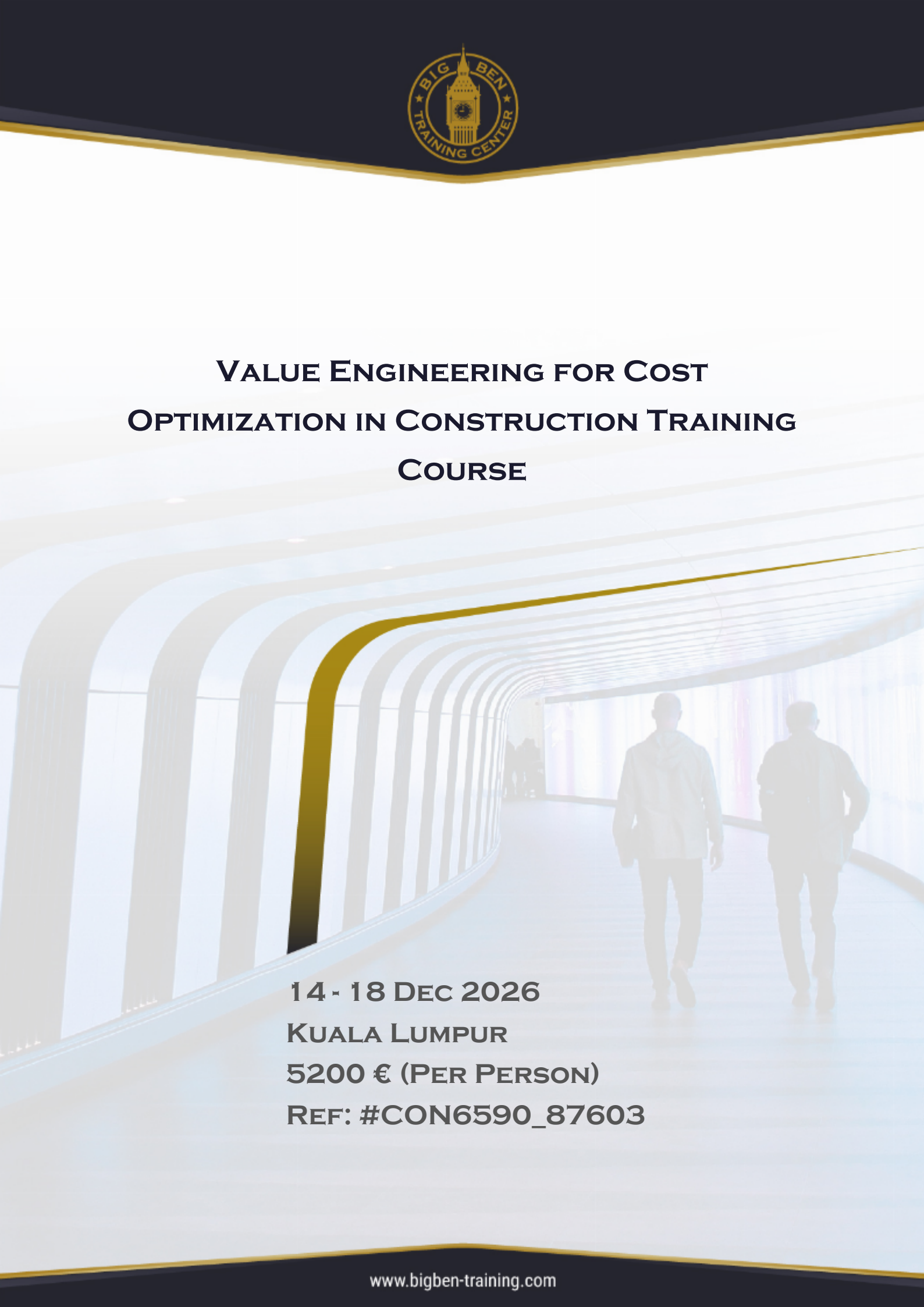
Value Engineering for Cost Optimization in Construction Training Course



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Kuala Lumpur

5200 € (Per Person)

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Course Introduction / Overview:

This intensive training course provides a comprehensive framework for implementing Value Engineering (VE) to achieve significant cost optimization and enhance value in construction projects. In an industry where budget overruns and inefficiencies are common, the systematic application of VE, also known as value methodology, is a critical competency for project success. This course moves beyond basic cost-cutting to a sophisticated analysis of function and value, ensuring that every project component delivers its intended purpose at the lowest possible life cycle cost. Drawing upon the foundational principles developed by the pioneer of the technique, Lawrence D. Miles, and detailed in works like his "Techniques of Value Analysis and Engineering," participants will learn to deconstruct project requirements, identify unnecessary costs, and innovate solutions that improve performance and financial outcomes. BIG BEN Training Center has designed this program to be highly practical, equipping professionals with the tools to lead VE workshops, conduct function analysis, and present compelling, data-driven proposals that drive strategic decisions and maximize project return on investment from inception to completion.

Target Audience / This training course is suitable for:

- Project Managers and Directors.
- Civil and Structural Engineers.
- Architects and Designers.
- Cost Estimators and Quantity Surveyors.
- Construction Managers and Site Supervisors.
- Procurement and Contracts Managers.
- Project Planners and Schedulers.
- Financial Analysts involved in capital projects.
- Facility Managers.
- Client Representatives and Project Owners.

Target Sectors and Industries:

- Construction and Engineering.
- Real Estate Development.
- Infrastructure and Public Works.
- Oil and Gas.
- Power and Utilities.

- Transportation and Logistics.
- Governmental agencies and Municipalities.
- Consulting and Project Management Firms.
- Manufacturing and Industrial Plant Construction.

Target Organizations Departments:

- Project Management Office (PMO).
- Engineering and Design.
- Procurement and Supply Chain Management.
- Finance and Cost Control.
- Contracts and Commercial Management.
- Operations and Maintenance.
- Planning and Development.
- Capital Projects.
- Quality Assurance and Control.

Course Offerings:

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

- Master the principles and systematic process of the Value Engineering Job Plan.
- Conduct a thorough Function Analysis using techniques like FAST diagramming.
- Identify and eliminate unnecessary costs without compromising quality or performance.
- Lead and facilitate creative brainstorming sessions to generate innovative, high-value alternatives.
- Perform Life Cycle Costing (LCC) to evaluate the long-term financial impact of design choices.
- Develop and present compelling Value Engineering Change Proposals (VECPs) to stakeholders.
- Integrate Value Engineering with other project management methodologies like BIM and Lean Construction.
- Analyze project specifications, drawings, and requirements from a value perspective.
- Quantify the potential savings and value improvements of proposed changes.
- Apply VE techniques to different project phases, from conceptual design to construction.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, practical, and highly interactive, ensuring that participants can immediately apply the learned concepts in their professional roles. This course rejects a purely theoretical approach, instead focusing on experiential learning through a blend of expert-led instruction, real-world construction project case studies, and hands-on workshops. Participants will work in teams to analyze actual project scenarios, conduct mock VE sessions, and develop solutions to complex cost and function challenges. The curriculum incorporates interactive exercises, group discussions, and problem-solving simulations that mirror the collaborative nature of a Value Engineering study. Our expert instructors facilitate a dynamic learning environment, providing continuous feedback and guiding participants through the intricacies of the VE Job Plan. This hands-on approach ensures

a deep understanding of the tools and techniques, building not just knowledge but also the confidence to lead value-driven initiatives and champion a culture of cost-consciousness and innovation within their organizations.

Course Agenda (Course Units):

Unit One: Fundamentals of Value Engineering in Construction

- Introduction to Value Engineering (VE) and Value Management.
- The history and evolution of the value methodology.
- Distinguishing between cost-cutting, cost reduction, and value engineering.
- The core principles of value and function.
- Understanding the SAVE International Value Standard and Body of Knowledge.
- The economic case for VE in the construction project lifecycle.
- Roles and responsibilities of the VE team and facilitator.

Unit Two: The VE Job Plan - Information and Function Analysis

- Overview of the multi-phase VE Job Plan.
- The Information Phase: gathering project data, constraints, and costs.
- Techniques for effective data collection and analysis.
- Introduction to Function Analysis System Technique (FAST).
- Defining and classifying functions (basic, secondary, aesthetic).
- Developing a technical and customer-focused FAST diagram.
- Costing functions and identifying high-cost, low-value areas.

Unit Three: The Creative and Evaluation Phases

- The Creative Phase: brainstorming techniques for generating alternatives.
- Overcoming roadblocks to creativity and fostering innovation.
- Structured idea generation methods (e.g., TRIZ, SCAMPER).
- The Evaluation Phase: criteria for assessing and shortlisting ideas.
- Techniques for qualitative and quantitative evaluation.
- Weighted evaluation matrices and decision analysis.
- Risk assessment of proposed alternatives.

Unit Four: The Development and Presentation Phases

- The Development Phase: transforming promising ideas into workable proposals.
- Conducting detailed technical and economic feasibility studies.
- Introduction to Life Cycle Costing (LCC) analysis.
- Calculating Net Present Value (NPV) and Return on Investment (ROI).
- The Presentation Phase: structuring a compelling VE proposal.
- Communicating findings effectively to management and stakeholders.
- Developing a clear and concise Value Engineering Change Proposal (VECP).

- The Implementation Phase: strategies for getting VE proposals approved and executed.
- Monitoring and tracking the results of implemented changes.
- Overcoming resistance to change in project teams and organizations.
- Integrating VE with Building Information Modeling (BIM) for enhanced analysis.
- Synergies between VE and Lean Construction principles.
- Applying VE in different procurement models (e.g., Design-Build, PPP).
- Workshop facilitation skills and leading a successful VE study.

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:

How can value engineering principles be adapted to prioritize not just initial cost reduction, but also long-term environmental sustainability and social impact in large-scale infrastructure projects?

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

This course distinguishes itself by moving beyond theoretical instruction to a deeply practical and industry-specific application of Value Engineering. While many programs cover the standard VE Job Plan, our curriculum is built around real-world construction case studies, from complex infrastructure projects to commercial buildings, allowing participants to grapple with the actual challenges they face professionally. We emphasize the integration of VE with contemporary project management tools and philosophies, such as Building Information Modeling (BIM) and Lean Construction, providing a holistic view of modern project value optimization. The training focuses heavily on the "how-to" aspects, dedicating significant time to hands-on workshops where participants build FAST diagrams, conduct life cycle cost analyses, and craft persuasive change proposals. Furthermore, the course content is designed to cultivate not just technical skills but also the critical thinking and facilitation capabilities required to lead a VE study, manage team dynamics, and effectively champion value-driven changes to senior management. This focus on practical application and integration ensures participants leave with actionable strategies, not just abstract knowledge.