PARTNERS IN KNOWLEDGE UK LTD
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Essentials in Project Management.

PIK101-1225 PRS-3

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Place:	Paris (FRANCE)	**Venue:**			
Start Date:	08-12-2025	**End Date:**	29-12-2025	**PPP:**	£6300

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If you can't train them, you can't blame them!

Short Description:

One of the most important phases in the success of project development is the planning phase. Thatâ€™s why the management of a project begins at this critical phase where exceptionally realistic time and cost estimates are most needed to help the project manager realize the projectâ€™s deliverables. Good project planning not only saves time and money, but also increases the overall earned project value (quality, reliability, safety, etc.) for the amount of funding expended.

Course Overview:

This course consists of three modules over stretched over three weeks:

1. ***Module 1:*** Project Scheduling & Contingency Planning Skills *(presents and examines the principles, tools and techniques used to develop schedules for both time and resources).*
2. ***Module 2:*** Project Cost Estimating Skills (covers basic and advanced cost estimation techniques as well as the impact of risks that need to be considered to ensure the plan predicted is valid).
3. ***Module 3:*** Value Engineering Skills (presents and examines the implementation of the Value Engineering (VE) concept for maximizing project functionality, reliability and quality at the lowest possible cost.

The Goals:

Following the completion of this course, delegates will:

- Gain knowledge of techniques used in project estimating, from the conceptual stage to the final detailed estimate.
- Understand the different types of estimates used to accurately and progressively estimate project costs.
- Understand the different types of contracts based on the distribution of risk between contracting parties.
- Gain knowledge of techniques used in resource planning and control.
- Understand the time-cost trade-offs.

- Identify risk sources and minimize their impact and learn how to sustain project momentum.
- Learn how to administer project documentation and reporting.
- Develop effective performance monitoring and control system.
- Effectively apply incentive arrangements to get the best results from the contract.
- Gather and organize information and cost relevant to the design aspects of the project.
- Demonstrate better understanding of the key functions performed by key components of the design.
- Critically assess and evaluate the relationships among key attributes such as cost, value and function.
- Report effectively to top management and project stakeholders in the context of proposing new design alternatives that improve the overall project value.
- Demonstrate proficiency in applying life-cycle costing principles.
- Objectively present a convincing case in support of certain design alternatives.

The Process:

The course is a mixture of speaker input, case studies and practice exercises which will be used to facilitate group discussions. Delegates will gain detailed knowledge of cost estimation and value engineering concepts and techniques by active participation in the exercise/training sessions. Through lectures, case studies and practical exercises, delegates will focus on key concepts, terms, and principles necessary for realistically estimating, controlling and optimizing project costs.

The Benefits:

This course will provide delegates with a proven set of critical skills and techniques for the development a systematic and dynamic project schedule, reliable cost estimate, as well as the ability and skills to compare the costs of alternative strategies or technical approaches to ensure the most economical project at the desired level of quality.

Delegates attending this course will be able to:

- Integrate scope, time, resources and cost management into a dynamic, manageable plan.
- Develop project network diagrams for CPM and advanced PERT calculations to identify schedule and cost risks.
- Maintain continuous project performance and delivery control.
- Integrate all relevant project elements into a cohesive and comprehensive cost estimate.
- Prepare budget estimates that will enable the owner-organization to make informed decisions as to the feasibility of a potential project.
- Compare the costs of alternative strategies or technical approaches to ensure the most economical project at the desired level of quality.
- Structure the contract compensation arrangement to provide the highest level of incentives to complete the project on schedule and within the determined budget.

- Keep accurate control of the progressive budgeting process based on the various stages of design.
- Prepare accurate budget estimates through the programming phase, the schematic design phase, and finally the design development phase.
- Manage the interface between many value-adding initiatives and senior management expectations.
- Apply systematic and innovative methodology with multi-disciplinary approach to achieve better value and cost optimization for projects.
- Spread cost-consciousness among project team members.
- Focus on function and thereby develops creative thinking towards cost reduction.

The Results:

Individuals and organisations will be better prepared in relation to how to manage the schedule, cost and design of their projects according to best practices. Individuals will learn how to adopt and apply a structured approach to time and cost estimation, budgeting and value engineering. This in turn will lead to having a consistent and streamlined schedule, cost and design management processes across the organisation.

The Core Competencies:

Delegates attending this course will enhance their competencies in the following areas:

- Ability to deliver projects on time and within budget.
- Understanding of what it takes to be a successful project manager.
- Skill and confidence to plan and control projects successfully and ability to sidestep the most common project management pitfalls and problems.
- Appreciation of the philosophy, framework, standards and approaches to the delivery of the projects.
- Developing an initial project budget for the owner.
- Determining project feasibility.
- Designing the project within the owner's budget.
- Evaluating alternative design concepts and project components.
- Preparing bids & cost proposals.
- Establishing project budgets.
- Determining the cost impacts of change orders.
- Developing appreciation of how to frame decisions and to develop decision hierarchies.
- Bringing Value Engineering into the organization’s business planning process.
- Identifying major roadblocks to creativity, and ways to mitigate them.
- Evaluating the results of a brainstorming session to develop the best value-adding scenario.
- Adhering to a structures sequence of logical steps to solve problems that eliminate unnecessary costs without compromising quality or functionality.

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Program Outline:

WEEK 1: Project Scheduling & Contingency Planning Skills

Day 1: Project Scope Planning and Definition (Fundamentals)

1. Scope Planning.
2. Work Breakdown Structures (WBS).
3. Work Packages.
4. Statement of Work (SOW) - Technical Baseline.
5. Scope Execution Plan.
6. Triple Constraints - Time Cost, Scope.
7. Project Quality Issues.
8. Project Risk Analysis.
9. Project Deliverables.
10. Resource Requirements.

Day 2: Project Schedule Planning and Critical Path Method

1. Precedence Network Diagramming.
2. Job Logic Relationship Chart.
3. Critical Path Analysis.
4. Project Float Analysis.
5. Lead and Lag Scheduling.
6. Activity Duration Estimation.
7. Milestone Charts.
8. Gantt Chart - Schedule Baseline.
9. Project Estimating Processes.
10. Production and Productivity Planning.

Day 3: Resource Allocation and Resource Levelling

1. Resource and Cost Allocation.
2. Management of Resources.
3. Planning and Scheduling Limited Resources.
4. Resource Allocation Algorithms for Resource Prioritisation.
5. Solving Resource Contention.
6. Resource Levelling when Project Duration is Fixed.

7. The Brooks Method of Resource Allocation.
8. Increasing the Workforce.
9. Solving Interruptions to the Schedule.
10. Scheduling Overtime.

Day 4: Accelerating the Project Schedule

1. Circumstances Requiring Project Acceleration.
2. Time-Cost-Scope Trade-off.
3. Project Time Reduction.
4. Direct Project Costs.
5. Indirect Project Costs.
6. Options for Accelerating the Schedule.
7. Crashing the Schedule - How?
8. Pre-Accelerated Schedule.
9. Developing a Crash Cost Table.
10. Acceleration in Practice.

Day 5: Project Contingency Planning

1. Program Evaluation and Review Technique (PERT).
2. Path Convergence Analysis.
3. Solving the Path Convergence Problem.
4. Network Risk Profile Types.
5. Normal Distribution.
6. PERT, Probability and Standard Deviation Formulae.
7. Calculating the Standard Deviation.
8. Standard Deviation for Critical Path.
9. Z-Values: The Probability of Project Completion at a Required Date
10. True Critical Path.

WEEK 2: Project Cost Estimating Skills

Day 6: Cost Estimating Basics

1. The estimating life cycle.
2. Phases of the Design Process *(Programming phase; Schematic design; Design development; Construction documents).*
3. Estimating accuracy by phase.

4. Conceptual Cost Estimates.
5. Rough Order of Magnitude Estimates (Broad Scope Estimates).
6. Assemblies cost estimates.
7. Cost indices.
8. Semi-detailed Estimates (Narrow Scope Estimates).
9. Definitive Estimates (Detailed Scope Estimates).
10. Basic procedures.

Day 7: Budget Estimating Process

1. Lump-sum contracts.
2. Unit-price contracts.
3. Cost-plus contracts
4. Cost-plus contract with guaranteed maximum price (GMP).

1. Estimating by design phase *(Programming budget estimates; Schematic design budget estimates; Design development budget estimates).*
2. Estimating pre-construction services.
3. Request for proposal.
4. Development of pre-construction services estimate.
5. Pre-construction services contract.
6. Budget control log.

Day 8: Bid Contract Estimating Process

1. Pre-estimate activities *(Estimating process; Solicitation of lump-sum bids; Order-of-Magnitude estimates; Work Breakdown Structure; Estimating team; Scheduling the estimating work; Subcontractors and major suppliers; Estimating forms; Accuracy and error prevention).*
2. Pricing self-performed work.
3. Recap sheet.
4. Materials.
5. Labour.
6. Applying pricing factors.
7. Summary recap.
8. Subcontractor work.
9. Project summary schedule.
10. Alternative techniques.

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Day 9: Unit Price Estimates

1. Elements of the general conditions estimate.
2. Final document review.
3. Completing the bid summary.
4. Sales tax.
5. Unit price bid forms.
6. Direct cost estimation *(Materials; Labour; Indirect labour; Subcontractors; Recap summary sheet, Direct-to-indirect cost factor).*
7. Mark-up determination.
8. Variation-in-quantity contract provision.
9. Risk analysis.
10. Bid finalisation.

Day 10: Contract Types and Compensation Arrangements

1. Risk distribution in contracting.
2. Project risk profiles.
3. Contract types according to risk distribution.
4. Fixed Price Contracts *(Firm Fixed Price; Fixed Price with Economic Adjustment).*
5. Incentive Contracts.
6. Fixed Price Incentive.
7. Cost Plus Incentive.
8. Cost Reimbursement.
9. Cost Plus Award Fee.
10. Cost Plus Fixed Fee.

WEEK 3: Value Engineering Skills

Day 11: Framework for Applying Value Engineering in Projects

1. What is Value Engineering? Why is it important?
2. Defining Value Engineering concepts and principles.
3. Purpose of Value Engineering and Value Analysis.
4. Strengths and Weaknesses of Value Engineering.
5. How and When is Value Engineering applied?
6. Project definition and initiation.
7. Project scope and charter development.

8. Life-cycle costing techniques.
9. Project stakeholder's analysis and management.
10. Identifying relationships between Value, Cost and Worth.

Day 12: The Function Analysis Phase - Expressing Project Functional Needs and Constraints

1. Initiating Value Engineering Process.
2. Overview of Different Value Engineering Phases.
3. The need for Function Analysis in projects.
4. Defining project constraints – relationships and tradeoffs.
5. Conceptual project cost estimating techniques.
6. Function-Cost-Worth Analysis.
7. Developing FAST Diagrams to identify critical project components.
8. The Technical FAST Model to perform project value analysis.
9. Case Study.
10. Cross-Functional Project Team Approach.

Day 13: The Creative Phase - Inspiring Creativity in Your Project Team

1. Creativity and Creative thinking within the project environment.
2. Individual vs. Group thinking to improve the quality of project decisions.
3. Creativity techniques as applied to optimize project value.
4. Blocks to creativity within the project team.
5. Brainstorm project solutions.
6. Reaching consensus and leveraging the power of project team collaboration.
7. Project risk perception and identification.
8. Project prioritization process using the Delphi technique.
9. The use of Force-field analysis in project problem solving.
10. Output of the Creative Phase.

Day 14: The Evaluation Phase -Making Informed Project Decisions

1. Project ideas screening.
2. Project evaluation methods.
3. Quantitative evaluation using objective data.
4. Subjective evaluation – project-related criteria weighting.
5. Revisiting project life-cycle costing analysis.
6. Incorporating inflation in project economic analysis.

7. Performing project risk and scenario analyses.
8. Risk Life-cycle simulation modelling - best and worst project cost scenarios.
9. Pitfalls associated with the use of existing economic models.
10. Incremental benefit-cost analysis for project evaluation.

Day 15: The Planning and Reporting Phases -Getting Results through Effective Communication

1. Effective Decision-making in project environment.
2. Output of the Evaluation Phase.
3. Develop and assess VE proposals to optimize project value.
4. Develop action plans and assign project roles and responsibilities.
5. Reporting VE findings to Senior Management and project stakeholders.
6. Mastering oral presentation techniques & interpersonal skills.
7. Strategies for project plan execution.
8. Incorporating VE into the early project phases.
9. Integrating VE with Continuous Improvement Techniques.
10. Wrap-up.