

OIL & GAS FACILITIES ENGINEERING & MANAGEMENT

“Optimizing Facility Design, Operations, and Maintenance for Oil & Gas Installations”

Schedule

Date	Venue	Fees
04 – 08 May 2026	Dubai, UAE	USD 3495 per delegate

► Available delivery methods: Face-to-Face & Online Training

Introduction

In the oil and gas industry, facilities engineering and management play a vital role in ensuring the safe, efficient, and sustainable operation of onshore and offshore assets. Engineers and managers must integrate multidisciplinary knowledge in process design, operations, maintenance, HSE, and asset integrity to achieve optimal performance.

This comprehensive 5-day course delivers a practical and technical overview of oil and gas facilities from concept to decommissioning. It is designed to enhance engineering judgment, improve decision-making, and promote operational excellence in upstream, midstream, and downstream environments.

Objectives

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

- Understand the full lifecycle of oil and gas facilities and their critical systems
- Apply engineering principles to design, operate, and maintain facilities efficiently
- Identify and mitigate risks related to equipment failure and safety hazards
- Implement maintenance, reliability, and integrity strategies for key assets
- Coordinate cross-disciplinary functions for optimal facility performance

Why Attend

- Gain a broad technical perspective of oil & gas facility engineering and operations
- Strengthen your ability to troubleshoot, optimize, and maintain critical systems
- Learn best practices in HSE compliance, reliability, and energy efficiency
- Improve coordination between engineering, operations, and maintenance teams
- Prepare for leadership roles in asset management and facilities oversight

Target Audience

This program is designed for:

- Facilities engineers, maintenance engineers, and operations supervisors
- Project engineers and asset managers in oil and gas
- HSE and reliability professionals
- Process engineers and instrumentation specialists
- Professionals involved in plant engineering, performance, or planning

Individual Benefits

Key competencies that will be developed include:

- Facilities lifecycle planning and operations
- Equipment reliability and maintenance planning
- Process troubleshooting and integrity assurance
- HSE systems and operational risk management
- Interdisciplinary coordination and project execution

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved uptime and performance of oil & gas facilities
- Reduced operational risks and enhanced safety culture
- Optimized maintenance and asset life-cycle strategies
- Stronger cross-functional collaboration and communication
- Enhanced capability to meet production, safety, and cost targets

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Facility systems, operational risks, and best practices
- Case Studies - Real-world plant failures, integrity challenges, and recovery plans
- Workshops - Troubleshooting scenarios, maintenance planning, and facility audits
- Peer Exchange - Discussion of field experiences and plant performance issues
- Tools - Checklists, equipment failure analysis templates, and KPI dashboards

Course Outline

Training Hours: 07:30 AM - 03:30 PM Daily Format: 3-4 Learning Modules | Coffee Breaks: 09:30 & 11:15 | Lunch Break: 01:00 - 02:00

Day 1: Fundamentals of Oil & Gas Facilities

- Module 1: Overview of Facilities in the Oil & Gas Value Chain (07:30 - 09:30) • Upstream, midstream, and downstream infrastructure
- Module 2: Process Equipment and Utility Systems (09:45 - 11:15) • Separation, compression, pumps, and electrical systems
- Module 3: Workshop - Facility Mapping Exercise (11:30 - 01:00) • Identify components and flowpaths in your facility

Day 2: Design and Construction Considerations

- Module 4: Facility Design Standards and Codes (07:30 - 09:30) • ASME, API, IEC, ISO - key design references
- Module 5: Commissioning and Start-up Processes (09:45 - 11:15) • Planning, execution, and performance testing
- Module 6: Workshop - Reviewing Engineering Drawings (11:30 - 01:00) • P&IDs, layouts, and instrumentation diagrams

Day 3: Maintenance and Asset Integrity

- Module 7: Maintenance Strategies - Reactive, Preventive, and Predictive (07:30 - 09:30) • Planning and scheduling tools
- Module 8: Asset Integrity Management and Reliability-Centered Maintenance (09:45 - 11:15) • Corrosion control, criticality analysis, and inspections
- Module 9: Workshop - Develop a Maintenance Plan (11:30 - 01:00) • Aligning maintenance with risk and cost priorities

Day 4: Operational Safety and Troubleshooting

- Module 10: HSE and Operational Risk Management (07:30 - 09:30) • Process safety, permit-to-work, and hazard identification
- Module 11: Common Failures and Troubleshooting Approaches (09:45 - 11:15) • Mechanical, instrumentation, and process-related faults
- Module 12: Workshop - Analyze a Failure Event (11:30 - 01:00) • Root cause identification and recovery measures

Day 5: Facility Optimization and Performance Management

- Module 13: Performance KPIs and Benchmarking (07:30 - 09:30) • OEE, MTBF, downtime, and efficiency indicators
- Module 14: Energy Efficiency and Environmental Compliance (09:45 - 11:15) • Emissions, flare control, and energy audits
- Module 15: Final Workshop - Create a Facility Improvement Plan (11:30 - 01:00) • Propose optimization strategies

Certification

Participants will receive a Certificate of Completion in Oil & Gas Facilities Engineering & Management, validating their competence in managing and optimizing oil and gas infrastructure across its lifecycle.

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