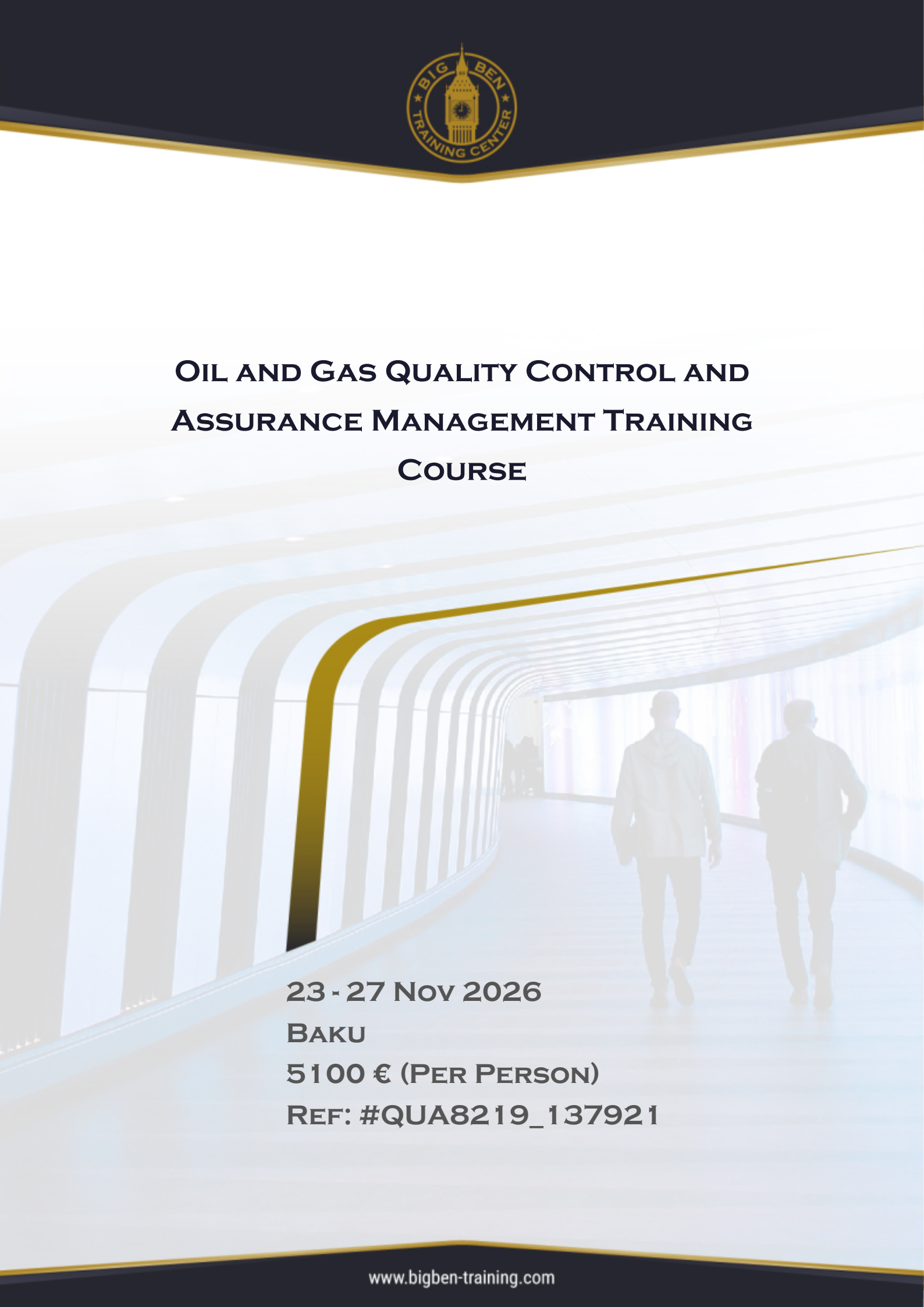
Oil and Gas Quality Control and Assurance Management Training Course



23 - 27 Nov 2026

Baku

5100 € (Per Person)

Ref: #QUA8219_137921

Course Introduction / Overview:

This comprehensive training course provides an in-depth exploration of Quality Control (QC) and Quality Assurance (QA) principles specifically tailored for the high-stakes environment of the oil, gas, and petrochemical industries. In a sector where safety, reliability, and regulatory compliance are paramount, a robust Quality Management System (QMS) is not just a preference but a critical necessity. This program, offered by BIG BEN Training Center, is designed to equip professionals with the essential skills to implement, manage, and continuously improve quality systems that meet stringent international standards such as ISO 9001 and American Petroleum Institute (API) specifications. The curriculum delves into the practical application of quality tools and techniques across the entire project lifecycle, from design and procurement to commissioning and operations. Drawing upon the foundational principles of quality pioneers like Joseph M. Juran and his "Quality Trilogy" of planning, control, and improvement, the course bridges theory with real-world application. Participants will gain a holistic understanding of how to mitigate risks, reduce costly errors, and enhance operational excellence, concepts further explored in texts like the "Oil and Gas Production Handbook". This training is your definitive guide to mastering quality management within this demanding and dynamic industry.

Target Audience / This training course is suitable for:

- Quality Assurance and Quality Control Managers.
- Project Engineers and Managers.
- Inspection and Testing Personnel.
- Production and Operations Supervisors.
- HSE Professionals.
- Procurement and Supply Chain Specialists.
- Design and Engineering Professionals.
- Regulatory Compliance Officers.
- Maintenance and Reliability Engineers.
- Drilling and Completion Engineers.

Target Sectors and Industries:

- Upstream Oil and Gas Exploration and Production.
- Midstream Transportation, Storage, and Pipelines.
- Downstream Refining and Petrochemical Plants.
- Engineering, Procurement, and Construction (EPC) Companies.
- Oilfield Service Companies.
- Manufacturing of Oil and Gas Equipment.
- Governmental bodies and regulatory agencies.
- Marine and Offshore Engineering.

Target Organizations Departments:

- Quality Assurance / Quality Control (QA/QC).
- Project Management.
- Operations and Production.
- Engineering and Design.
- Health, Safety, and Environment (HSE).
- Procurement and Supply Chain Management.
- Maintenance and Asset Integrity.
- Contracts and Tendering.

Course Offerings:

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

- Develop and implement a robust Quality Management System (QMS) compliant with ISO 9001 and API standards.
- Apply advanced quality control tools and statistical process control (SPC) techniques.
- Conduct effective root cause analysis (RCA) for non-conformances and incidents.
- Manage quality assurance throughout the entire project lifecycle, from design to commissioning.
- Oversee inspection and testing activities, including non-destructive testing (NDT) methods.
- Audit quality systems effectively to ensure compliance and drive continuous improvement.
- Integrate quality management with Health, Safety, and Environment (HSE) systems.
- Manage supplier and contractor quality to ensure supply chain integrity.
- Implement risk-based inspection (RBI) and asset integrity management programs.
- Foster a proactive quality culture within their teams and organization.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to foster a dynamic and engaging learning environment that goes beyond traditional lectures. This course utilizes a blended approach, combining expert-led instruction with interactive learning modules to ensure maximum knowledge retention and practical application. Participants will engage in detailed case studies derived from real-world incidents and successes within the oil, gas, and petrochemical sectors, allowing them to analyze complex scenarios and develop effective solutions. Group discussions and team-based exercises will be central to the learning process, encouraging collaborative problem-solving and the sharing of diverse industry experiences. Practical workshops will provide hands-on experience with key quality tools and documentation, such as creating control plans and conducting mock audits. The facilitator will provide continuous feedback and guide participants through complex topics, ensuring a deep understanding of industry best practices and international standards. This immersive and participant-centered approach ensures that attendees leave not just with theoretical knowledge, but with the confidence and skills to apply what they have learned directly in their professional roles.

Course Agenda (Course Units):

Unit One: Foundations of Quality Management in the Oil and Gas Industry

- Introduction to Quality Assurance (QA) and Quality Control (QC).
- The evolution of quality management and key quality gurus.
- Understanding ISO 9001:2015 requirements for a Quality Management System (QMS).
- Overview of key industry-specific standards (API, ASME, ASTM).
- The critical role of quality in Health, Safety, and Environment (HSE) performance.
- Defining quality policy, objectives, and the cost of poor quality.
- The structure and documentation of a modern QMS.

Unit Two: Quality Assurance and Control Tools and Techniques

- Statistical Process Control (SPC) for monitoring and controlling processes.
- Root Cause Analysis (RCA) methodologies (5 Whys, Fishbone Diagram).
- Failure Mode and Effects Analysis (FMEA) for proactive risk mitigation.
- The 7 QC Tools for problem-solving and data analysis.
- Process mapping and flowcharting for operational clarity.
- Developing effective inspection and test plans (ITPs).
- Managing non-conformances, corrective actions, and preventive actions.

Unit Three: Inspection, Testing, and Material Control

- Principles of inspection and the role of the inspector.
- Overview of Non-Destructive Testing (NDT) methods (UT, MT, PT, RT, VT).
- Welding inspection standards and welder qualification (ASME IX, API 1104).
- Material identification, traceability, and certification requirements.
- Calibration and control of monitoring and measuring equipment.
- Pressure testing procedures and safety protocols.
- Understanding and interpreting technical drawings and specifications.

Unit Four: Quality Management Across the Project Lifecycle

- QA/QC in the engineering and design phase.
- Supplier evaluation, selection, and quality management.
- Quality control during procurement and fabrication.
- Managing quality during construction, installation, and commissioning.
- Project quality planning and execution strategies.
- The role of third-party inspection (TPI) agencies.
- Final documentation, handover, and project close-out requirements.

Unit Five: Auditing, Continuous Improvement, and Quality Culture

- Principles of auditing based on ISO 19011 guidelines.
- Planning and conducting internal and external quality audits.
- Reporting audit findings and managing follow-up actions.
- Implementing a Risk-Based Inspection (RBI) program.
- Introduction to Asset Integrity Management (AIM).
- Leadership's role in fostering a world-class quality culture.
- Metrics, KPIs, and management review for continuous improvement.

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 organizations in the oil and gas sector transition from a reactive quality control mindset to a proactive, predictive quality assurance culture to prevent failures before they occur?

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

This training course distinguishes itself by moving beyond generic quality management theories to provide a specialized, in-depth focus on the unique challenges and high-consequence environments of the oil, gas, and petrochemical industries. Unlike generalist courses, every module, case study, and discussion is framed within the context of industry-specific standards such as API, ASME, and NACE, ensuring direct relevance and applicability for participants. The curriculum is meticulously structured to address the entire asset lifecycle, from the quality considerations in upstream exploration and design to the complexities of asset integrity management in downstream operations. A significant differentiator is the course's emphasis on integrating quality management with process safety and HSE, a critical nexus in high-hazard industries. We focus on proactive and predictive strategies, such as Risk-Based Inspection (RBI) and Failure Mode and Effects Analysis (FMEA), rather than just reactive control measures. The course fosters a deep academic understanding of not just the "what" but the "why" behind quality principles, empowering professionals to become true leaders who can champion and cultivate a sustainable quality culture within their organizations, ultimately driving operational excellence and safeguarding personnel, assets, and the environment.