Value Engineering: Value Methodology Job Plan, FAST Function Analysis and Life-Cycle Cost

16 – 20 August 2027
London - Central London four-star



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Introduction:

Capital projects often reach tender with designs that carry cost but add little function, and late savings exercises cut scope instead of improving value. This Value Engineering course from CoreConcept equips project, design and cost professionals to apply the value methodology job plan in a structured way: gathering information, analysing functions with FAST diagrams, comparing function cost with worth, generating and evaluating alternatives, and developing proposals backed by life-cycle cost. Working on a project case, each participant produces a Value Engineering Study Report with ranked proposals and an implementation plan.

Course Objectives:

- Plan a value study by defining scope, team composition, timing and the information package for a project or design stage
- Build function definitions and FAST diagrams that separate basic from secondary functions in a project or system
- Calculate function cost, worth and value index to target the areas with the greatest improvement potential
- Generate, screen and rank alternatives using structured creativity techniques and weighted evaluation matrices
- Develop value proposals with life-cycle cost comparisons, risk notes and implementation actions for decision makers
- Facilitate a value engineering workshop and present recommendations that owners and designers can accept and track

Target Audience:

- Project and programme managers responsible for scope, budget and design decisions on capital projects
- Design and engineering leads accountable for design development and technical alternatives
- Cost engineers and quantity surveyors responsible for estimates, cost plans and cost reviews
- Owner and client representatives who approve design stages and value proposals
- Facilitators and consultants who plan and lead value studies for project teams

Course Outline:

Day 1: Value Engineering Foundations and the Job Plan

- Value Definition: Function Relative to Cost and Resources
- Value Engineering, Value Analysis and Value Management Compared
- Value Methodology Job Plan: Pre-Study, Workshop and Post-Study Stages
- Timing Value Studies Across Concept, Schematic and Detailed Design
- Current-State Cost Model and Project Information Package

Day 2: Information and Function Analysis Phases

- Information Phase Checklist: Scope, Constraints, Criteria and Cost Data
- Random Function Definition Using Active Verb and Measurable Noun
- Basic and Secondary Function Classification Worksheet
- FAST Diagram Construction: How-Why Logic and Scope Lines
- Customer-Oriented FAST for Services, Facilities and Products

Day 3: Function-Cost-Worth and Creative Phase

- Function Cost Allocation Matrix from the Cost Model
- Function Worth Estimation and Value Index Calculation
- Pareto Analysis of High-Cost and Low-Value Functions
- Creative Phase Techniques: Brainstorming, Brainwriting and Attribute Listing
- Idea Log and Initial Screening Against Project Criteria

Day 4: Evaluation, Life-Cycle Cost and Development Phases

- Weighted Evaluation Matrix and Paired Comparison Scoring
- Life-Cycle Cost Model: Capital, Operating, Maintenance and Disposal
- Present Value Comparison of Design Alternatives
- Value Proposal Write-Up with Risk, Schedule and Performance Impacts
- Common VE Pitfalls: Scope Cutting, Weak Baselines and Unowned Proposals

Day 5: VE Workshop Practice and Study Report

- Case Study: Value Study on a Building or Infrastructure Project
- Workshop Facilitation Agenda, Roles and Ground Rules
- Presentation Phase: Decision Briefing to Owner and Design Team
- Implementation Tracking Log and Post-Study Follow-Up
- Value Engineering Study Report Peer Review

Skills You Will Gain:

- Value Study Planning
- Function Analysis
- FAST Diagramming
- Value Index Analysis
- Creative Idea Generation
- Weighted Alternative Evaluation
- Life-Cycle Cost Modelling
- Workshop Facilitation

Why Attend This Course:

- Move value reviews away from late scope cutting towards function-based improvement that keeps performance intact
- Practise every job plan phase on a project case instead of reading about it
- Learn to defend proposals with life-cycle cost evidence that owners and designers can check
- Leave with a Value Engineering Study Report and implementation log that can be adapted for the next project

Conclusion:

Value engineering earns results when it is run as a disciplined study rather than a cost-cutting meeting. Over one week, participants move from value concepts and the job plan to function analysis, function-cost-worth, creative and evaluation techniques, life-cycle cost and workshop facilitation. The final day brings these together in a project case, where each participant completes a Value Engineering Study Report with ranked proposals and an implementation log, ready to guide value studies on buildings, infrastructure, facilities and industrial projects.