DETAILED CURRICULUM
& COURSE SYLLABI
A.Y. 2023/2024

INTRODUCTION

The Executive Master Programme in Project Management for Business Performance and Innovation aims at increasing Project, Programme and Portfolio Management's strategic, organizational and technical skills to drive innovation and technological change processes in project-based organizations.

The purpose of the programme is to reinforce the professional skillset, increasing strategic, organizational and technical knowledge and competence of Project, Programme and Portfolio Management professionals to lead the processes of innovation and technological change in project intensive organizations.

The educational objectives include managing project excellence, developing individual and interpersonal skills and growing projects' portfolio organizational competences.

The Programme combines practice-specific knowledge and skills together with competences in business strategic leadership, projects portfolio governance and soft skills required by new organizational designs.

At the end of the Programme, Master participants will confirm the main theoretical elements on Project, Programme and Portfolio management. Participants are supported in an immersive experience dealing with a lean journey to improve their organization Project Management readiness and maturity, participating to a team-oriented development processes.

Based on a multifaceted programme, it is expected that attendants may proficiently represent a number of roles and industries in the socio-economic environment, bringing their specific experience in running lean and rapid projects within organizations in government, industry and research.

The executive master's programme implies a strong engagement not only with academics and lecturers, but also with mentors, advisors, professionals and established game-changing entrepreneurs and managers

The programme is based on three main streams. The first deals with the Individual Competences required to cope with people, strategy and practice in a PM context. The second stream is focused on the competences required to successfully drive organizations to handle the "projectisation" of businesses and the economy, dealing with governance and management systems, organization of processes, managing teams and resources. The third stream covers the leadership needed to drive a lean 6σ journey toward Project Excellence: defining perspectives to grow people competences, how to organize processes dealing with resources, how to evaluate and promote to excellence actual projects results.

TRAINING OBJECTIVES, LEARNING CONTENTS AND ORGANIZATION OF THE ACTIVITIES

The purpose of the Programme is to confirm a new PM-centric skillset, combining practice-specific knowledge together with competences in business leadership, governance and organizational management as required by "projectised" innovation and business performance leadership.

The Executive Master is a part-time mixed attendance programme of one academic year duration for a total of 30 ECTS; it will start in February 2022 and end in December 2022.

The programme is based on mixed attendance, with full frontal lectures held at Politecnico di Torino premises, distance learning through digital lectures, webinars and multimedia web-based resources (video and video-lessons). A capstone project work on an in-company projectisation business case will start in parallel to the academic lectures and will continue to the end of the programme.

CLASS FORMAT AND TEACHING METHODOLOGY

The class format includes lectures, case study analyses, open discussions, industry guest speakers, and student presentations.

A capstone project work provides competence-building opportunity, by combining application of content-based learning with real world economic organization's networking and actual touch with business issues.

Distance learning mostly deals with key webinars introducing courses and subject intents, and a structured approach in using open educational resources to gain factual knowledge (terminology, and specific components of the body of knowledge).

Class learning provides a recall on conceptual knowledge (classifications and categories, principles and generalizations, and theories, models, and structures) and focuses on procedural knowledge (subject-specific skills and algorithms, subject-specific techniques and methods, criteria for determining when to use appropriate procedures).

Programme Director

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COURSE #1 – PROJECT MANAGEMENT BASICS

Instructor: Alberto De Marco

LEARNING OBJECTIVES

Participants will gather knowledge and gain skills in Project Management as an organizational management system enabling performance, game-changing and innovation in businesses and processes. The main topics will include: Project Portfolio Management to connect strategy with projects and operations, traditional waterfall Programme/Project Management knowledge areas and processes for long term planning, Agile Project Management methodologies and tools to help the planning, execution and control processes in uncertain businesses environments. A comparative discussion for Waterfall and Agile methodologies, such as Scrum, will be supported by analysing a variety of case studies in various businesses.

LEARNING OUTCOMES

Knowledge

- Identify and describe the planning within the project management standard;
- Planning as forecasting: define and determine most likely project outcome as dictated by owner's intent, decomposition and sequencing of scope / work, time, cost, quality, human capital and resources, communication and information, risk procurement, and stakeholders.
- Planning as optimization: charting alternative courses of action, what-ifs and scenarios of outcomes. Decision making and selection by optimization theory;
- Planning as a dynamic exploratory process: real projects rarely unfold exactly as they are planned. Using system dynamics to model and to simulate the rework cycle and the dynamic effects of various external parameters as well as the impact of corrective actions taken by management during the projects.
- Planning for stakeholders: identify and trace requirements, plan for benefits realization;
- Processes Alignment: reporting planning to governance systems, consolidating portfolios and programmes.

Skills

- Defining contract organizations and delivery systems.
- Developing a project charter and business case. Evaluating and financing PP&Ps.
- Managing the project scope, creating breakdown structures. Managing cost and PP&P budgets
- Time and resources scheduling, using deterministic and probabilistic techniques. Creating the project optimal duration schedule, apply heuristic algorithms for resource-based scheduling.
- Apply decision making techniques, such as decision trees to time-cost trade pay outs.
- Using project planning and decision making software packages.

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COURSE #2 – STANDARDS AND METHODOLOGIES

Instructor: Paolo E. Demagistris

LEARNING OBJECTIVES

Participants will gather knowledge and gain skills in Project Management as an organizational management system enabling performance, game-changing and innovation in businesses and processes. The main topics will include: Project Portfolio Management to connect strategy with projects and operations, traditional waterfall Programme/Project Management knowledge areas and processes for long term planning, Agile Project Management methodologies and tools to help the planning, execution and control processes in uncertain businesses environments. A comparative discussion for Waterfall and Agile methodologies, such as Scrum, will be supported by analysing a variety of case studies in various businesses.

LEARNING OUTCOMES

Knowledge

- Project management terminology, terms of reference, facts, figures, and trends in recent years.
- Project management norms, as issued by standardization, professional and trade organisms.
- Systemic approach to project management as a mixed socio-technical system.
- Cultures, norms, principles and theoretical implications underpinning Waterfall and Agile practices.
- Alignment, embedment, continuous improvement, and evolution of PM standards responding to external and internal environment.

Skills

- Decomposing the Waterfall and Agile systems into frameworks of artefacts, roles / knowledge areas, events and ceremonies;
- Composing the organization-wide project management systemic framework of concepts, methods and tools into a project management standard;
- Assessing the maturity of a project management system
- Critical approach on applicability of traditional waterfall or agile PM standards

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COURSE #3 – ORGANIZING

Instructor: Milan Smigic

LEARNING OBJECTIVES

The course highlights key issues for understanding and dealing with different organizational characteristics and design issues in organisations and in society as they cope with the present trend towards "projectisation" in both businesses and public organizations; which calls questions on why some organizational forms are more suitable at one point in time and place, and why some forms are more suitable under specific situations than others. In addition, the module addresses classical and contemporary theories of organizational design, and focuses on practical applications of existing knowledge on organization as a "capacitation" of the PM standard. It aims at critical applications on how strategy, multiple stakeholder interests, and new emerging forms and/or fashions influence what we consider as proper organizational design.

LEARNING OUTCOMES

Knowledge

- Identify organization as socio-technical entity that is goal directed and deliberately structured;
- Identify and describe the characteristics of PP&P as a form of organization;
- Strategic organizational design: configuring the formal elements of organizations to achieve strategic goals in specific environments and in alignment of PP&P standard: division of labour, scalar chain of command, span of control and management, organization structure;
- Organizational design drivers: geography, number of employees, product mix and evolution, authority culture, control culture, marketplace landscape;
- Organizational design to create PP&P capacity: the Project Management Office, cutting across functional divisions, matrix and adhocratic organisation design;

Skills

- Project, Programme & Portfolio organisation: Assess and determine the needs of stakeholders relating to information and documentation,
- Define the structure, roles and responsibilities within the PM practice;
- Establish infrastructure, processes and systems for information flow,
- Implement, monitor and maintain the organisation of the PM practice. Implement a Project Management Office.

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COURSE #4 – STRATEGY AND PROJECT PORTFOLIO

Instructor: Marco Cantamessa

LEARNING OBJECTIVES

Organizations have learned that the adage, grow or die is more than a cliché. In today's global market, maintaining the status quo is no longer an option. As the velocity of change accelerates, historic paradigms are surrendering to new. For organizations to survive in today's competitive environment, management must anticipate the strategic inflection of organizational evolution.

This course deals with understanding the values of managing and fast-tracking multiple business initiatives under the ownership of one corporate umbrella. The goal is to anticipate the problems in managing a firm's diverse programs / projects, and in appraising its likely performance in the future. The detection, development, and deployment of resources across diverse programs play a key role in corporate strategy formulation. Limits to firm growth are recognized, specifying boundary conditions of corporate strategy. Project Portfolio techniques are applied as necessary analytical tools to define strategic actions, to determine their corporate development roles, to allocate resources among them, and to influence their development.

LEARNING OUTCOMES

Knowledge

- Organisational mission and vision. Balanced scorecards, reporting systems and key performance indicators.
- Critical success factors.
- Project portfolio management processes.

Skills

- Formulating Strategy: Align with organisational mission and vision, Develop and ensure the ongoing validity of the business / organisational justification, Determine, assess and review critical success factors, Determine, assess and review key performance indicators;
- Design portfolios: Establish project portfolio matrix dimensions (financial and non-financial, such as growth, process, client), screening and selection practices;
- Portfolio Practice: Establish and maintain the scope of the portfolio, Control scope configuration of projects and programmes, Establish the portfolio decision-making cycle, Determine and establish the portfolio budget, Develop, establish and govern a financial performance and reporting system for the portfolio, Identify the quantity of required and available resources for running portfolio component projects and programmes, Identify the skills of the required resources for running portfolio component projects and programmes.
    - Processes Alignment: Identify all internal and external drivers and processes relevant to the management of PP&P, Align and coordinate PP&P processes with all identified relevant processes to ensure the effective and efficient delivery of project's portfolio goals and performance targets, Provide regulation and guidelines on process alignment;
    - Governance, structures and processes: project teams and supporting functions, Align the PP&P with the organisation's decision-making and reporting structures and quality requirements, human and material resources processes and functions, finance and control processes and functions;
    - Systemic project vs. process alignment: Establish a system to support, monitor and control Process Alignment standards at PP&P Management Development level, by promoting, supporting and implementing continuous improvement

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COURSE #5 – AGILE PROJECT MANAGEMENT

COURSE #6 – PROJECT PLANNING

Instructor: Alberto De Marco

LEARNING OBJECTIVES

The course presents principles, quantitative methods, techniques and software tools for PP&P planning in an organizational context, such that they can be taken back to the workplace to improve participants' ability to plan complex projects. Both traditional waterfall and agile methodologies are used for planning diverse projects in a variety of industries from software development to facility construction. Participants will learn how to plan a project including defining the contract structure and resource, cost and time scheduling techniques.

Contract management is given in the class as an important component of scope and integration management including delivery systems, payment schemes and award methods.

Project planning involves establishing the Work Breakdown Structure, mapping this structure to the established contract organization and setting a schedule using various deterministic or probabilistic techniques such as Critical Path Method, Critical Chain, or Program Evaluation and Review Technique. Quantitative methods for effective decision-making competences are also included in the planning and scheduling processes.

LEARNING OUTCOMES

Knowledge

- Identify and describe the planning within the project management standard;
- Planning as forecasting: define and determine most likely project outcome as dictated by owner's intent, decomposition and sequencing of scope / work, time, cost, quality, human capital and resources, communication and information, risk procurement, and stakeholders.
- Planning as optimization: charting alternative courses of action, what-ifs and scenarios of outcomes. Decision making and selection by optimization theory;
- Planning as a dynamic exploratory process: real projects rarely unfold exactly as they are planned. Using system dynamics to model and to simulate the rework cycle and the dynamic effects of various external parameters as well as the impact of corrective actions taken by management during the projects.
- Planning and agility: scrum standard, backlogging, sprint planning and value points management, velocity and burndown metrics;
- Planning for stakeholders: identify and trace requirements, plan for benefits realization;
- Processes Alignment: reporting planning to governance systems, consolidating portfolios and programmes

Skills

- Defining contract organizations and delivery systems.
- Developing a project charter and business case. Evaluating and financing PP&Ps.
- Managing the project scope, creating breakdown structures. Managing cost and PP&P budgets
- Time and resources scheduling, using deterministic and probabilistic techniques. Creating the project optimal duration schedule, apply heuristic algorithms for resource-based scheduling.
- Apply decision making techniques, such as decision trees to time-cost trade pay outs.
- Using project planning and decision making software packages.

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COURSE #7 – PROJECT RISK MANAGEMENT
Instructor: Carlo Rafele

LEARNING OBJECTIVES

The course provides participants with a thorough understanding of Project Risk Management processes, techniques and tools. Understand risk as variance that may lead to positive or negative consequences, to achieve the goal to maximize the probabilities and opportunities of positive variance and minimize the probabilities and impact of negative risks, building on personal, organizational, and industry knowledge of project variance.

During the course, participants discover and apply both qualitative and quantitative techniques to identify, analyse, respond to and monitor risk. They learn how to prevent, mitigate or accept risk and the inherent trade-offs and decision making implications. The course also extends to risk measurement metrics (financial and non-financial) for portfolio risk allocation.

LEARNING OUTCOMES

Knowledge

- Identify and describe risk management within the Project Management standard practice:
- Risk responsiveness and agility: welcome change and steer through uncertainty;
- Risk communication and sharing: stakeholders' management

Skills

- Identify Risks, Analyse Risks Qualitatively, Analyse Risks Quantitatively, Plan Risk Responses, and Control Risks;
- Project variance: Stochastic and Bayesian variance and risks, trade-off and strategies of prevention, mitigation, acceptance.
- Risk financials and allocation: metrics, contingencies, optimization and offloading negotiation;
- Processes Alignment: consolidating risk financials to governance systems, consolidating portfolios discounted NPVs and VAR

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COURSE #8 – PROJECT MONITORING

Instructor: Timur Narbaev

LEARNING OBJECTIVES

The overall objective of this course is to introduce advanced principles, methods and tools for PP&P monitoring and control management in a realistic organizational context, such that they can be taken back to the workplace to improve abilities to govern complex product and system development projects.

The course includes methods, techniques and tools for progress measurement and for schedule, cost and quality performance monitoring and analysis. Earned Value Management and estimates at completion methods are also given to support PP&P control practices.

LEARNING OUTCOMES

Knowledge

- Identify and describe monitoring within the PP&P governance. Monitoring as dash boarding for steering decisions and total quality management systems.
- Characteristics of monitoring as a form of systemic feedback. Identify and describe monitoring and control within the project management standard.

Skills

- Monitoring as single-loop information feedback: track and review progress and performance, feedback to project plan model, extrapolate most likely project outcome, adopt incremental corrections to outcome drivers and enforce decision.
- Perform an Earned Value Analysis; compute cost and duration estimates at completion.
- Monitoring as double-loop information feedback: increase agility, acknowledge and adopt changes in environment and context, question and refine plans, implement and negotiate collaborative change management.
- Processes Alignment: reporting monitoring to governance systems, consolidating portfolios and programmes

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COURSE #9 - SOFT SKILLS FOR PROJECT MANAGEMENT

Instructor: Stefano Sarao

LEARNING OBJECTIVES

The ability to effectively govern and lead project work and programs has become an increasingly important skill set. However, many technical grounded Project Managers are not able to successfully lead projects due to a deficiency of the necessary skills.

Commonly referred to as "soft skills", personal and interpersonal skills include leadership, communication, negotiation, stakeholders' expectations management, influencing, negotiation, problem-solving, and decision-making. Soft skills are largely intangible, not associated with a deliverable or a concrete output, and are generally employed without the use of tools or templates. This course explores the fundamental assumption that to be most effective, project managers need to balance hard skills and soft skills.

LEARNING OUTCOMES

Knowledge

- Personality and leadership: Identity (self-view) and reputation (social view)."Cognosci te ipsum", self-awareness guiding to social effective relationships, identify your personality traits (adjustment, ambition, sociability, interpersonal sensitivity, prudence, inquisitive, and learning approach), your drivers (recognition, power, hedonism, altruism, affiliation, tradition, security, commerce, aesthetics), and your derailers, the "darker side" impeding reputation (Excitable, sceptical, cautious, reserved, leisurely, bold, mischievous, colourful, imaginative, diligent, dutiful).

Skills

- Leadership: Integrity, Judgement, Competence and Vision. Leadership styles, directing, coaching, facilitating, supporting.
- Managing the Project team: navigating team building stages (forming, storming, norming, performing, adjourning). Team diversity and effective dialogic traits. Team social roles - the 6 thinking hats: information, optimism, judgement, intuition, creativity, process.
- Conflict resolution and negotiation: identify causes and resolution techniques. Escaping conflict: smooth / accommodate, withdraw / avoid. Acknowledge crisis as an opportunity for growth.
- Project communications management types, paths and techniques. Written, verbal and non-verbal communication. Reporting and communicating with stakeholders.

COURSE #10 – PROJECT MANAGEMENT PRACTICES

Instructor: Alberto De Marco

LEARNING OBJECTIVES

This course focuses on how knowledge is created, captured, represented, stored and reused so as to fully leverage the intellectual assets of a Project Management Office and the entire firm.

The tools and techniques for knowledge acquisition, assessment, evaluation, management, organization and dissemination are applied to business and project situations. Topics include knowledge generation, knowledge coordination and codification, knowledge transfer and reuse, technologies and knowledge management and knowledge management strategies.

The goal is to enable you to learn about this practice in the context of managing the design, development and operation of information methods that can facilitate KM.

LEARNING OUTCOMES

Knowledge

- Model knowledge as decision rules
- Analyse the role of knowledge management in attaining financial objectives, quality and process improvement, and innovation.
- Manage diffuse knowledge in systems, implement a meta-interpreter of a knowledge base, carry through a project; define the purpose of a knowledge system, knowledge acquisition, organisation of knowledge, implementing a knowledge system, test, document and evaluate the system
- Alignment: evaluate incentives for organisations to work with knowledge management, show awareness of how different types of knowledge systems can change the work within organisations

Skills

- Apply knowledge management models and technologies to business situations.
- Use a knowledge management system and IT tools for an organization.
- Create a knowledge management plan to leverage opportunities to create, capture, represent and share knowledge within an organization.

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