Petroleum Products Testing and Quality Control Training Course

OGT-1096 · 5 days · 15 CPD hours · English

OVERVIEW

The Petroleum Products Testing and Quality Control Training Course provides comprehensive professional training in the analytical methods, laboratory procedures and quality management practices used to evaluate petroleum products and verify their compliance with industry standards. In the oil and gas industry, reliable petroleum products testing is essential for ensuring product integrity, maintaining operational efficiency, meeting fuel specifications, supporting commercial transactions and protecting equipment and end users from the consequences of substandard fuel quality.

This professional training course explores the principles and practices of petroleum product analysis, covering the testing of gasoline, diesel, kerosene, jet fuel, lubricants, fuel oils and other refined petroleum products. Participants develop an understanding of ASTM methods, laboratory analysis techniques, sampling procedures, test result interpretation and quality assurance practices used in petroleum laboratories, refineries, storage terminals, fuel distribution facilities and inspection organisations.

As product specifications, regulatory requirements and customer expectations continue to evolve, petroleum laboratories must deliver accurate, consistent, traceable and defensible analytical results. This course examines the relationship between product specifications, test methods, laboratory performance, sample integrity and quality control, enabling participants to understand how testing results support product release, blending operations, troubleshooting and quality management decisions.

Delivered within the **Quality Control and Product Analysis for Oil & Gas** category, the programme combines technical instruction with practical exercises, analytical scenarios and industry-based case studies. Participants explore the application of ASTM methods, measurement principles, testing equipment, laboratory documentation, analytical precision, repeatability, reproducibility and quality assurance procedures to strengthen the reliability of laboratory operations.

The Petroleum Products Testing and Quality Control Training Course offered by the **Oil & Gas Training Institute** is designed to help professionals develop the technical knowledge and practical competencies required to assess petroleum product quality, identify analytical inconsistencies, investigate quality deviations and implement effective laboratory quality control practices.

By the end of the training, participants will be better equipped to apply appropriate testing methodologies, evaluate laboratory data, support compliance with fuel specifications and contribute to the continuous improvement of petroleum testing and quality control systems.

OBJECTIVES

By completing this course, participants will be able to:

- Explain the fundamental properties, characteristics and quality requirements of petroleum products, including gasoline, diesel, aviation fuels, lubricants and fuel oils.
- Identify relevant ASTM methods, industry standards and fuel specifications applicable to petroleum product testing and quality evaluation.
- Apply appropriate sampling procedures, sample handling, preservation, identification and preparation techniques to maintain sample integrity.
- Evaluate the principles, applications and limitations of laboratory analytical techniques used for petroleum products testing.
- Interpret test results relating to physical, chemical and performance properties of petroleum fuels and refined products.
- Assess laboratory equipment, calibration practices, measurement uncertainty and analytical performance to support reliable testing outcomes.
- Implement quality assurance procedures, quality control checks, control charts and laboratory documentation practices.
- Investigate laboratory deviations, out-of-specification results, analytical discrepancies and potential sources of testing errors.
- Evaluate petroleum laboratory quality management practices against relevant industry requirements and recognised laboratory quality principles.
- Develop practical recommendations for improving laboratory efficiency, testing reliability, product quality assurance and compliance management.

TRAINING METHODOLOGY

The Petroleum Products Testing and Quality Control Training Course adopts a practical, analytical and interactive learning approach designed to develop technical understanding and workplace application. The programme combines structured instruction with petroleum testing scenarios, laboratory quality control discussions, industry case studies and problem-solving exercises.

Interactive Presentations and Technical Discussions

Participants explore petroleum product characteristics, test methodologies, quality specifications and laboratory testing principles through instructor-led presentations. Discussions focus on the practical significance of test results, laboratory responsibilities and the role of petroleum testing in refining, distribution and product quality management.

ASTM Method-Based Learning

The course introduces participants to the structure, purpose and application of relevant ASTM test methods. Learning activities help participants understand how standardised testing procedures support consistency, comparability, repeatability and reliable product quality assessment.

Practical Analytical Exercises

Participants engage in exercises involving petroleum product test data, laboratory measurements, specification limits, analytical calculations and result interpretation. Activities are designed to strengthen the ability to evaluate test outcomes and identify inconsistencies in laboratory data.

Case Studies and Industry Scenarios

Realistic scenarios involving fuel quality deviations, contamination concerns, laboratory errors, specification failures and sampling inconsistencies help participants apply technical knowledge to workplace challenges. Case studies explore how testing results can influence product acceptance, rejection, blending decisions and operational responses.

Quality Assurance Workshops

Participants examine laboratory quality assurance systems, calibration records, control samples, testing precision, quality control charts and documentation practices. Workshop activities focus on improving analytical reliability and strengthening laboratory quality management.

Collaborative Learning and Experience Sharing

Group discussions and technical exchanges encourage participants to share laboratory practices, industry challenges, testing experiences and improvement approaches. Collaborative activities support the development of practical solutions to common petroleum testing and quality control problems.

Problem-Solving and Improvement Exercises

Participants work through structured exercises involving out-of-specification results, conflicting analytical data, equipment performance concerns and procedural deviations. These activities encourage systematic investigation, corrective action planning and continuous improvement.

ORGANISATIONAL IMPACT

The Petroleum Products Testing and Quality Control Training Course supports organisations in strengthening laboratory performance, product quality assurance, operational reliability and compliance with petroleum industry requirements. Accurate testing and effective quality control systems are critical to maintaining product consistency, reducing commercial risks and supporting efficient oil and gas operations.

Improved Product Quality and Specification Compliance

Organisations can strengthen their ability to verify petroleum product characteristics against established fuel specifications, customer requirements and applicable standards. Improved testing practices support more consistent product quality, reduce the likelihood of specification failures and help maintain confidence in products delivered to customers.

Greater Laboratory Reliability and Efficiency

Developing personnel competency in laboratory analysis, testing procedures, equipment performance and quality control helps improve laboratory efficiency. Organisations can benefit from more consistent testing workflows, fewer avoidable analytical errors, better utilisation of laboratory resources and more effective management of laboratory workloads.

Reduced Operational and Commercial Risks

Reliable petroleum products testing helps identify contamination, product deterioration, blending inconsistencies and specification deviations before products are released, transferred or delivered. This contributes to reducing the risk of rejected shipments, customer disputes, reprocessing costs, operational disruptions and commercial losses.

Strengthened Quality Assurance and Audit Readiness

The course supports improved laboratory quality assurance through better documentation, sample traceability, calibration management, analytical verification, control testing and investigation of deviations. These capabilities help organisations prepare for internal audits, customer assessments and applicable regulatory or quality management reviews.

Better Decision-Making Through Reliable Data

Accurate and properly interpreted laboratory results provide a foundation for product acceptance, blending adjustments, storage management, process monitoring and operational decision-making. The training helps laboratory personnel communicate technical findings more effectively to operational, commercial and management teams.

Enhanced Risk Management and Continuous Improvement

Organisations can strengthen their approach to identifying laboratory risks, assessing testing inconsistencies and implementing corrective actions. The course encourages the development of systematic quality improvement practices that support reliable analytical performance and reduce recurring laboratory problems.

Stronger Technical Capability Across Teams

By developing a shared understanding of testing methods, fuel specifications, analytical reliability and quality assurance, the programme supports collaboration between laboratory personnel, refinery operations, inspection teams, terminal staff, quality managers and other stakeholders involved in petroleum product quality management.

PERSONAL IMPACT

Attending the Petroleum Products Testing and Quality Control Training Course helps participants develop technical expertise, analytical confidence and professional competence in petroleum product quality assessment.

Enhanced Petroleum Testing Expertise

Participants gain a deeper understanding of petroleum product properties, testing methodologies, ASTM methods and fuel specifications. This knowledge strengthens their ability to work with laboratory procedures, technical standards and product quality requirements.

Improved Analytical and Interpretive Skills

The training develops the ability to analyse laboratory data, identify inconsistencies, evaluate specification limits and understand the significance of analytical results. Participants can improve their approach to technical problem-solving and laboratory investigations.

Greater Confidence in Laboratory Responsibilities

Participants develop a clearer understanding of sampling, testing, equipment calibration, quality control, documentation and result verification. This supports greater confidence when performing laboratory duties, reviewing analytical results and communicating findings.

Better Problem-Solving Capabilities

Through practical scenarios and case studies, participants strengthen their ability to investigate testing errors, evaluate out-of-specification results, identify root causes and recommend appropriate corrective actions.

Improved Professional Decision-Making

Participants learn how laboratory results relate to product quality, commercial acceptance, operational processes and compliance requirements. This helps them make more informed technical decisions within their areas of responsibility.

Career Development and Professional Growth

The course strengthens professional knowledge for individuals working in petroleum laboratories, refinery quality control, fuel inspection, product certification, technical services and quality management. The competencies developed can support career progression into senior laboratory, quality assurance, technical supervision and laboratory management roles.

WHO SHOULD ATTEND

The Petroleum Products Testing and Quality Control Training Course is designed for professionals involved in petroleum laboratory testing, product analysis, quality control, inspection, fuel specification management and laboratory quality assurance.

- **Petroleum Laboratory Analysts and Technicians:** Professionals responsible for performing petroleum product testing, analysing samples, recording laboratory results and maintaining testing equipment.

- **Laboratory Supervisors and Managers:** Personnel overseeing laboratory operations, testing schedules, analytical performance, equipment management, documentation and quality assurance systems.
- **Quality Control and Quality Assurance Engineers:** Professionals responsible for monitoring product quality, implementing control procedures, investigating deviations and maintaining quality management systems.
- **Refinery Process and Operations Engineers:** Engineers seeking to understand how petroleum testing results support refining operations, product blending, process monitoring and product release.
- **Fuel Inspection and Testing Professionals:** Inspectors and specialists involved in product verification, sampling, cargo inspection, fuel quality assessment and commercial testing.
- **Petroleum Product Blending Specialists:** Professionals involved in blending operations, specification compliance, formulation adjustments and final product quality verification.
- **Terminal, Storage and Distribution Personnel:** Professionals responsible for fuel handling, storage, transfer, product acceptance, contamination prevention and quality monitoring.
- **Technical and Laboratory Consultants:** Consultants advising petroleum companies, laboratories, inspection organisations and fuel suppliers on analytical practices and quality control systems.
- **Chemical Engineers and Chemists:** Technical professionals working with petroleum product properties, analytical chemistry, fuel performance and laboratory testing methodologies.
- **Procurement, Trading and Product Assurance Professionals:** Individuals involved in petroleum product acceptance, commercial specifications, quality documentation and product verification.
- **Laboratory Quality and Compliance Auditors:** Professionals assessing laboratory procedures, testing records, quality assurance practices, analytical reliability and compliance with relevant standards.
- **Oil and Gas Professionals Seeking Technical Advancement:** Individuals seeking to develop specialist knowledge in petroleum product testing, laboratory quality control and product analysis.

COURSE OUTLINE

Fundamentals of Petroleum Products and Quality Specifications

Sampling Procedures, Test Methods and Physical Property Analysis

Chemical Analysis and Performance Testing of Petroleum Products

Laboratory Quality Assurance, Analytical Reliability and Compliance

Test Result Interpretation, Troubleshooting and Quality Improvement

SCHEDULED DATES

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Abu Dhabi, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Abuja, Nigeria	In person	On request
25 - 29 Jan 2027	Accra, Ghana	In person	On request
25 - 29 Jan 2027	Addis Ababa, Ethiopia	In person	On request
25 - 29 Jan 2027	Al Ain, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Al Khobar, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Alberta, Canada	In person	On request
25 - 29 Jan 2027	AlUla, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Amman, Jordan	In person	On request
25 - 29 Jan 2027	Amsterdam, The Netherlands	In person	On request
25 - 29 Jan 2027	Athens, Greece	In person	On request
25 - 29 Jan 2027	Baku, Azerbaijan	In person	On request
25 - 29 Jan 2027	Barcelona, Spain	In person	On request
25 - 29 Jan 2027	Berlin, Germany	In person	On request
25 - 29 Jan 2027	Boston, USA	In person	On request
25 - 29 Jan 2027	Brussels, Belgium	In person	On request
25 - 29 Jan 2027	Budapest, Hungary	In person	On request
25 - 29 Jan 2027	Cairo, Egypt	In person	On request
25 - 29 Jan 2027	Cape Town, South Africa	In person	On request
25 - 29 Jan 2027	Casablanca, Morocco	In person	On request
25 - 29 Jan 2027	Dammam, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Dhahran, Saudi Arabia	In person	On request

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Doha, Qatar	In person	On request
25 - 29 Jan 2027	Dubai, United Arab Emirates	In person	On request
25 - 29 Jan 2027	Edinburgh, United Kingdom	In person	On request
25 - 29 Jan 2027	Edmonton, Canada	In person	On request
25 - 29 Jan 2027	Frankfurt, Germany	In person	On request
25 - 29 Jan 2027	Geneva, Switzerland	In person	On request
25 - 29 Jan 2027	Houston, USA	In person	On request
25 - 29 Jan 2027	Istanbul, Turkey	In person	On request
25 - 29 Jan 2027	Jakarta, Indonesia	In person	On request
25 - 29 Jan 2027	Jeddah, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Jubail, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Khamis Mushait, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Kigali, Rwanda	In person	On request
25 - 29 Jan 2027	Kuala Lumpur, Malaysia	In person	On request
25 - 29 Jan 2027	Lisbon, Portugal	In person	On request
25 - 29 Jan 2027	Liverpool, United Kingdom	In person	On request
25 - 29 Jan 2027	London, United Kingdom	In person	On request
25 - 29 Jan 2027	Los Angeles, USA	In person	On request
25 - 29 Jan 2027	Luanda, Angola	In person	On request
25 - 29 Jan 2027	Madrid, Spain	In person	On request
25 - 29 Jan 2027	Manama, Bahrain	In person	On request
25 - 29 Jan 2027	Marbella, Spain	In person	On request
25 - 29 Jan 2027	Marrakech, Morocco	In person	On request
25 - 29 Jan 2027	Miami, USA	In person	On request
25 - 29 Jan 2027	Milan, Italy	In person	On request
25 - 29 Jan 2027	Munich, Germany	In person	On request

Dates	Venue	Format	Fee
25 - 29 Jan 2027	Muscat, Oman	In person	On request
25 - 29 Jan 2027	Nairobi, Kenya	In person	On request
25 - 29 Jan 2027	New York, USA	In person	On request
25 - 29 Jan 2027	Nice, France	In person	On request
25 - 29 Jan 2027	Oslo, Norway	In person	On request
25 - 29 Jan 2027	Paris, France	In person	On request
25 - 29 Jan 2027	Port Louis, Mauritius	In person	On request
25 - 29 Jan 2027	Prague, Czech Republic	In person	On request
25 - 29 Jan 2027	Pretoria, South Africa	In person	On request
25 - 29 Jan 2027	Riyadh, Saudi Arabia	In person	On request
25 - 29 Jan 2027	Rome, Italy	In person	On request
25 - 29 Jan 2027	Sarajevo, Bosnia and Herzegovina	In person	On request
25 - 29 Jan 2027	Sharm El Sheikh, Egypt	In person	On request
25 - 29 Jan 2027	Singapore, Singapore	In person	On request
25 - 29 Jan 2027	Stockholm, Sweden	In person	On request
25 - 29 Jan 2027	Tokyo, Japan	In person	On request
25 - 29 Jan 2027	Toronto, Canada	In person	On request
25 - 29 Jan 2027	Tromso, Norway	In person	On request
25 - 29 Jan 2027	Vienna, Austria	In person	On request
25 - 29 Jan 2027	Zagreb, Croatia	In person	On request
25 - 29 Jan 2027	Zurich, Switzerland	In person	On request
25 - 29 Jan 2027	Online, Virtual	Online	On request

CERTIFICATE