Quality Management in Construction and Major Projects Training Course



23 - 27 Nov 2026

Madrid

5900 € (Per Person)

Ref: #QUA4819_137828

Course Introduction / Overview:

This course provides a comprehensive framework for implementing and managing quality throughout the entire lifecycle of construction and major projects. In an industry where the cost of poor quality can be catastrophic, mastering quality management is not just a competitive advantage but a necessity for safety, budget adherence, and long-term asset performance. This program moves beyond basic quality control checklists to instill a culture of quality excellence. Drawing on the foundational principles of Total Quality Management (TQM), as pioneered by experts like W. Edwards Deming in his seminal work "Out of the Crisis", participants will learn to proactively plan, assure, and control quality. We will explore the development of robust Quality Management Systems (QMS), the intricacies of site inspection and auditing, and the application of modern tools for defect prevention. BIG BEN Training Center has designed this curriculum to be intensely practical, focusing on real-world challenges from materials testing to supplier quality management and project handover. This training equips professionals with the skills to deliver projects that not only meet but exceed stakeholder expectations and regulatory standards, ensuring lasting value and reputation.

Target Audience / This training course is suitable for:

- Project Managers and Project Directors.
- Construction Managers and Site Superintendents.
- Quality Assurance and Quality Control Managers.
- Site Engineers and Field Engineers.
- Project Engineers and Civil Engineers.
- Architects and Design Managers.
- Procurement and Contract Managers.
- Health, Safety, and Environment (HSE) Officers.
- Project Planners and Cost Controllers.
- Client Representatives and Project Owners.

Target Sectors and Industries:

- Residential and Commercial Construction.
- Infrastructure and Civil Engineering.
- Oil and Gas Projects.
- Power Generation and Utilities.
- Real Estate Development.
- Transportation and Logistics.
- Manufacturing and Industrial Plant Construction.
- Governmental bodies and Public Works Agencies.
- Consulting and Project Management Firms.

Target Organizations Departments:

- Project Management Office (PMO).
- Engineering and Design.
- Quality Assurance / Quality Control (QA/QC).
- Operations and Site Management.
- Procurement and Supply Chain.
- Contracts and Legal.
- Health, Safety, and Environment (HSE).
- Planning and Cost Control.
- Facilities Management.

Course Offerings:

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

- Develop and implement a comprehensive Project Quality Management Plan (QMP).
- Differentiate between Quality Assurance (QA) and Quality Control (QC) and apply both effectively.
- Conduct effective site inspections, material testing, and quality audits.
- Master the tools and techniques for root cause analysis of quality non-conformance.
- Implement corrective and preventive action (CAPA) plans to mitigate defects.
- Integrate quality management with project scheduling, cost, and safety protocols.
- Manage supplier and subcontractor quality to ensure compliance with project specifications.
- Utilize digital tools and technologies like BIM for enhanced quality control.
- Lead the development of a proactive quality culture within project teams.
- Manage project closeout and handover processes to ensure final quality acceptance.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to foster a dynamic and engaging learning environment that bridges theory with practical application. This course heavily emphasizes experiential learning through a blend of interactive lectures, in-depth case study analyses of major international construction projects, and collaborative group workshops. Participants will not just listen to concepts; they will actively engage with them by developing sample Quality Management Plans, simulating site inspection scenarios, and conducting root cause analysis exercises on real-world problems. The curriculum incorporates facilitated discussions, allowing professionals to share their experiences and learn from the diverse perspectives within the group. We utilize a variety of learning aids, including process flowcharts, quality control checklists, and video demonstrations of material testing. Direct feedback from the instructor is a cornerstone of our approach, ensuring that participants can refine their understanding and skills in real-time. This hands-on, participant-centered methodology ensures that attendees leave with tangible skills and actionable strategies they can immediately implement in their own projects.

Course Agenda (Course Units):

Unit One: Foundations of Construction Quality Management

- Introduction to Quality in the Construction Industry.
- The Cost of Poor Quality (COPQ) in Major Projects.
- Understanding the Key Pillars: Quality Planning, Assurance, and Control.
- Exploring Total Quality Management (TQM) Principles by W. Edwards Deming.
- Introduction to ISO 9001 and its application in construction.
- Roles and Responsibilities for Quality within a Project Team.
- Establishing a Project-Wide Quality Culture.

Unit Two: Strategic Quality Planning and System Development

- Developing a Comprehensive Project Quality Management Plan (QMP).
- Defining Quality Objectives, Standards, and Specifications.
- Integrating Quality Planning with Scope, Time, and Cost Baselines.
- Conducting Quality Risk Assessment and Mitigation Planning.
- Supplier and Subcontractor Prequalification and Selection Criteria.
- Establishing Key Performance Indicators (KPIs) for Quality.
- Documentation and Record-Keeping for Quality Management Systems (QMS).

Unit Three: Implementing Quality Control on Site

- Techniques for Effective Site Inspection and Surveillance.
- Developing and Using Inspection and Test Plans (ITPs).
- Managing Material Receiving, Storage, and Traceability.
- Conducting and Interpreting Material and System Tests.
- Statistical Process Control (SPC) in Construction Activities.
- Utilizing Quality Control Checklists and Forms.
- Managing Non-Conformance Reports (NCRs) and Disposition.

Unit Four: Quality Assurance, Auditing, and Continuous Improvement

- The Role of Quality Assurance in Verifying Process Effectiveness.
- Planning and Conducting Internal and External Quality Audits.
- Techniques for Root Cause Analysis (RCA) of Defects.
- Implementing Effective Corrective and Preventive Actions (CAPA).
- Introduction to Lean Construction Principles for Waste Reduction.
- Applying Six Sigma Concepts to Improve Construction Processes.
- Benchmarking and Learning from Industry Best Practices.

Unit Five: Advanced Quality Topics and Project Closeout

- Leveraging Technology: BIM and Drones in Quality Management.
- Managing Stakeholder Expectations and Communication for Quality.
- Quality Considerations in Health, Safety, and Environmental (HSE) Management.
- The Quality Management Role in Project Handover and Commissioning.
- As-Built Documentation and Final Quality Dossier Compilation.
- Conducting Post-Project Reviews and Capturing Lessons Learned.
- Sustaining a Culture of Continuous Quality Improvement Beyond Project Completion.

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 a proactive quality culture be embedded within a project team to prevent defects, rather than just detecting them through inspection?

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

This course distinguishes itself by adopting a holistic, lifecycle approach to construction quality, moving far beyond the conventional focus on site-level inspection and control. While other programs may concentrate on specific tools or standards, this curriculum integrates quality management into every phase of the project, from initial planning and design to final handover and lessons learned. Its unique strength lies in its emphasis on creating a proactive quality culture, drawing from established TQM philosophies to empower teams to prevent defects rather than simply react to them. The content is deeply practical, built around real-world case studies of both landmark successes and cautionary failures in major international projects. This allows participants to analyze complex scenarios and understand the direct link between quality decisions and project outcomes like budget, schedule, and safety. Furthermore, the course addresses contemporary challenges and innovations, including the integration of digital technologies like BIM and the application of Lean principles to reduce waste and enhance value, ensuring the skills taught are not only foundational but also forward-looking and immediately applicable in the modern construction landscape.