

# Master's Degree Technology Project Management



## Master's Degree Technology Project Management

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/information-technology/master-degree/master-technology-project-management](http://www.techtute.com/us/information-technology/master-degree/master-technology-project-management)

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# 01

# Introduction

The person in charge of a technology project must be able to guide and motivate their team and have the ability to organize, direct and plan the activities, costs, resources and budgets of the entire project, achieving the highest possible quality. To this end, this program will allow students to learn all the steps that must be taken to systematize these processes and produce favorable results for the company, developing the analysis and management skills to diagnose possible problems and present an action plan to help solve them. As a result, they will acquire the skills needed to access management positions in leading technology companies.





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*This will be a fundamental experience  
for your professional development as  
an IT expert"*

In this Master's Degree, students will learn, from an online mode, to manage and monitor a technological project, either in an international company or in their own consultancy. Nowadays, this type of work is in great demand due to the importance of these jobs in any sector. Therefore, the student will have the opportunity to start with introductory classes on the design and management of these projects, reviewing in detail the role of the manager and the organizational structure. Then, they will learn how to estimate the scope and time management, starting with a baseline and ending with the definition of the activities to be performed.

Carrying out a technology project not only requires managing the work and evaluating the activities to be performed. It is also necessary to prepare a budget to help assess the costs of its elaboration. For this purpose, the student will have an exclusive module on this topic, which will provide them with the tools and techniques for budget planning, and then provide useful information on the preparation and presentation of the final budget.

On the other hand, no project can be complete until a risk assessment is performed. Therefore, the student will be able to learn, through this program, the basic concepts such as severity, attitudes towards risk, individual risk, among others. In addition, the student will learn to perform an assessment of unrelated hazards, as well as a qualitative and quantitative analysis that will serve to develop a timely response to any adverse situation that may arise.

After completing the Master's Degree, students and graduates of computer science or any other degree will be able to efficiently execute and carry out any technological project that requires their expertise. You will also develop your project management and administration skills, which will benefit your professional profile for working with international employers.

This **Master's Degree in Technology Project Management** contains the most complete and up-to-date program on the market. Its most important features are:

- ◆ The development of case studies presented by experts in Technology Project Management
- ◆ The graphic, schematic and practical contents of the system provide business and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical 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



*Take on new responsibilities and estimate the timing of every design and technology development you participate in"*

“

*Acquire new skills to solve the technical problems of your project, elaborating a risk plan”*

The program’s teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

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

*Take your knowledge further and learn how to manage the budget of a technology project.*

*Companies are looking for your talent. Develop it thanks to this TECH Global University program.*



# 02 Objectives

This program has been designed to teach students all the fundamental aspects of a high-level technology project. Going from the macro to the micro, the student will learn the basic concepts to establish the role of each member of the team, and then begin to analyze and define the problem that requires a solution. This way, it will become a complete experience that will allow students to become familiar with the possible situations they may have to face in their professional practice.







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*Connect with the new demands  
of the business sector by taking  
a program adapted to them”*



## General Objectives

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- ◆ Develop skills and abilities required to make decisions in all types of projects, especially in technological projects and those developed in multidisciplinary contexts and environments
- ◆ Acquire the ability to analyze and diagnose business and management problems
- ◆ Master advanced business management tools
- ◆ Provide a global and strategic vision of all operational departments of the company
- ◆ Assume responsibilities and think in a transversal and integrative way to analyze and solve situations in uncertain environments
- ◆ Develop acts of incorporation of Technology Projects
- ◆ Carry out a comprehensive control of all projects
- ◆ Knowing how to estimate time in each process of project design and development
- ◆ Evaluate the processes and estimate the cost of developing a technology project
- ◆ Give importance to the quality of the projects
- ◆ Understanding the cost of failing to meet project quality
- ◆ Perform quality controls at each stage of the project
- ◆ Gain skills and techniques to manage human resources and be able to resolve conflicts in the team
- ◆ Know the emerging trends in the market on Technology Project Management
- ◆ Develop the communication skills needed to publicize the projects on which we work
- ◆ Understand and manage the risks of technology projects



## Specific Objectives

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### **Module 1. Introduction to technology project design and management and technology project integration management**

- ◆ Introduce students to the basic concepts of Technology Project Management, such as the role of the manager and the definition of the project
- ◆ Know the regulations and best practices of technology project management, Prince 2, PMP and ISO 21500:2012
- ◆ Define the plan for the design and management of Technology Projects

### **Module 2. Technology project scope management**

- ◆ Perform scope analysis of a technology project and product
- ◆ Know the basic concepts for estimating the scope of a technological project
- ◆ Identify the benefits of a project by means of Scope Creep and Gold Plating
- ◆ Creating the Work Breakdown Structure (WBS)

### **Module 3. Time management for technology projects**

- ◆ Estimate the duration of project tasks by means of different strategies, such as three-value estimation, analogous estimation, bottom-up estimation, etc
- ◆ Evaluate and decompose the activities to be carried out, starting with their definition and ending with the expected objectives
- ◆ Know the different software that help in time management

### **Module 4. Technology project cost management**

- ◆ Learn how to make a cost management plan using the relevant planning tools and techniques
- ◆ Know useful information to prepare a budget
- ◆ Study the Earned Value Management Technique (EVM), analyzing the base and state variables

**Module 5. Technology project quality management**

- ◆ Sizing the importance of project quality management, differentiating between "quality" and "grade"
- ◆ Know the different theories applied to quality, such as the one proposed by Edwards Deming
- ◆ Analyze the ISO 21500 standard, studying its history, objectives and characteristics
- ◆ Learn how to perform a correct quality control, using statistical sampling, questionnaire, inspections, performance reviews, among others

**Module 6. Technology Project Resource Management**

- ◆ Identify the responsibilities of each person involved in the project
- ◆ Manage technological resources for their optimal use
- ◆ Carry out practical exercises to learn how to use the various powers of the project manager
- ◆ Develop interpersonal skills, also called "soft skills", which will help to lead, motivate, influence and facilitate group work

**Module 7. Communications and Stakeholder Management for technology projects**

- ◆ Understand the importance of a communications management plan, performing the relevant analysis
- ◆ Master communication skills
- ◆ Conduct practical exercises on the use of communication types in a project
- ◆ Apply emerging trends and practices in the field of communication

**Module 8. Technology project risk management**

- ◆ Define the threats and opportunities of the project, knowing the different types of threats and opportunities
- ◆ Develop a risk management plan using appropriate tools and techniques
- ◆ Establishing a qualitative and quantitative analysis of project risks
- ◆ Plan and implement a response to the potential risks of a technological job

**Module 9. Technology project procurement management**

- ◆ Control the main activities of the project manager and the contract
- ◆ Define a procurement strategy to suit different environments and types of contracts
- ◆ Learn how to negotiate with suppliers
- ◆ Search, select and evaluate bids

**Module 10. PMP® or CAPM® certification and code of ethics. Emerging trends and practices in technology project management and governance**

- ◆ Know what PMP®, CAPM® and PMI® are
- ◆ Identify the advantages and benefits of obtaining PMP® and CAPM® certification
- ◆ Report on professional experience to PMI®

# 03 Skills

As soon as the student completes the Master's Degree in Technology Project Management program, they will have acquired the skills required to carry out, from start to finish, a project of this type. This way, you will become a valuable member of your work team thanks to the variety of communication, administrative, managerial and prevention skills that you will develop throughout the degree.





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*This program will represent a unique opportunity to access a labor market with great demand in many sectors”*



## General Skills

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- ◆ Master communication skills
- ◆ Master project planning and management tools
- ◆ Apply the knowledge acquired to solve different problems in the team
- ◆ Improve dealings with suppliers and potential customers
- ◆ Identify errors that may jeopardize the work performed
- ◆ Understand the importance of planning by objectives



*Improve your skills to participate in various Technological Projects"*





## Specific Skills

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- ◆ Successfully manage technology projects to achieve business objectives
- ◆ Audit the quality of each of the processes involved in the project design
- ◆ Apply specific regulations and best practice criteria for the management of Technology Projects
- ◆ Perform the process of work monitoring and quality control of the Technological Projects
- ◆ Manage the scope of Technology Projects
- ◆ Estimate the duration of projects and managing them appropriately
- ◆ Understand the human and material resources required to carry out a project
- ◆ Know the emerging trends and practices in resource management of technology projects and implement them
- ◆ Apply new trends in the field of communication
- ◆ Apply the code of ethics in the management of technology projects



# 04

# Course Management

The faculty of this program is made up of a group of experts who will provide all their knowledge and years of experience for the academic and work benefit of the students. Therefore, the best contents will be provided so that they can be applied almost immediately in their daily functions within a company, representing a great opportunity for improvement for those who wish to test their skills and capabilities in a technology team.





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*You will learn how to develop an appropriate risk plan for your technology project from the best experts”*

## International Guest Director

With a long career focused on higher education, J. Michael DeAngelis has worked as a **broadcaster, scriptwriter and actor**. After holding various academic positions at the University of Pennsylvania, he has been appointed **Associate Director of Communications and Technology** at the University of Pennsylvania. There, he is in charge of producing and presenting the weekly news podcast **CS Radio**. He is also co-creator of the comedy podcast *Mission: Rejected*, in which he directs, writes and produces.

Throughout his career, he has worked for local educational television networks and radio stations in the news sections. On the other hand, after graduating from Muhlenberg College with a degree in **Performing Arts**, he has held the position of director of **The Porch Room**, a production company for podcast, film and theater. With all this, he has had the opportunity to perform different functions in the field of **Communication and Entertainment**. Likewise, he has performed tasks both in front of and behind the microphones in the news and entertainment field.

In particular, with the irruption of **podcasts** and their continuous growth, this expert has specialized in creating and producing this type of sound content. Through them, and thanks to his experience as an actor, he manages to transmit to listeners not only information and stories, but also emotions through his voice.

On the other hand, DeAngelis has been recognized on several occasions for his theatrical work, his play *Drop* was honored at the **Samuel French Off-Off Broadway Short Play Festival** in 2009. That same year, he won the **New Jersey Association of Community Theatres (NJACT) Perry Award** for Best Production of an Original Play for *Accidents Happen*. At the same time, his distinguished career has earned him membership in the **Dramatist Guild of America**.



## Mr. DeAngelis, J. Michael

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- Director of Communications and Technology at the University of Pennsylvania, United States
  - Director of the production company The Porch Room
  - Host of the weekly news podcast CS Radio
  - Broadcaster and Podcaster
  - NJACT Perry Award
  - B.A. in Performing Arts from Muhlenberg College
  - Graduate in Acting and Theatre Criticism from Goldsmiths College, University of London
- Member of: Playwrights Guild of America

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

## Management



### **Dr. Romero Mariño, Brunil Dalila**

- ♦ Database Administrator, OCREM Association, Granada, Spain
- ♦ Software Projects and Technology Architecture Consultant for different companies, Venezuela
- ♦ University Professor of Computer Science. Department of Processes and Systems, Simón Bolívar University (USB), Venezuela
- ♦ Researcher in Software Engineering and related areas, Department of Processes and Systems, Simón Bolívar University (USB), Venezuela
- ♦ Systems Engineer from Bicentenario de Aragua University (UBA), Venezuela
- ♦ Doctorate in Information and Communication Technologies from the University of Granada (UGR), Spain
- ♦ Master's Degree in Systems Engineering, Simón Bolívar University (USB), Venezuela
- ♦ Expert in Communications and Data Communication Networks, Central University of Venezuela (UCV)

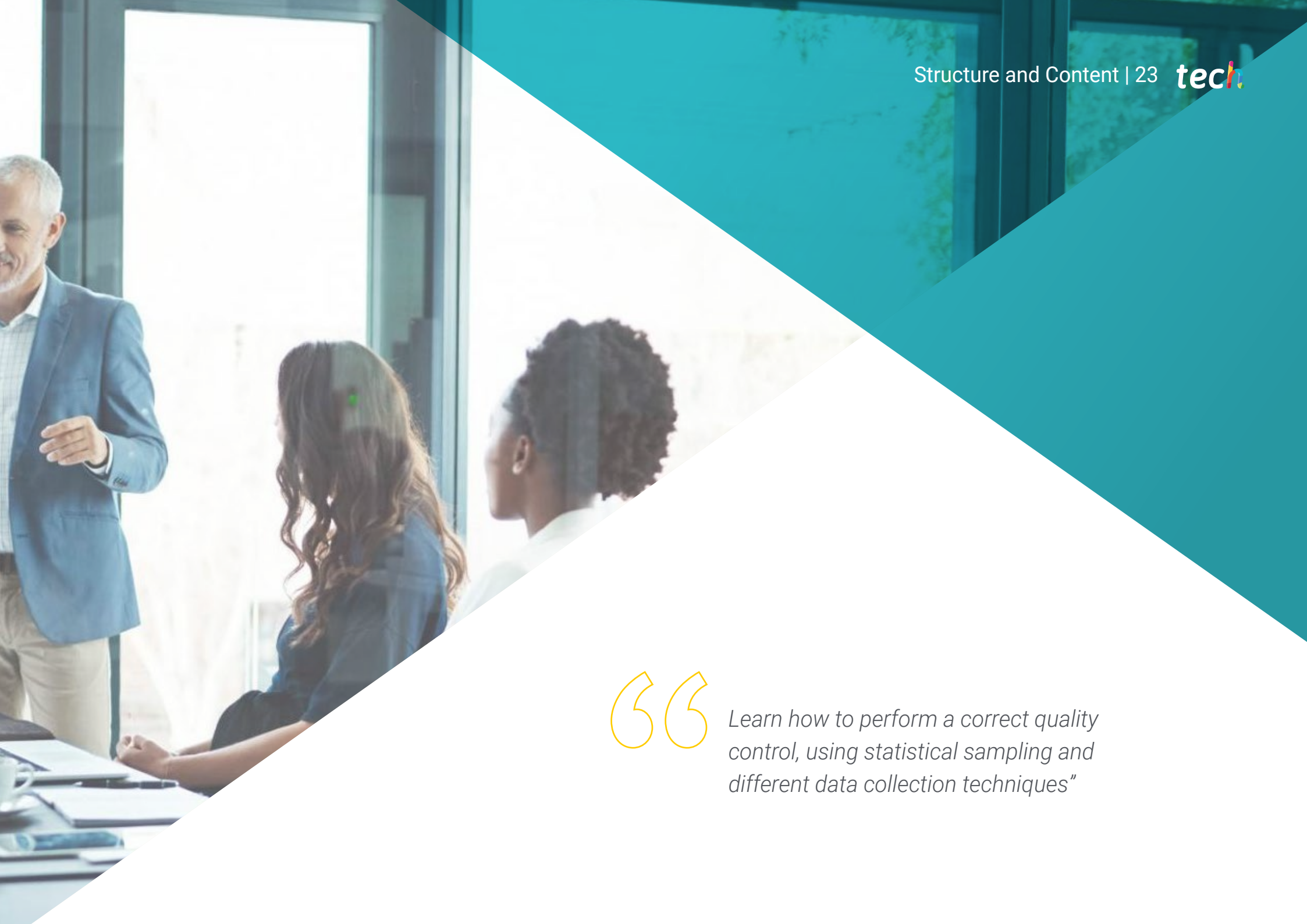


# 05

# Structure and Content

The Master's Degree in Technology Project Management is a program designed to meet the needs of students and companies, who are increasingly demanding that their collaborators be multifaceted professionals, capable of foreseeing and analyzing even the smallest detail of the projects carried out. As such, each of the modules will help develop this skill set, while offering the most up-to-date content on the market.





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*Learn how to perform a correct quality control, using statistical sampling and different data collection techniques”*

## Module 1. Introduction to Technology Project Design and Management and Technology Project Integration Management

- 1.1. Introduction to Technology Project Management
  - 1.1.1. The role of the project manager
  - 1.1.2. Project definition
  - 1.1.3. Organizational structure
- 1.2. Project Management, Program Management and Portfolio Management
  - 1.2.1. Portfolios, Programs and Projects
  - 1.2.2. Strategic Management
- 1.3. Standards and Best Practices for the Technology Project Management
  - 1.3.1. Prince 2
  - 1.3.2. PMP
  - 1.3.3. ISO 21500:2012
- 1.4. Organizational Influences on Technology Project Design and Management
  - 1.4.1. Environmental Factors of a Company
  - 1.4.2. Assets of an Organization's Processes
- 1.5. Technology Project Management Processes
  - 1.5.1. Technology Project Life Cycle
  - 1.5.2. Process Groups
  - 1.5.3. Dynamics of Process Groups
- 1.6. Development of the Technology Projects Constitution Act
  - 1.6.1. Definition of the Technology Projects Constitution Act
  - 1.6.2. Tools and Techniques
- 1.7. Development of the Plan for Technology Project Design and Management
  - 1.7.1. Definition of the Plan for Technology Project Design and Management
  - 1.7.2. Tools and techniques
- 1.8. Knowledge Management of Technological Projects
  - 1.8.1. Importance of Knowledge Management in Technology Projects
  - 1.8.2. Tools and techniques
- 1.9. Monitoring the Technology Projects Work
  - 1.9.1. Work monitoring and control
  - 1.9.2. Follow-up Reports on Technological Projects
  - 1.9.3. Tools and techniques

- 1.10. Integrated Control of Changes in Technological Projects
  - 1.10.1. Objectives and benefits of project change control
  - 1.10.2. CCB (Change Control Board)
  - 1.10.3. Tools and Techniques
- 1.11. Delivery and Closing of Technology Projects
  - 1.11.1. Objectives and benefits of project closure
  - 1.11.2. Tools and Techniques

## Module 2. Technology Project Scope Management

- 2.1. Introduction to Scope Management
  - 2.1.1. Project Scope
  - 2.1.2. Product Scope
- 2.2. Fundamentals of Scope Management
  - 2.2.1. Basic Concepts
  - 2.2.2. Scope Baseline
- 2.3. Benefits of Scope Management
  - 2.3.1. Stakeholder expectation management
  - 2.3.2. Scope Creep & Gold Plating
- 2.4. Considerations for Adaptive Environments
  - 2.4.1. Types of Adaptive Projects
  - 2.4.2. Scope Definition in Adaptive Projects
- 2.5. Scope Management Planning
  - 2.5.1. Scope management plan
  - 2.5.2. Requirements Management Plan
  - 2.5.3. Tools and Techniques
- 2.6. Gathering Requirements
  - 2.6.1. Gathering and Negotiation of Requirements
  - 2.6.2. Tools and Techniques
- 2.7. Scope Definition
  - 2.7.1. Project Scope Statement
  - 2.7.2. Tools and Techniques



- 2.8. Creation of the Work Breakdown Structure (WBS)
  - 2.8.1. Work Breakdown Structure (WBS)
  - 2.8.2. Types of EDT
  - 2.8.3. Rolling Wave
  - 2.8.4. Tools and Techniques
- 2.9. Scope Validation
  - 2.9.1. Quality vs Validation
  - 2.9.2. Tools and Techniques
- 2.10. Scope Control
  - 2.10.1. Project Management Information in Projects
  - 2.10.2. Types of Work Performance Reports
  - 2.10.3. Tools and Techniques

### Module 3. Technology Project Time Management

- 3.1. Estimated Duration of Project Tasks
  - 3.1.1. Three-Point Estimation
    - 3.1.1.1. Most Likely
    - 3.1.1.2. Best-Case
    - 3.1.1.3. Worst-Case
  - 3.1.2. Analogous Estimate
  - 3.1.3. Parametric Estimation
  - 3.1.4. Bottom-up Estimates
  - 3.1.5. Decision-Making
  - 3.1.6. Expert Judgment
- 3.2. Definition of Activities and Breakdown of Project Work
  - 3.2.1. Decomposition
  - 3.2.2. Define Activities
  - 3.2.3. Breakdown of Project Work
  - 3.2.4. Activity Attributes
  - 3.2.5. List of Milestones
- 3.3. Sequencing of activities
  - 3.3.1. List of Activities
  - 3.3.2. Attributes of the Activities
  - 3.3.3. Method of Diagramming Provenance
  - 3.3.4. Determination and Integration of Units
  - 3.3.5. Advances and Delays
  - 3.3.6. Network Diagram of the Project Schedule
- 3.4. Estimation of Activity Resources
  - 3.4.1. Register of Assumptions
  - 3.4.2. List of Activities
  - 3.4.3. Attributes of the Activities
  - 3.4.4. Register of Assumptions
  - 3.4.5. Lessons Learned Register
  - 3.4.6. Project Team Assignments
  - 3.4.7. Resource Breakdown Structure
- 3.5. Estimated Duration of Activities
  - 3.5.1. Law of Diminishing Returns
  - 3.5.2. Number of Resources
  - 3.5.3. Technological Advances
  - 3.5.4. Staff Motivation
  - 3.5.5. Project Documentation
- 3.6. Schedule Development
  - 3.6.1. Schedule Network Analysis
  - 3.6.2. Critical Path Method
  - 3.6.3. Resource Management
    - 3.6.3.1. Resource Leveling
    - 3.6.3.2. Stabilization of Resources
  - 3.6.4. Advances and Delays
  - 3.6.5. Schedule Compression
    - 3.6.5.1. Intensification
    - 3.6.5.2. Fast Execution

- 3.6.6. Baseline Schedule
- 3.6.7. Project Timeline
- 3.6.8. Schedule Data
- 3.6.9. Project Schedules
- 3.7. Types of Relationships and Types of Dependencies between all Project Activities
  - 3.7.1. Mandatory Dependencies
  - 3.7.2. Discretionary Units
    - 3.7.2.1. Preferred Logic
    - 3.7.2.2. Preferential Logic
    - 3.7.2.3. Soft Logic
  - 3.7.3. External Units
  - 3.7.4. Internal Units
- 3.8. Time Management Software in Technology Projects
  - 3.8.1. Analysis of Different Software
  - 3.8.2. Types of Software
  - 3.8.3. Functionalities and Coverage
  - 3.8.4. Utilities and Advantages
- 3.9. Schedule Control
  - 3.9.1. Job Performance Information
  - 3.9.2. Schedule Forecasts
  - 3.9.3. Change Requests
  - 3.9.4. Update to the Time Management Plan
  - 3.9.5. Project Document Updates
- 3.10. Time Recalculation
  - 3.10.1. Critical Path
  - 3.10.2. Calculation of Minimum and Maximum Times
  - 3.10.3. Project Clearances
    - 3.10.3.1. What Is It?
    - 3.10.3.2. How to Use It
  - 3.10.4. Total Slack
  - 3.10.5. Free Slack

## Module 4. Technology project cost management

- 4.1. What Is the Cost Management Plan?
  - 4.1.1. Planning Tools and Techniques
  - 4.1.2. Cost Planning Results
- 4.2. Estimate Costs. Types of Estimates. Reserve Analysis
  - 4.2.1. Useful Information for Cost Estimation
  - 4.2.2. Tools and Techniques for Cost Estimation
  - 4.2.3. Results of Cost Budget Preparation
- 4.3. Types of Project Costs
  - 4.3.1. Direct and Indirect Costs
  - 4.3.2. Fixed and Variable Costs
- 4.4. Project Evaluation and Selection
  - 4.4.1. Financial Dimensions of a Project
  - 4.4.2. VAN
  - 4.4.3. TIR & RRN
  - 4.4.4. Recovery Period or Payback
- 4.5. Setting the Budget
  - 4.5.1. Useful Information for the Preparation of the Project Budget
  - 4.5.2. Tools and Techniques for Cost Budget Preparation
  - 4.5.3. Results of Project Budget Preparation
- 4.6. Cost Projections
  - 4.6.1. Cost Management Data and Information
  - 4.6.2. Types of Cost Performance Reports
- 4.7. Earned Value Management Technique (EVM)
  - 4.7.1. Base Variables and Status Variables
  - 4.7.2. Forecasts
  - 4.7.3. Emerging Techniques and Practices
- 4.8. Project Cash Flow
  - 4.8.1. Types of cash flows
  - 4.8.2. Estimation of Net Cash Flows Associated with a Project
  - 4.8.3. Discounted Cash Flows
  - 4.8.4. Application of Risk to Cash Flows

- 4.9. Cost Control
  - 4.9.1. Objectives and Benefits of Cost Control
  - 4.9.2. Tools and techniques

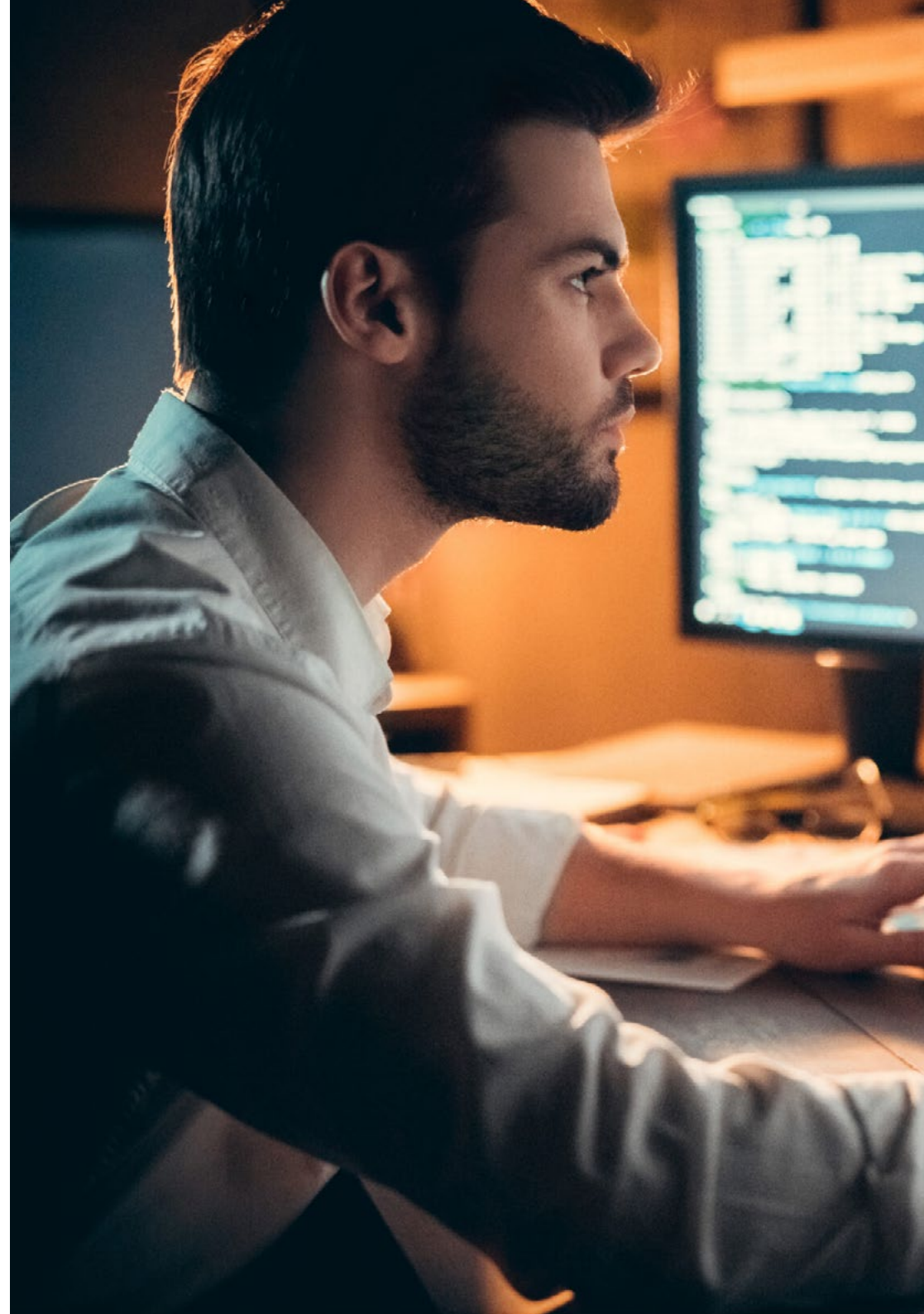
## Module 5. Quality management of technological projects

- 5.1. Importance of Quality Management in Projects
  - 5.1.1. Key Concepts
  - 5.1.2. Difference between Quality and Grade
  - 5.1.3. Precision
  - 5.1.4. Accuracy
  - 5.1.5. Metrics
- 5.2. Quality Theorists
  - 5.2.1. Edwards Deming
    - 5.2.1.1. Shewart Deming Cycle (Plan-Do-Check-Act)
  - 5.2.2. Continuing Improvement
  - 5.2.3. Joseph Juran. Pareto Principle
    - 5.2.3.1. Fitness for Purpose Theory
  - 5.2.4. Total Quality Management Theory
  - 5.2.5. Kaoru Ishikawa (Herringbone)
  - 5.2.6. Philip Crosby (Cost of Low Quality)
- 5.3. Regulations: ISO 21500
  - 5.3.1. Introduction
  - 5.3.2. Background and History
  - 5.3.3. Objectives and characteristics
  - 5.3.4. Process group-Subject group
  - 5.3.5. ISO 21500 vs. PMBOK
  - 5.3.6. Future of the Standard
- 5.4. Emerging Trends and Practices in Quality Management
  - 5.4.1. Policy Compliance and Auditing
  - 5.4.2. Standards and Compliance
  - 5.4.3. Continuing Improvement
  - 5.4.4. Stakeholder Involvement
  - 5.4.5. Recurring Retrospectives
  - 5.4.6. Subsequent Retrospectives
- 5.5. Quality Management Planning
  - 5.5.1. Cost-Benefit Analysis
  - 5.5.2. Multi-criteria Decision Analysis
  - 5.5.3. Test Planning and Inspection
  - 5.5.4. Flow Diagrams
  - 5.5.5. Logical Data Model
  - 5.5.6. Matrix Diagram
  - 5.5.7. Interrelationship Digraphs
- 5.6. Quality Compliance and Non-Compliance Costs
  - 5.6.1. Compliance Costs
  - 5.6.2. Non-Compliance or Non-Conformance Costs
  - 5.6.3. Prevention Costs
  - 5.6.4. Valuation Costs
  - 5.6.5. Internal Failures
  - 5.6.6. External Failures
  - 5.6.7. Marginal Cost of Quality
  - 5.6.8. Optimum Quality
- 5.7. Quality Management
  - 5.7.1. Checklists
  - 5.7.2. Analysis of Alternatives
  - 5.7.3. Document Analysis
  - 5.7.4. Process Analysis
  - 5.7.5. Root Cause Analysis
  - 5.7.6. Cause-and-effect Diagrams
  - 5.7.7. Histograms
  - 5.7.8. Scatter Plots
  - 5.7.9. Design for X
  - 5.7.10. Quality Improvement Methods
- 5.8. Quality Audits
  - 5.8.1. What is an Internal Quality Audit?
  - 5.8.2. Different Types of Audits
  - 5.8.3. Objectives of an Internal Audit

- 5.8.4. Benefits of Internal Audits
- 5.8.5. Actors Involved in Internal Auditing
- 5.8.6. Internal Audit Procedure
- 5.9. Quality Control
  - 5.9.1. Verification Sheets
  - 5.9.2. Statistical Sampling
  - 5.9.3. Questionnaires and Surveys
  - 5.9.4. Performance Reviews
  - 5.9.5. Inspection
  - 5.9.6. Product Testing/Evaluation
  - 5.9.7. Retrospectives and Lessons Learned

## Module 6. Management of technology project resources

- 6.1. Responsibilities and Role of Human Resources
  - 6.1.1. Project Manager
  - 6.1.2. Sponsor
  - 6.1.3. Functional Director
  - 6.1.4. Program Manager
  - 6.1.5. Portfolio Manager
  - 6.1.6. Team members
- 6.2. Management of Technological Resources
  - 6.2.1. What are Technological Resources?
  - 6.2.2. Optimization
  - 6.2.3. Valorization
  - 6.2.4. Protection
- 6.3. Human Resource Management Planning and Estimating Activity Resources
  - 6.3.1. Resources Management Plan
    - 6.3.1.1. Data Representation
    - 6.3.1.2. Organizational Theory
  - 6.3.2. Resource Requirements
  - 6.3.3. Basis of Estimates
  - 6.3.4. Resource Breakdown Structure
  - 6.3.5. Resource Document Updates





- 6.4. Different Powers of the Project Manager
  - 6.4.1. Power and Influence
  - 6.4.2. Reward Power
  - 6.4.3. Power of Punishment
  - 6.4.4. Expert Power
  - 6.4.5. Power of Reference
  - 6.4.6. Formal Power of Attorney
  - 6.4.7. Practical Exercises on How to Use the Different Powers of the Project Manager
- 6.5. Acquisition of the Right Project Equipment for our Project
  - 6.5.1. What is Equipment Acquisition?
  - 6.5.2. Means of Equipment Acquisition
    - 6.5.2.1. Hiring
    - 6.5.2.2. Outsourcing
  - 6.5.3. Decision Making
    - 6.5.3.1. Availability
    - 6.5.3.2. Costs
    - 6.5.3.3. Experience
    - 6.5.3.4. Skills
    - 6.5.3.5. Knowledge
    - 6.5.3.6. Capabilities
    - 6.5.3.7. Attitudes
    - 6.5.3.8. International Factors
  - 6.5.4. Pre-Assignment
  - 6.5.5. Virtual Teams
- 6.6. Development of Interpersonal Skills (Soft Skills)
  - 6.6.1. Leadership.
  - 6.6.2. Motivation
  - 6.6.3. Communication.
  - 6.6.4. Influence
  - 6.6.5. Group Facilitation
  - 6.6.6. Creativity
  - 6.6.7. Emotional Intelligence
  - 6.6.8. Decision Making

- 6.7. Project Team Development
  - 6.7.1. Recognition and Rewards
    - 6.7.1.1. Preconditions to be Met for its Application
    - 6.7.1.2. Create a Recognition and Reward System
  - 6.7.2. Training
  - 6.7.3. Co-Location (Tight-Matrix)
  - 6.7.4. Communication Technology
  - 6.7.5. Team Building Activities
- 6.8. Project Team Management. Performance Evaluations, Management of Project Teams
  - 6.8.1. Plan
  - 6.8.2. Types of Evaluations
    - 6.8.2.1. Personal Evaluations 360° Evaluations
    - 6.8.2.2. Equipment Evaluations
  - 6.8.3. Variables Definition
  - 6.8.4. Design of the Performance Evaluation System
  - 6.8.5. Implementation and Training of Evaluators
- 6.9. Conflict Management and Resolution Techniques
  - 6.9.1. What Are Project Conflicts? Types
  - 6.9.2. Cooperate and Resolve Problems (Collaborate/Problem Solve)
  - 6.9.3. Compromise/Reconcile
  - 6.9.4. Withdraw/Avoid
  - 6.9.5. Smooth/Accommodate
  - 6.9.6. Force/Direct
  - 6.9.7. Practical Exercises to Know When to use Each Conflict Resolution Technique
- 6.10. Emerging Trends and Practices in Resource Management for Technology Projects
  - 6.10.1. Methods for Resource Management
  - 6.10.2. Emotional Intelligence (EI)
  - 6.10.3. Self-Organized Teams
  - 6.10.4. Virtual Teams/Distributed Teams
  - 6.10.5. Considerations for Adaptation
  - 6.10.6. Considerations for Agile/Adaptive Environments

## Module 7. Technology Project Quality Management

- 7.1. Communications Management Planning
  - 7.1.1. Why Is a Communications Management Plan Important?
  - 7.1.2. Introduction to Communications Management
  - 7.1.3. Communications Analysis and Requirements
  - 7.1.4. Dimensions of Communications
  - 7.1.5. Techniques and Tools
- 7.2. Communication Skills
  - 7.2.1. Conscious Emission
  - 7.2.2. Active Listening
  - 7.2.3. Empathy
  - 7.2.4. Avoid Bad Gestures
  - 7.2.5. Reading and Writing
  - 7.2.6. Respect
  - 7.2.7. Persuasion
  - 7.2.8. Credibility
- 7.3. Effective, Efficient Communication and Types of Communication
  - 7.3.1. Definition
  - 7.3.2. Effective Communication
  - 7.3.3. Efficient Communication
  - 7.3.4. Formal Communication
  - 7.3.5. Informal Communication
  - 7.3.6. Written Communication
  - 7.3.7. Verbal Communication
  - 7.3.8. Practical Exercises on the use of Communication Types in a Project
- 7.4. Communications Management and Control
  - 7.4.1. Project Communications Management
  - 7.4.2. Communication Models
  - 7.4.3. Communication Methods
  - 7.4.4. Project Communications Channels

- 7.5. Emerging Trends and Practices in the Field of Communication
  - 7.5.1. Evaluation of Communication Styles
  - 7.5.2. Political Awareness
  - 7.5.3. Cultural Awareness
  - 7.5.4. Communication Technology
- 7.6. Stakeholder Identification and Analysis
  - 7.6.1. Why Is it Important to Manage Stakeholders?
  - 7.6.2. Stakeholder Analysis and Registration
  - 7.6.3. Stakeholder Interests and Concerns
  - 7.6.4. Considerations for Agile and Adaptive Environments
- 7.7. Stakeholder Management Planning
  - 7.7.1. Appropriate Management Strategies
  - 7.7.2. Tools and techniques
- 7.8. Stakeholder Participation Management. Management Strategy
  - 7.8.1. Methods for Increasing Support and Minimizing Resistance
  - 7.8.2. Tools and Techniques
- 7.9. Monitoring of Stakeholder Involvement
  - 7.9.1. Stakeholder Performance Report
  - 7.9.2. Tools and Techniques

## Module 8. Technology Project Risk Management

- 8.1. Introduction to Risk Management
  - 8.1.1. Definition of Risks
    - 8.1.1.1. Threats
    - 8.1.1.2. Opportunities
  - 8.1.2. Types of Risks
- 8.2. Basic Concepts
  - 8.2.1. Severity
  - 8.2.2. Attitudes Towards Risk
  - 8.2.3. Individual Risk vs. General Risk
  - 8.2.4. Risk Categories
- 8.3. Risk Management: Benefits
- 8.4. Trends in Risk Management
  - 8.4.1. Non-Event Risks
  - 8.4.2. Project Resilience
  - 8.4.3. Risks in Agile and Adaptive Environments
- 8.5. Risk Management Planning
  - 8.5.1. Develop the Risk Management Plan
  - 8.5.2. Tools and Techniques
- 8.6. Risk Identification
  - 8.6.1. The Project Risk Register
  - 8.6.2. Tools and Techniques
- 8.7. Perform Qualitative Risk Analysis
  - 8.7.1. Qualitative Risk Analysis
    - 8.7.1.1. Definition
    - 8.7.1.2. Representation
  - 8.7.2. Tools and techniques
- 8.8. Perform Quantitative Risk Analysis
  - 8.8.1. Quantitative Risk Analysis: Definition and Representation
  - 8.8.2. Tools and Techniques
  - 8.8.3. Modelling and Simulation
  - 8.8.4. Sensitivity Analysis
  - 8.8.5. Contingency Reserve Calculation
- 8.9. Risk Response Planning and Implementation
  - 8.9.1. Develop Risk Response Plan
  - 8.9.2. Types of Threat Strategies
  - 8.9.3. Types of Strategies for Opportunities
  - 8.9.4. Reserves Management
  - 8.9.5. Tools and Techniques
  - 8.9.6. Implementation of Risk Response
- 8.10. Risk Monitoring
  - 8.10.1. Risk Monitoring Concepts
  - 8.10.2. Tools and Techniques

## Module 9. Technology Project Procurement Management

- 9.1. Introduction to Acquisition Management
  - 9.1.1. Definition of Contract
  - 9.1.2. Legal Framework acquisitions
- 9.2. Basic Concepts
  - 9.2.1. Definition of Contract
  - 9.2.2. The Project Manager and the Contract
  - 9.2.3. Main Activities
  - 9.2.4. Centralized and Decentralized Contracting
- 9.3. Procurement Management: Benefits
  - 9.3.1. Definition the Acquisition Strategy
  - 9.3.2. Types of Strategies
- 9.4. Acquisitions in Adaptive Environments
- 9.5. Types of Contracts
  - 9.5.1. Fixed Price Contracts
  - 9.5.2. Reimbursable Cost Contracts
  - 9.5.3. Time and Materials Contracts
- 9.6. Procurement Documentation
  - 9.6.1. Types of Documents in the Context of an Acquisition
  - 9.6.2. Document Flows in Procurement Management
- 9.7. Negotiation with Suppliers
  - 9.7.1. Supplier Negotiation Objectives
  - 9.7.2. Negotiation Techniques with Suppliers
- 9.8. Procurement Management Planning
  - 9.8.1. Procurement Management Plan
  - 9.8.2. Tools and Techniques
- 9.9. Procurement
  - 9.9.1. Search, Selection and Evaluation of Bids
  - 9.9.2. Tools and Techniques
  - 9.9.3. Bid Weighting Matrix
- 9.10. Procurement Monitoring and Control
  - 9.10.1. Procurement Monitoring and Control Points by Contract Type
  - 9.10.2. Tools and Techniques

## Module 10. PMP® or CAPM® Certification and Code of Ethics. Emerging Trends and Practices in Technology Project Management and Leadership

- 10.1. What Is PMP®, CAPM® and PMI®?
  - 10.1.1. What Is PMP®?
  - 10.1.2. CAPM®
  - 10.1.3. PMI®
  - 10.1.4. PMBOK
- 10.2. Advantages and Benefits of Obtaining PMP® and CAPM® Certification
  - 10.2.1. Techniques and Tricks to Pass the PMP® and CAPM® Certification Exams on the First Attempt.
  - 10.2.2. PMI-isms
- 10.3. Professional Experience Report to PMI® (Project Management Institute)
  - 10.3.1. Becoming a PMI® Member
  - 10.3.2. PMP® and CAPM® Certification Exam Entry Requirements
  - 10.3.3. Analysis of the Student's Professional Experience
  - 10.3.4. Student Work Experience Report Help Template
  - 10.3.5. PMI® Software Experience Report
- 10.4. PMP® or CAPM® Certification Examination
  - 10.4.1. What is the PMP® or CAPM® Certification Exam Like?
  - 10.4.2. Number of Scoring and Non-scoring Questions
  - 10.4.3. Duration of the Exam
  - 10.4.4. Passing Threshold
  - 10.4.5. Number of Questions per Process Group
  - 10.4.6. Qualification Methodology
- 10.5. Agile Methodologies
  - 10.5.1. AGILE
  - 10.5.2. SCRUM
  - 10.5.3. Kanban
  - 10.5.4. LEAN
  - 10.5.5. Comparison with PMI® Certifications
- 10.6. Software Development in Agile Methodologies
  - 10.6.1. Analysis of the Different Software on the Market
  - 10.6.2. Advantages and Benefits





- 10.7. Advantages and Limitations of Implementing Agile Methodologies in your technology projects
  - 10.7.1. Advantages
  - 10.7.2. Limitations
  - 10.7.3. Agile Methodologies vs. Traditional Tools
- 10.8. Code of Ethics in the Management of your Projects
  - 10.8.1. Responsibility
  - 10.8.2. Respect
  - 10.8.3. Impartiality
  - 10.8.4. Honesty



*This is an excellent program if you are looking to specialize in Technology Project Management"*

# 06

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



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

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“*Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

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



### Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.







#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



# 07 Certificate

The Master's Degree in Technology Project Management guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification issued by TECH Global University.





“

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

This program will allow you to obtain your **Master's Degree diploma in Technological Projects Management** endorsed by **TECH Global University**, the world's largest online university.

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

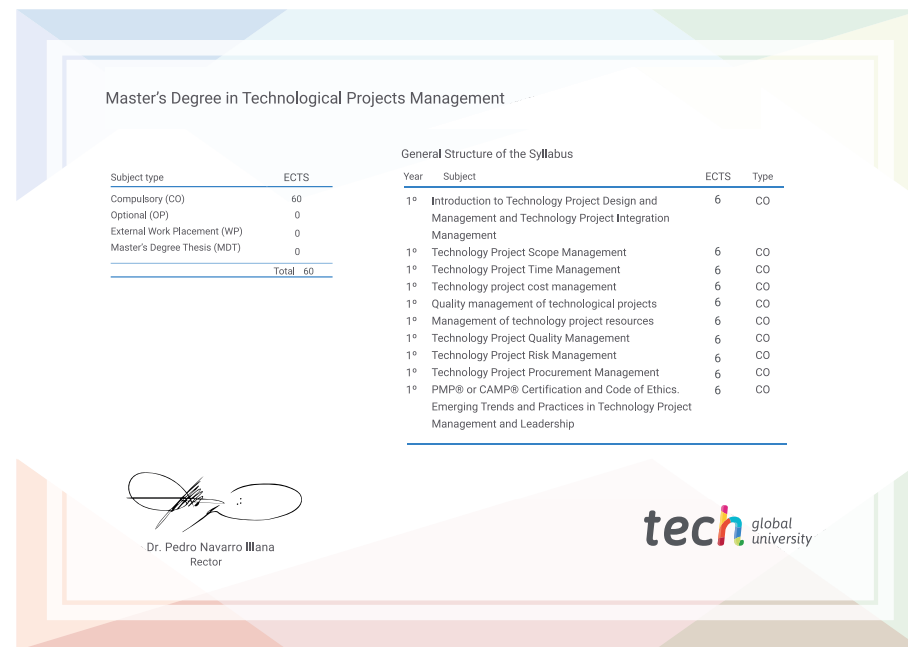
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Technological Projects Management**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**



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

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
online training  
development language  
classroom



## Master's Degree Technology Project Management

- » Modality: online
- » Duration: 12 months
- » Certificate: TECH Global University
- » Credits: 60 ECTS
- » Schedule: at your own pace
- » Exams: online

# Master's Degree Technology Project Management

