Training Course on Quality Assurance and Quality Control in Construction

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In the dynamic and highly regulated **construction industry**, ensuring the structural integrity, safety, and longevity of projects is paramount. This necessitates a robust framework encompassing both **Quality Assurance (QA)** and **Quality Control (QC)**. This training course provides a comprehensive understanding of these critical disciplines, equipping professionals with the knowledge and skills to implement effective **quality management systems**. By focusing on proactive **QA processes** and rigorous **QC techniques**, participants will learn how to minimize defects, optimize resource utilization, and ultimately deliver projects that meet and exceed stakeholder expectations. This course delves into industry best practices, relevant standards, and practical application through real-world case studies, fostering a culture of **continuous improvement** and **excellence in construction**.

Training Course on Quality Assurance and Quality Control in Construction is designed to empower individuals and organizations to elevate their approach to **construction quality**. Participants will gain mastery in developing and implementing **quality plans**, conducting thorough **inspections and testing**, managing **non-conformities**, and driving a proactive **preventive action** mindset. The curriculum emphasizes the importance of **stakeholder satisfaction**, adherence to **regulatory compliance**, and the economic benefits of investing in robust **quality control measures**. By the end of this course, attendees will be proficient in utilizing various **quality assurance tools** and **quality control methodologies** to ensure the delivery of high-quality construction projects, contributing to enhanced reputation and sustainable growth within the **built environment**.

Programme Curriculum

Training Course on Quality Assurance and Quality Control in Construction

Introduction

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Course Duration

10 days

Course Objectives

Upon completion of this training course, participants will be able to:

1. Understand the fundamental principles and importance of **Quality Assurance in Construction**.
2. Differentiate between **Quality Assurance (QA)** and **Quality Control (QC)** processes in construction projects.
3. Develop and implement effective **Quality Management Systems (QMS)** for construction organizations.
4. Interpret and apply relevant **construction industry standards and regulations**.
5. Create comprehensive **Quality Control Plans (QCP)** tailored to specific construction projects.
6. Conduct thorough **inspections and testing procedures** at various stages of construction.
7. Identify, document, and manage **non-conformities and defects** effectively.
8. Implement **corrective and preventive actions (CAPA)** to address quality issues.
9. Utilize various **quality assurance tools and techniques** for process improvement.
10. Understand the role of **documentation and record-keeping** in quality management.
11. Apply principles of **statistical quality control** to monitor and analyze construction quality data.
12. Foster a culture of **quality awareness and continuous improvement** within construction teams.
13. Understand the impact of **quality on project cost, schedule, and stakeholder satisfaction**.

Organizational Benefits

- Proactive QA and QC minimize costly errors.
- Streamlined processes and fewer delays due to quality issues.

- Consistent delivery of high-quality projects builds trust.
- Adherence to standards avoids penalties and legal issues.
- A track record of quality attracts more clients.
- Reduced costs associated with poor quality directly impact the bottom line.
- A shared understanding of quality goals fosters better teamwork.
- Embedding quality principles into daily operations.

Target Audience

1. Construction Project Managers
2. Site Engineers and Supervisors
3. Quality Assurance Managers and Engineers
4. Quality Control Inspectors
5. Civil Engineers
6. Architects
7. Contractors and Subcontractors
8. Government and Regulatory Officials involved in construction

Course Outline

Module 1: Fundamentals of Quality in Construction

- Defining Quality in the Construction Context
- The Importance of Quality Assurance and Quality Control
- Evolution of Quality Management Principles
- Cost of Poor Quality (COPQ) and its Impact
- Introduction to Relevant Standards and Regulations (e.g., ISO 9001, local building codes)
- **Case Study:** Analysis of a project where poor quality led to significant cost overruns and delays.

Module 2: Quality Assurance Principles and Practices

- Developing a Quality Assurance Framework
- Establishing Quality Policies and Objectives
- The Role of Management in Quality Assurance
- Process Approach to Quality Management
- Documentation and Record Control in QA
- **Case Study:** Examination of a construction company that successfully implemented a robust QA framework.

Module 3: Quality Control Methodologies and Techniques

- Developing and Implementing Quality Control Plans (QCPs)
- Inspection and Testing Procedures: Types and Techniques
- Acceptance Criteria and Sampling Methods
- Use of Checklists and Control Charts
- Understanding Non-Destructive Testing (NDT) Methods
- **Case Study:** Review of different QC methodologies applied to a specific construction phase (e.g., concrete pouring).

Module 4: Inspections and Testing in Construction

- Pre-Construction Inspections and Material Verification
- In-Process Inspections: Monitoring Key Activities

- Final Inspections and Snagging Procedures
- Third-Party Inspections and Audits
- Reporting and Documentation of Inspection Results
- **Case Study:** Analysis of a critical inspection point in a high-rise building project and its outcome.

Module 5: Managing Non-Conformities and Corrective Actions

- Identification and Documentation of Non-Conformities
- Root Cause Analysis Techniques (e.g., 5 Whys, Fishbone Diagram)
- Developing and Implementing Corrective Actions
- Verification and Validation of Corrective Actions
- Preventive Actions to Avoid Recurrence
- **Case Study:** Examination of how a non-conformity was effectively managed and resolved on a bridge construction project.

Module 6: Statistical Quality Control in Construction

- Basic Statistical Concepts for Quality Control
- Understanding Variation and Process Control
- Use of Control Charts for Monitoring Construction Processes
- Data Collection and Analysis for Quality Improvement
- Applying Statistical Tools for Decision Making
- **Case Study:** Application of control charts to monitor concrete strength during a large infrastructure project.

Module 7: Quality Audits in Construction

- Types of Quality Audits (Internal and External)
- Planning and Preparing for Quality Audits
- Conducting Audit Activities and Gathering Evidence
- Documenting Audit Findings and Reporting
- Follow-up and Closure of Audit Findings
- **Case Study:** Review of the process and outcomes of an external quality audit on a major airport expansion project.

Module 8: Documentation and Record Keeping for Quality

- Importance of Accurate and Traceable Documentation
- Types of Quality Records in Construction
- Document Control Procedures and Best Practices
- Electronic Document Management Systems (EDMS) in Construction
- Legal and Regulatory Requirements for Documentation
- **Case Study:** Analysis of a legal dispute where proper documentation played a crucial role in the outcome.

Module 9: Quality Assurance in Design and Procurement

- Ensuring Quality in the Design Phase
- Design Reviews and Verification Processes
- Supplier Evaluation and Selection for Quality
- Procurement Quality Control Measures
- Managing Quality of Purchased Materials and Components

- **Case Study:** Examination of how quality was ensured during the design and procurement phases of a sustainable building project.

Module 10: Quality Control in Specific Construction Trades

- Quality Requirements for Concrete Works
- Quality Control for Steel Structures
- Quality Assurance in Masonry Construction
- Quality Standards for Electrical and Mechanical Installations
- Quality Checks for Finishing Works (e.g., painting, flooring)
- **Case Study:** In-depth look at the specific quality control measures for a complex steel erection project.

Module 11: Continuous Improvement in Construction Quality

- Principles of Continuous Improvement (e.g., PDCA Cycle, Kaizen)
- Identifying Opportunities for Improvement
- Implementing Improvement Initiatives
- Monitoring and Measuring the Impact of Improvements
- Benchmarking and Best Practices in Construction Quality
- **Case Study:** Review of a construction company that successfully implemented a continuous improvement program.

Module 12: Human Factors and Quality Culture

- The Role of Human Error in Quality Issues
- Promoting a Culture of Quality Awareness
- Communication and Collaboration for Quality
- Training and Competence Development
- Motivation and Recognition for Quality Performance
- **Case Study:** Analysis of how a strong quality culture contributed to the success of a challenging infrastructure project.

Module 13: Technology and Innovation in Construction Quality Management

- Use of BIM (Building Information Modeling) for Quality Assurance
- Mobile Applications for Inspections and Reporting
- Drones and Robotics for Quality Monitoring
- Data Analytics for Quality Improvement
- Emerging Technologies in Construction Quality
- **Case Study:** Examination of how BIM was used to identify and resolve potential quality issues before construction began.

Module 14: Legal and Ethical Aspects of Construction Quality

- Understanding Contractual Obligations Related to Quality
- Liability for Defects and Failures
- Ethical Considerations in Quality Management
- Warranty and Guarantee Provisions
- Dispute Resolution Related to Quality Issues
- **Case Study:** Analysis of a legal case involving a dispute over construction quality and its implications.

Module 15: Future Trends in Construction Quality Management

- Increased Focus on Sustainability and Quality
- Integration of Digital Technologies for Enhanced Quality
- Predictive Quality Analytics
- Modular Construction and Quality Assurance
- The Role of AI and Machine Learning in Quality Control
- **Case Study:** Discussion on the potential impact of AI-driven quality control in future construction projects.

Training Methodology

This training course will employ a blended learning approach, incorporating:

- **Interactive lectures and presentations:** Covering theoretical concepts and best practices.
- **Group discussions and collaborative exercises:** Facilitating peer learning and knowledge sharing.
- **Practical case studies and real-world examples:** Illustrating the application of QA/QC principles.
- **Individual and group assignments:** Reinforcing learning and developing practical skills.
- **Quizzes and assessments:** Evaluating understanding and knowledge retention.
- **Optional site visits (if feasible):** Providing hands-on exposure to quality practices on construction sites.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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