



**60 ECTS credits**

**12 months**

**Online**

# Master's Degree in Project Management



**UCAM**  
UNIVERSIDAD  
CATÓLICA DE MURCIA



Structuralia

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## STRUCTURALIA

Structuralia is an online school specialized in graduate engineering, infrastructure, construction, energy, building, new technologies, and digital transformation programs and courses. We are dedicated to providing high-quality education for engineers, architects, and STEM (science, technology, engineering, and mathematics) professionals.

Since our creation in 2001, over 200,000 students from more than 90 countries have participated in our virtual classrooms as we disseminate knowledge and guide professionals toward success.

To this effect, we collaborate with leading international experts in each field, which enables our students to specialize under the guidance of active professionals. Our constant interaction with major companies in each sector, as their specialized training provider, enables us to tailor high-quality academic material to meet the current job requirements of our students.

Our master's programs are certified by our partner universities, such as the Universidad Católica San Antonio de Murcia, UDAVINCI, or Universidad Isabel I.

Every day we strive to provide the best training for engineers, architects, and STEM professionals with a clear goal: your professional success.

## BRIEF SUMMARY

Historically, businesses have designed and developed their products and services to meet the perceived needs of the market, or to take advantage of identified business opportunities, while presently, said products and services are normally delivered through projects, which have become an essential activity of any company or organization today. As a matter of fact, the satisfactory completion of a project requires adequate human, technical, material, and economic resources, as well as planning and coordination that integrate said resources efficiently and effectively.

One of the key aspects in project management is the presence of highly qualified leadership, in this case, of a Project Manager, who is the one to assume the ultimate responsibility for meeting project objectives in terms of deadlines, costs and expected benefits, which makes adequate preparation a critical asset to carry out this responsibility.

In fact, the increasing complexity of projects, and the pressure to meet deadlines and budgets, require both a solid conceptual background and a broad practical base. Projects require Project Managers who are trained in the most advanced management techniques, since in the absence of adequate training, the inefficiencies in management will be reflected in the results of the projects.

Therefore, due to the aforementioned reasons, the subject covered in this course is of great interest and demand today. In addition, there is a lack of quality training programs in this field making this master's degree an ideal choice for those wishing to stand out in an ever-changing and competitive job sector. These areas make up the reality of the different industrial sectors (construction and equipment) and consulting and services, and hence the importance of project management.

## WHO IS IT INTENDED FOR?

This program has been designed to meet the professional training needs of those who wish to increase their knowledge in the field of project management in a format that will allow them to work and study simultaneously. In fact, this type of master's degree is of special interest for technical staff from businesses in all industrial and consulting sectors, and whose minimum admission requirements are a bachelor's degree, or an associate degree with at least two years of relevant project management experience.

## GOALS

- Learn project management objectives from a systematic approach (an overall view).
- Acquire the necessary knowledge to perform project planning and control tasks.
- Learn the main project organization structures.
- Learn the different project types and their influence in both management and organization
- Understand team and people management strategies, as well as those for negotiation and conflict resolution.
- Apply effective risk management strategies.
- Learn decision-making criteria and balanced scorecards.
- Learn the essential aspects of knowledge management.
- Gain a global understanding of supplier relationship management and supply chain.
- Lay a solid foundation with regard to the economic and legal aspects of project management.
- Understand the mechanisms involved in reporting and project progress presentations.
- Learn the use of the project management software.
- Learn the project closing and certification processes.
- Learn how to conduct environmental analyses and apply them to any project.
- Learn about project inspection and certifications.
- Learn project crisis management techniques.
- Learn the peculiarities of project management, either for civil engineering or consulting.

## PROGRAM

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### 1. PROJECT MANAGEMENT AND CONTROL

#### Unit 1. Launch planning

- Project launch
- Project management plan (I): project lifecycle
- Project management plan (II): planning
- Project management plan (III): project organization chart
- Lessons learned

#### Unit 2. Communications and document management

- Communication management (I): general aspects of communication
- Communication management (II): global communication management process
- Communication management (III): specific communication management plan
- Document management and control (I): specific document management plan
- Document management and control (II): document management tool

#### Unit 3. Procurement management

- Procurement management
- Procurement management and subcontracts
- Expediting management
- Quality control (QC)
- Procurement logistics

## Unit 4. HHRR, quality, health, safety, and environment

- HHRR management (I): specific HHRR plan
- HHRR management (II): work team management
- Quality management
- Health, safety, and environment (HSE) management (I): definition
- Health, safety, and environment (HSE) management (II): standards

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## 2. TURNKEY PROJECTS

- Unit 1- FUNDAMENTALS OF TURNKEY PROJECTS (EPC)
- S1- O&G CONTRACT TYPES
- S2- TURNKEY PROJECTS (EPC)
- S3- ORGANIGRAM AND PROJECT MANAGEMENT
- S4- PROJECT MANAGEMENT AND CONTROL I
- S5- PROJECT MANAGEMENT AND CONTROL II

### Unit 2- CHARACTERISTICS OF EPC CONTRACTS

- S6- CONTRACT STRUCTURE
- S7- EPC CONTRACTS. CHARACTERISTICS
- S8- GUARANTEES AND RISKS
- S9- RESPONSIBILITIES AND RIGHTS
- S10- CONDITIONS AND CLAUSES

### Unit 3- TENDER PREPARATION

- S11- TENDERING PROCESS
- S12- ESTIMATION PROCESS I. SCOPE AND RISKS
- S13- ESTIMATION PROCESS II. SCHEDULE
- S14- ESTIMATION PROCESS III. COST
- S15- ESTIMATION PROCESS IV. DOCUMENTATION

## Unit 4- CONTRACT NEGOTIATION

- S16- NEGOTIATION PROCESS I
- S17- NEGOTIATION PROCESS II
- S18- CONTRACT CLAUSES I
- S19- CONTRACT CLAUSES II
- S20-CONTRACT CLAUSES III

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## 3. ADVANCED PROJECT MANAGEMENT

### Unit 1: Scope and Contract management

- Scope management I
- Scope management II
- Scope management III
- Contract management I
- Contract management II

### Unit 2: Negotiation and Cost Control

- Negotiation I
- Negotiation 2
- Negotiation 3
- Cost control

### Unit 3: Cost Estimation and Planning

- Cost estimation 1
- Cost estimation 2
- Planning 1
- Planning 2
- Planning 3

### Unit 4: Risk management

- Global setting
- Risk management 1

- Risk management 2
- Risk management 3

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## 4. CORPORATE SOCIAL RESPONSIBILITY

### Unit 1. CSR: A New way to Manage Organizations

- From sustainability to Corporate Social Responsibility
- The foundation of CSR: Business ethics
- Institutional reference framework at the international level
- How is CSR advancing in Spain
- SDG applied to the business sector

### Unit 2. Stakeholders and CSR Dimensions I

- Stakeholder analysis
- CSR management areas and benefits for business
- Transparency and corporate governance
- CSR and people management
- Business and human rights

### Unit 3. Stakeholders and CSR dimensions II

- Supply chain
- Environment
- Sustainable finance
- Collaboration with community
- Responsible consumption

### Unit 4. Management and Communication Tools

- CSR management tools
- Main CSR management systems
- Risk management and CSR
- CSR communication – The keys to a good strategy
- CSR communication tools

## 5. AGILE MANAGEMENT APPROACH

### Unit 1. The Agile Framework

- Myths and realities; Why agile?
- Agile vs traditional
- Agile principles and values
- Requirement prioritization
- Scrum

### Unit 2. Agile Planning

- Other agile methodologies
- The vision of a project
- Agile estimation
- Roadmap
- Delivery plans

### Unit 3. Agile Iterations

- Iteration planning
- Executing and iterations
- Using Kanban in iterations
- Demo and retrospective meetings
- Work tracking

### Unit 4. Agile Management Style and Focus Escalation

- Agile communication and management style
- Information radiators
- Agile leadership
- Agile method escalation
- Tools

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## 6. DESIGN THINKING

### Unit 1: Design Thinking

- The reasons for Design Thinking: Empathy and closeness with customers or users
- What is Design Thinking?
- Understanding Design Thinking
- Overview of the Design Thinking process
- Methods for identifying the user needs

## Unit 2: Design Thinking

- Step 1: Empathize with users
- Step 2: Define the problem
- Step 3: Ideate
- Step 4: Prototyping
- Step 5: Test

## Unit 3: Digging Deeper. How does Google do it?

- Detailing the Design Thinking approach
- Agile, Lean, and Design Thinking for product development
- Accomplishing objectives
- How does Google do it?
- Stages of Google Design Sprint

## Unit 4: Other streamlining tools

- Agile process analysis
- Failure modes
- Success modes
- Risk monitoring
- Agile contracts

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## 7. FINANCE PROJECT MANAGEMENT

### Unit 1. Financial Projections and Project Finance

- Time value of money
- Investment appraisal methods
- Creation of financial projections

- Quality of financial projections and terminal value
- Project finance sources
- Cost of capital cost and level of project debt
- Evaluation of projects with uncertain results

## Unit 2. Project Finance

- Introduction to the project finance model
- Project risk analysis
- Project bankability
- Entities involved in the financing of a project
- Ratios and management of project financing

## Unit 3. International Projects

- Financing for international projects
- Country risk management
- Finance sources for international projects

## Unit 4. Service Projects

- Finance management of service projects
- Cost identification in service projects
- Allocation of costs to services
- Budgeting the service
- Service economic follow-up and closure

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## 8. PMP® CERTIFICATION. EXAM PREPARATION COURSE. SEVENTH EDITION (PART I)

### Unit 1. Process (I)

- Introduction to PMP
- Agile versus traditional project management approaches
- Code of ethics
- Project execution with the right urgency to deliver business value
- Communications management

## Unit 2. Process (II)

- Risk management
- Stakeholder management
- Cost and resources management
- Time management
- Quality management

## Unit 3. Process (III)

- Scope management
- Integration management
- Acquisitions management
- Change management
- Delivery management

## Unit 4. Process (IV)

- Determine the appropriate methodology and practices
- Establish the governance structure of the project
- Incident and problem management
- Ensure the transfer of knowledge for the continuity of the project
- Manage the closure of the project

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## 9. PMP® CERTIFICATION. EXAM PREPARATION COURSE. SEVENTH EDITION (PART II)

### Unit 1. People (I)

- Agile project management approach
- Conflict management
- Team leadership
- Team performance support
- Empowerment of the team and stakeholders

### Unit 2. People (II)

- Ensure the training of the team members

- Team building
- Directing and removing impediments, obstacles and blockers
- Negotiate project agreements
- Collaborate with stakeholders

## Unit 3. People (III)

- Build a shared vision
- Engage and support virtual teams
- Define basic team rules
- Mentor relevant stakeholders
- Promote team performance through emotional intelligence

## Unit 4. Business environment

- Project compliance management
- Evaluate and deliver the benefits and value of the project
- Asses and address changes in the business context that impact scope
- Support organizational change
- Guide to registration for the exam

## **MASTER'S FINAL PROJECT**

*The program is subject to possible variations / updates of the contents to improve their quality*

## AUTHOR PROFILE

### **Director: Miguel Ángel Vera Mellado**

Miguel Ángel is a Computer Science engineer, ACP, PMP, MBA and ITIL expert specialized in project management. In addition to his professional experience in working with clients, businesses and software factories, Vera Mellado has 10 years of capacity building experience with multiple companies, business and technical schools, as well as public administration agencies. Miguel Angel has extensive and solid experience in project management and bid coordination, as well as in people management in multidisciplinary teams. He strongly believes in goal-oriented work and in building the necessary capacities to overcome challenges.

### **Yolanda García Rubio**

Industrial and mechanical engineer by the University of Oviedo; AACE International - Certified Estimating Professional (CEP); Industrial Organization School (EOI) – Business and Industrial and Technological management. President of the Spanish Contract Management Association (AEGescon). Contracts Estimates Manager, Tecnicas Reunidas (United techniques), Madrid, Spain (at present); 20 years of experience in engineering, Contract Management and Estimations in the Oil & Gas, Energy and Pharmaceutical sectors.

### **Sonia Gómez**

Sonia Gomez holds a Business management degree (UAM); a Master's degree in Marketing (ESIC); a Master's degree in Online Marketing and Digital Strategy (EAE), and a CSR expert diploma (UNED). She has been working as a marketing and communications professional for more than 18 years in both the private (industry and renewable energies) and tertiary sectors (NGO and foundations), and currently works as a CSR, Communication and Marketing project consultant. She is also a partner manager at the firm Huella Responsable (Responsible footprint), specialized in business CSR services, environment, and quality.

## **Jorge Serrano Paradinas**

Civil engineer (roads, canals, and ports) by the Polytechnic University of Madrid. Serrano has worked in different companies in the construction sector such as Aldesa, Corviam and Arthur Andersen, and audited the main firms in the construction sector.

## **Dávid López**

David Lopez is a Materials Engineer by the URJC, with a Bachelor 's degree in Chemical Science by USAL, and a Level II of non-destructive trials (UT, PT, MT). He has also completed a master 's degree in Oil & Gas Engineering and Business from Structuralia, and another in Large International Turnkey Projects (EPC), Contract Management, and Project Management by Structuralia. ASmfor his professional experience, Lopez has been working in the Oil & Gas sector for 16 years, with international EPCs-Lump Sum projects in different regions: Europe, the Americas, Africa, the Middle East, etc. Presently, David works as the Deputy Director of the Activation Department and Provisioning area in Grupo Técnicas Reunidas SA.

## METHODOLOGY

At Structuralia, we apply a modern methodology adapted to the process of change we live in today. Our educational environment is based on an online learning system, that is, learning by observing, reflecting, and practicing with an organized and carefully programmed study pace, which comes along with the constant support from our team. Our learning solution is designed to facilitate learning at the student's own pace, with a uniform structure that includes continuous evaluations and practical exercises to reinforce knowledge.

Our program's calendar consists of 9 monthly modules, which are divided into 4 weekly teaching units. In addition, there are 3 months for the Master's Final Project (MFP). This structure may be adjusted depending on the innate complexities of the program.

Each of these units contain introductory videos on concepts, syllabus prepared by our experts (which can be viewed online or downloaded in PDF), and self-assessments. Some units may even have practical exercises or examples, if required by the expert. At the end of each module, there will be a compulsory exam in order to complete the module.

The Director will ask all students to complete a Master's project, in which they will apply everything they have learnt in the previous modules, to practical cases. Students will have 3 months to complete and submit the project, during which they will receive the support from the program's team.

Finally, you will receive the status reports from our team through regular follow-ups throughout the program.

## EVALUATION

The assessment will be ongoing throughout the training program and will take into account not only the acquisition of knowledge, but also the development of skills and attitudes.

At the end of each monthly module, the student must answer a test-type exam on the online training platform, in addition to pose a variety of practical cases along the topics and optional unit test so as to achieve the maximum consolidation of technical concepts.

To obtain the degree it will be necessary to pass the assessable modules of the program.

## DEGREE

Students who have visualized all the lessons, successfully passed the self-assessments and exams, and submitted the master's final project, will receive Structuralia's certificate and the title of Master of Professional Development by the Universidad Católica San Antonio de Murcia (UCAM), in digital format.

Likewise, the student can request a certificate of completion of his/her master's degree, or a certificate of completion from Structuralia.

The student may also request a the Hague Apostille on his/her certificate of completion from the university an additional fee.



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