manager at Google, Mountain View, United States
- Senior Manager, B2B Analytics and Technology, Google, United States
- Sales Director at Google, Ireland
- Senior Industry Analyst at Google, Germany
- Accounts Manager at Google, Ireland
- Accounts Payable at Eaton, United Kingdom
- Supply Chain Manager at Airbus, Germany

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International Guest Director

Andrea La Sala is an experienced Marketing executive whose projects have had a significant impact on the Fashion environment. Throughout his successful career he has developed different tasks related to Products, Merchandising and Communication. All this linked to prestigious brands such as Giorgio Armani, Dolce&Gabbana, Calvin Klein, among others.

The results of this high-profile international executive have been linked to his proven ability to synthesize information in clear frameworks and execute concrete actions aligned to specific business objectives. In addition, he is recognized for his proactivity and adaptability to fast-paced work rhythms. To all this, this expert adds a strong commercial awareness, market vision and a genuine passion for products.

As Global Brand and Merchandising Director at Giorgio Armani, he has overseen a variety of Marketing strategies for apparel and accessories. His tactics have also focused on the retail environment and consumer needs and behavior. In this role, La Sala has also been responsible for shaping the marketing of products in different markets, acting as team leader in the Design, Communication and Sales departments.

Furthermore, in companies such as Calvin Klein or Gruppo Coin, he has undertaken projects to boost the structure, and development of different collections. In turn, he has been in charge of creating effective calendars for buying and selling campaigns. He has also been in charge of the terms, costs, processes and delivery times

of different operations.

These experiences have made Andrea La Sala one of the main and most qualified corporate leaders in Fashion and Luxury. A high managerial capacity with which he has managed to effectively implement the positive positioning of different brands and redefine their key performance indicators (KPIs).



Mr. La Sala, Andrea

- Global Brand & Merchandising Director of Armani Exchange at Giorgio Armani, Milan, Italy
- Merchandising Director at Calvin Klein
- Brand Manager at Gruppo Coin
- Brand Manager at Dolce&Gabbana
- Brand Manager at Sergio Tacchini S.p.A.
- Market Analyst at Fastweb
- Degree in Business and Economics from the University of Eastern Piedmont

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International Guest Director

Mick Gram is synonymous with innovation and excellence in the field of **Business Intelligence** internationally. His successful career is linked to leadership positions in multinationals such as **Walmart** and **Red Bull**. Likewise, this expert stands out for his vision to **identify emerging technologies** that, in the long term, achieve an everlasting impact in the corporate environment.

On the other hand, the executive is considered a **pioneer in the use of data visualization techniques** that simplified complex sets, making them accessible and facilitating decision-making. This ability became the pillar of his professional profile, transforming him into a desired asset for many organizations that bet on **gathering information** and **generating concrete actions** from them.

One of his most outstanding projects in recent years has been the **Walmart Data Café platform**, the largest of its kind in the world that is anchored in the **cloud** aimed at **Big Data** analysis. In addition, he has held the position of **Director of Business Intelligence** at **Red Bull**, covering areas such as **Sales, Distribution and Supply Chain Operations**. His team was recently recognized for its constant innovation regarding the use of Walmart Luminate's new API for Shopper and Channel insights.

As for his training, the executive has several Masters and postgraduate studies at prestigious centers such as the **University of Berkeley**, in the United States, and the **University of Copenhagen**, in Denmark. Through this continuous updating, the expert has attained cutting-edge skill. Because of this, he has come to be considered a **born leader** of the **new global economy**, centered on the drive for data and its infinite possibilities.



Mr. Gram, Mick

- Director of Business Intelligence and Analytics at Red Bull, Los Angeles, United States
- Business Intelligence Solutions Architect for Walmart Data Cafe
- Independent Business Intelligence and Data Science Consultant
- Director of Business Intelligence at Capgemini
- Chief Analyst at Nordea
- Senior Business Intelligence Consultant at SAS
- Executive Education in AI and Machine Learning at UC Berkeley College of Engineering
- Executive MBA in e-Commerce at the University of Copenhagen
- Bachelor's and Master's Degree in Mathematics and Statistics at the University of Copenhagen

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International Guest Director

Scott Stevenson is a distinguished expert in the **Digital Marketing** sector who, for more than 19 years, has been linked to one of the most powerful companies in the entertainment industry, **Warner Bros. Discovery**. In this role, he has played a fundamental role in **overseeing logistics** and **creative workflows** across various digital platforms, including social media, search, display and linear media.

This executive's leadership has been crucial in driving in **production strategies** in **paid media**, resulting in a **marked improvement** which has resulted in **company's conversion** rates. At the same time, he has assumed other roles, such as Director of Marketing Services and Traffic Manager at the same multinational during his former management.

Stevenson has also been involved in the global distribution of video games and **digital property campaigns**. He was also responsible for introducing operational strategies related to the formation, completion and delivery of sound and image content for **television commercials** and **trailers**.

In addition, he holds a Bachelor's degree in Telecommunications from the University of Florida and a Master's Degree in Creative Writing from the University of California, which demonstrates his proficiency in **communication** and **storytelling**. In addition, he has participated at Harvard University's School of Professional Development in cutting-edge programs on the use of **Artificial Intelligence** in **business**. Therefore, his professional profile stands as one of the most relevant in the current field of **Marketing** and **Digital Media**.



Mr. Stevenson, Scott

- Director of Digital Marketing at Warner Bros. Discovery, Burbank, United States
- Traffic Manager at Warner Bros. Entertainment
- Master's Degree in Creative Writing from the University of California
- Bachelor's Degree in Telecommunications from the University of Florida

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International Guest Director

Awarded with the "International Content Marketing Awards" for her creativity, leadership and quality of her informative contents, Wendy Thole-Muir is a recognized **Communication Director** highly specialized in the field of **Reputation Management**.

In this sense, she has developed a solid professional career of more than two decades in this field, which has led her to be part of prestigious international reference entities such as **Coca-Cola**. Her role involves the supervision and management of corporate communication, as well as the control of the organizational image. Among her main contributions, she has led the implementation of the Yammer **internal interaction platform**. Thanks to this, employees increased their commitment to the brand and created a community that significantly improved the transmission of information.

On the other hand, she has been in charge of managing the communication of the companies' **strategic investments** in different African countries. An example of this is that she has managed dialogues around significant investments in Kenya, demonstrating the commitment of the entities to the economic and social development of the country. At the same time, she has achieved numerous **recognitions** for her ability to manage the perception of the firms in all the markets in which it operates. In this way, she has ensured that companies maintain a high profile and consumers associate them with high quality.

In addition, in her firm commitment to excellence, she has actively participated in renowned global **Congresses and Symposiums** with the objective of helping information professionals to stay at the forefront of the most sophisticated techniques to **develop successful strategic communication plans**. In this way, she has helped numerous experts to anticipate institutional crisis situations and to manage adverse events in an effective manner.



Ms. Thole-Muir, Wendy

- Director of Strategic Communications and Corporate Reputation at Coca-Cola, South Africa
- Head of Corporate Reputation and Communications at ABI at SABMiller de Lovania, Belgium
- Communications Consultant at ABI, Belgium
- Reputation and Communications Consultant at Third Door in Gauteng, South Africa
- Master's Degree in Social Behavioral Studies, University of South Africa
- Master's Degree in Sociology and Psychology, University of South Africa
- Bachelor of Arts in Political Science and Industrial Sociology from the University of KwaZulu-Natal, South Africa
- Bachelor of Arts in Psychology from the University of South Africa



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08 Certificate

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having to travel or fill out laborious paperwork"*

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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 **Economics, Business and Enterprise Association (EBEA)**, an organization that stands out for its professional approach to business sciences and its ongoing support for the development of business students. They achieve this through a multitude of workshops, courses, and educational programs that help students break into the business world. Similarly, the EBEA promotes the integration of its members into the professional world through its links with private entities, which students will have the opportunity to access upon completion of the academic program.

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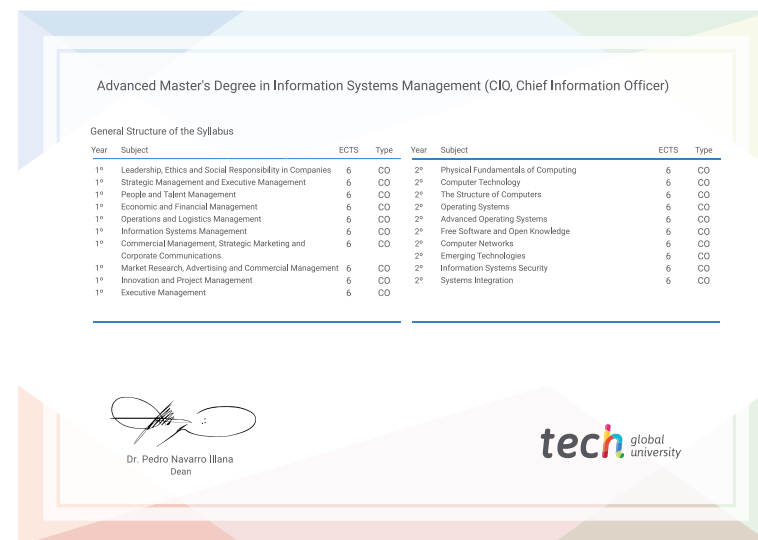


Title: **Advanced Master's Degree in Information Systems Management (CIO, Chief Information Officer)**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**





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A background image showing a person from the side, sitting at a desk and working on a computer. The person's hands are on a keyboard, and their face is partially visible in profile. The desk is dark, and the computer monitor is lit up, showing some data or code. The overall lighting is dim, with a blueish tint from the screen.

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