

Wellhead Operations Specialist: Wellhead System Maintenance & Safety

COURSE OUTLINE 2025

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TRAINING TITLE

Wellhead Operations Specialist: Wellhead System Maintenance & Safety

<u>VENUE</u>

Dubai, UAE

DURATION

5 Days

DATES

25th-29th Aug 2025

PRICE

\$5,500 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch.

TRAINING INTRODUCTION

Wellhead systems are among the most critical components in oil and gas production. As the primary interface between the well and surface operations, wellheads must be installed, operated, and maintained with precision and safety. A single failure can lead to production losses, safety hazards, or catastrophic blowouts. As such, a deep understanding of wellhead mechanics, operational protocols, and maintenance techniques is essential for field personnel and technical specialists alike.

The 5-day course "Wellhead Operations Specialist: Wellhead System Maintenance & Safety" is designed to equip professionals with the practical skills and technical insight required to manage wellhead systems across all operational stages. From installation and testing to troubleshooting and emergency response, this course emphasizes safety, compliance, and performance optimization.

TRAINING OBJECTIVES

- Conduct wellhead inspections and repairs with confidence
- □ Implement safe work practices and emergency shutdown procedures
- □ Contribute to extended equipment life and operational efficiency
- □ Maintain detailed service documentation and comply with industry standards

TRAINING AUDIENCE

Wellhead technicians, field operators, maintenance personnel, production engineers, drilling and completion staff, and others involved in wellsite equipment operations and safety management

TRAINING OUTLINE

Day 1: Fundamentals of Wellhead Systems & Operations

Objective: Provide a technical foundation of wellhead systems, their function, and classification in oil and gas operations.

- Overview of the Wellhead System
 - Purpose and key functions of wellheads
 - Components: casing head, tubing head, hanger, seals, valves
 - Types of wellheads (conventional, compact, subsea, thermal)
- Classification & Design of Wellheads
 - API wellhead specifications and pressure ratings
 - Onshore vs. offshore designs
 - Compatibility with casing/tubing programs and xmas trees
- Operational Phases and Interfaces
 - Drilling, completion, production, intervention, and P&A stages
 - o Interface with BOPs, trees, and surface equipment

Day 2: Installation, Testing & Commissioning of Wellhead Systems

Objective: Understand proper installation and verification practices to ensure mechanical integrity and operational safety.

- Pre-Installation Planning
 - Review of casing programs and wellhead selection
 - Site preparation, baseplate alignment, and elevation checks

- Installation Procedures
 - Running and landing casing heads and hangers
 - Torquing, make-up procedures, and lockdown mechanisms
 - Use of running tools and torque-turn monitoring
- Pressure Testing & Commissioning
 - Leak testing (hydrostatic/pneumatic), seal tests, and documentation
 - Pressure control protocols and safety precautions
 - First production startup and integrity sign-off

Day 3: Wellhead Maintenance, Troubleshooting & Repairs

Objective: Equip participants with hands-on strategies to maintain, troubleshoot, and restore wellhead systems.

- Routine Inspection & Maintenance Activities
 - Greasing valves and seals, bolt tension checks
 - Monitoring for corrosion, erosion, vibration, and thermal expansion
 - Tools and checklists for field maintenance
- Troubleshooting Common Issues
 - Diagnosing leaks, stuck valves, pressure drops
 - Stem packing replacement and seal failures
 - Managing control line blockages or leaks
- Repair, Replacement & Re-certification
 - In-field repair of damaged components
 - Hot work, isolation procedures, and lockdown protocols
 - Re-certifying equipment to API standards after repair

Day 4: Safety, Pressure Control & Emergency Response

Objective: Focus on high-pressure operations, risk mitigation, and emergency procedures related to wellhead systems.

- High-Pressure Safety Management
 - Pressure zone identification and management
 - Isolation techniques and lockout/tagout (LOTO) procedures
 - Hazardous energy control and wellhead safety barriers
- Emergency Shutdown & Blowout Scenarios
 - Role of the wellhead in well control and emergency response
 - Coordinating with well control teams and incident command
 - Fail-safe and pressure-relief systems
- Personal Safety and Environmental Protection
 - PPE and safety protocols during wellhead operations
 - Spill prevention and containment systems
 - Safety data sheets (SDS) and chemical handling near wellheads

Day 5: Documentation, Regulation & Emerging Technologies

Objective: Build understanding of industry standards, documentation practices, and innovations in wellhead management.

- Industry Standards & Compliance
 - API 6A, ISO 10423, and regional regulations
 - Inspection recordkeeping and maintenance logs
 - Certification requirements for pressure containment equipment
- Digital Monitoring and Wellhead Automation
 - Smart wellhead systems and IoT integration
 - Remote valve control and condition monitoring
 - Use of drones, sensors, and AI for predictive maintenance
- Lifecycle Integrity & Decommissioning

- Managing wellhead integrity over time
- End-of-life planning and safe removal or abandonment
- Interface with well P&A programs

TRAINING CERTIFICATE

MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course

METHODOLOGY

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of "real life" issues in their organizations. The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.