Strategic Value Engineering and Project Optimization Training Course

21 - 25 Dec 2026

Cape town

4600 € (Per Person)

Ref: #PRM3879_280752

Course Introduction / Overview:

This intensive training course provides a comprehensive framework for applying Value Engineering (VE) principles to achieve maximum project value and efficiency. It moves beyond traditional cost-cutting to a systematic, function-oriented methodology for optimizing projects, products, and processes. As pioneered by Lawrence D. Miles in his seminal work, "Techniques of Value Analysis and Engineering," the core of VE lies in improving value by examining function. This course, offered by BIG BEN Training Center, delves deep into the structured VE Job Plan, from information gathering and function analysis to creative solution generation and implementation. Participants will learn to identify and eliminate unnecessary costs without sacrificing quality, performance, or reliability. We will explore advanced techniques such as Function Analysis System Technique (FAST) diagramming and life cycle costing to ensure that decisions are based on a holistic view of a project's entire lifespan. The curriculum is designed to equip professionals with the skills to lead VE workshops, challenge existing specifications, and foster a culture of value-driven decision-making within their organizations, ensuring projects are delivered on time, within budget, and to the highest possible standard of performance and quality.

Target Audience / This training course is suitable for:

- Project Managers and Project Leaders.
- Engineers from all disciplines (Civil, Mechanical, Electrical, etc.).
- Cost Estimators and Quantity Surveyors.
- Procurement and Supply Chain Professionals.
- Architects and Designers.
- Operations and Production Managers.
- Quality Assurance and Control Specialists.
- Finance and Commercial Managers.
- Research and Development Team Members.
- Government Project Officers.

Target Sectors and Industries:

- Construction and Real Estate Development.
- Manufacturing and Industrial Production.
- Oil, Gas, and Energy Sector.
- Information Technology and Software Development.
- Aerospace and Defense.
- Healthcare and Pharmaceuticals.
- Transportation and Infrastructure.
- Governmental bodies and public sector agencies.
- Consulting and Professional Services.

Target Organizations Departments:

- Project Management Office (PMO).
- Engineering and Design Departments.
- Procurement and Contracts Departments.
- Finance and Cost Control Departments.
- Operations and Maintenance Departments.
- Capital Projects and Planning Divisions.
- Quality Management Departments.
- Research and Development (R&D).
- Strategic Planning Departments.

Course Offerings:

By the end of this course, the participants will have able to:

- Master the core principles and methodology of Value Engineering.
- Systematically apply the multi-phase Value Engineering Job Plan to any project.
- Conduct detailed Function Analysis to identify primary and secondary functions.
- Develop and interpret Function Analysis System Technique (FAST) diagrams.
- Lead creative brainstorming sessions to generate high-value alternative solutions.
- Perform comprehensive life cycle cost analysis for competing proposals.
- Evaluate and select the most viable, value-driven project alternatives.
- Develop compelling proposals to present VE recommendations to stakeholders.
- Integrate Value Engineering with risk management and quality assurance processes.
- Champion a culture of value improvement and strategic cost management.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply the learned concepts in their professional roles. This course moves beyond theoretical lectures to a hands-on, experiential learning environment. A significant portion of the training will be dedicated to real-world case studies and practical group exercises where participants will work in teams to conduct a complete Value Engineering study on a sample project. This collaborative problem-solving approach simulates an actual VE workshop, allowing attendees to practice facilitation, brainstorming, and evaluation techniques in a supportive setting. The instructor will act as a facilitator, guiding discussions, providing expert feedback, and sharing industry best practices. Interactive sessions, open Q&A forums, and peer-to-peer learning are central to our approach. We believe that by actively participating and applying the tools and techniques, delegates will achieve a deeper understanding and mastery of the Value Engineering process, transforming their ability to deliver optimized project outcomes.

Course Agenda (Course Units):

Unit One Introduction to Value Engineering and Value Management

- Fundamentals and History of Value Engineering.
- Key Terminology (Value, Function, Cost, Worth).
- The Difference Between Value Engineering and Cost Cutting.
- The Value Engineering Job Plan Overview.
- Integrating VE into the Project Management Lifecycle.
- Roles and Responsibilities of the VE Team.
- Identifying Projects with High Potential for Value Improvement.

Unit Two The Information and Function Analysis Phases

- The Information Phase and Data Gathering Techniques.
- Defining and Classifying Functions (Basic and Secondary).
- The Verb-Noun Technique for Defining Functions.
- Introduction to Function Analysis System Technique (FAST).
- Developing a Technical FAST Diagram.
- Developing a Customer-Oriented FAST Diagram.
- Costing Functions and Identifying High-Cost Areas.

Unit Three The Creative and Evaluation Phases

- The Creative Phase and Brainstorming Techniques.
- Rules for Effective Idea Generation.
- Challenging Assumptions and Overcoming Roadblocks.
- The Evaluation Phase and Developing Criteria.
- Techniques for Evaluating and Shortlisting Ideas (e.g., Weighted Analysis).
- Assessing Feasibility, Risk, and Acceptance of Alternatives.
- Refining and Grouping the Best Ideas for Further Development.

Unit Four The Development and Presentation Phases

- The Development Phase and Building Detailed Proposals.
- Conducting Life Cycle Costing (LCC) Analysis.
- Developing Implementation Plans for VE Proposals.
- Quantifying Potential Savings and Performance Improvements.
- The Presentation Phase and Communicating Recommendations.
- Preparing a Compelling VE Report and Executive Summary.
- Techniques for Gaining Stakeholder Buy-in and Approval.

Unit Five Implementation, Follow-up, and Advanced Applications

- The Implementation and Follow-up Phases.
- Monitoring the Implementation of Approved Changes.
- Auditing VE Results and Documenting Lessons Learned.
- Applying VE in Different Contexts (Products, Services, Processes).
- Integrating VE with Lean, Six Sigma, and Risk Management.
- Facilitating a Successful VE Workshop from Start to Finish.
- Course Review, Final Q&A, and Action Planning.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

Beyond direct cost savings, how can the systematic application of Value Engineering principles reshape an organization's culture towards continuous innovation and efficiency?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on Value Engineering as a strategic management discipline rather than merely a cost-reduction tool. While many programs cover the basic VE Job Plan, our curriculum emphasizes the integration of VE with modern project management frameworks and organizational strategy. We move beyond theory by immersing participants in a simulated VE workshop environment, using complex, real-world case studies that challenge them to apply function analysis and creative problem-solving in dynamic team settings. The course places a strong emphasis on life cycle costing and performance optimization, ensuring that participants learn to make decisions that enhance long-term value, sustainability, and quality, not just initial savings. Furthermore, a unique module is dedicated to the art of facilitation and stakeholder management, equipping attendees with the soft skills necessary to champion VE initiatives and drive cultural change within their organizations. The focus is on cultivating a mindset of value-driven innovation, enabling participants to become true agents of change who can systematically improve any project, process, or product they encounter.